

**UNIVERSITY OF TAMPERE**

Exploring Teachers' Self-Regulated Learning in Aceh

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The purpose of this study was to explore how teachers in Aceh self-regulate their learning. Realizing that teacher quality is one of the main factors of the quality of education, the Indonesian government is also concerned about this issue. One of the programmes that was initiated by the government is the teachers certification programme. The programme is expected to increase teacher quality and teachers' allowances. However, the results of a research revealed that teacher certification has no impact on student' achievement. In addition, certification is still at the level of increasing teachers' living standard rather than teachers' performance. Also, the requirement to have professional and pedagogical competencies is still far from the minimum average (55). The latest result of the national teacher competency test in 2015 was below the minimum average standard (53), and Aceh was in the three lowest positions out of 34 provinces in Indonesia. Besides the programmes, which were initiated by the government, the ability of teachers to self-regulate their learning is essential to help teachers develop their professionalism.

The present case study is a qualitative research conducted in the three districts of Aceh province from the beginning of October to the end of December 2016. The data were collected through face to face semi-structured interviews. 28 teachers from three private schools in Aceh that are under one foundation participated voluntarily in this study. The data were analyzed by firstly coding, based on the elements of self-regulated learning processes, grouping the coded sentences to each thematic phase (forethought, performance, and self-reflection), interpreting and discussing using the theoretical framework underlying self-regulated learning.

The results indicated that not all of the teachers in the three schools performed all the phases of self-regulated learning, which were linked to each other. In the forethought phase, the goals set by the teachers were to master the subjects they teach and to have students' understanding. Those who were indicated to set more goals strategically performed their learning and had high self-efficacy. Moreover, they also did reflection on their learning. As teachers' learning in the workplace context cannot be separated from their teaching practice, it is indicated that teachers were not completely self-regulated their learning, but externally self-regulated from the tasks assigned to them. We also found that teachers' experience and gender did not significantly show differences in the way teachers self-regulated their learning.

Key words: Teachers' self-regulated learning, learning in the workplace context, teacher quality

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# 1. INTRODUCTION

## *1.1 Background of the study*

Teacher quality is one of the determining factors of the quality of education. It has been confirmed that teacher quality is advantageous for students' achievement (Goe & Stickler, 2008). The Indonesian government is also concerned about the quality of teachers and wants to increase the quality of education. One of the programmes is teachers' certification. The Law on Teachers and Lecturers (Undang-Undang/ Law No.14, 2005) mandates some requirements to be fulfilled in an attempt to improve the quality of teachers in order to successfully certify teachers by 2015, as presented in the reviews of National Policies for Education in Indonesia by OECD (2015). The aim of certification is to promote teacher quality and increase teachers' allowances. Unfortunately, the certification is still in the level of only increasing teachers' living standard rather than increasing teacher quality. As revealed in a research conducted by Fahmi, Maulana, and Yusuf (2011), teachers' certification has no impact on students' achievement. Moreover, the programme that they claimed as the most ambitious government- supported certification in developing countries that is formally aimed to increase the quality of education was not oriented to the teachers' performance.

In an attempt to increase teacher quality, the Indonesian government has also promoted a teacher professional development programme, which aims to ensure teachers' accountability in content knowledge and teachers' ability to plan and to evaluate their teaching practices (OECD/ Asian Development Bank 2015). There are direct and indirect professional developments. Together with teacher certification, other direct professional developments in the form of professional learning communities such as KKG and MGMP (Cluster of Primary School Teachers and Secondary School Subject Teacher) are considered as forums that assist teachers to respond to the challenges. A research conducted by Katz, et al (2009) as cited in OECD/ Asian Development Bank (2015) proved that teachers improved their practices and obtained new learning in the teachers' discussion forum. Besides the numbers of programme promoted by the government through the educational authorities, some schools attempt to support their teachers by providing some training or seminars to meet the teachers' needs. Unfortunately, some teachers tend to participate in some seminars or professional development program for the sake of the certification. In indirect

professional development, teachers are expected to develop their professionalism through their capacity in regulating their own learning.

Teachers are required to not only master their content knowledge (professional competence) but also their pedagogical skills. In addition, as stipulated in the Law on Teachers and Lecturers, teachers are required to be personally and socially competent. In the 2004 national service teacher examination taken by one million applicants competing for 64,000 civil service teacher positions, the score for the subject to teach were low on average (Jalal, Samani, Chang, Stevenson, Ragatz, & Negara, 2009). Therefore, teachers' mastery in knowledge of the subject and the flexibility in managing their classroom must become the concern of all teachers, since these are the hallmark of professional teachers. They are complementary to each other because it will be difficult for students to achieve their learning outcomes when teachers are good in their content knowledge but fail in transferring the knowledge to the students. As previously mentioned, the government expects to have all teachers to be certified by 2015 as stated in OECD (2015). Unfortunately, the national teacher competence test in 2015 shows that teachers' pedagogy and professional competence in Indonesia was on the average of 53.02, which was below the minimum standard of average (55) (*Kementrian Pendidikan dan Kebudayaan, 2016*). Aceh is ranked 32 out of 34 provinces.

As professional development programmes have most probably been ineffective in assuring teachers' competencies, it is the teachers' intention to learn and keep upgrading their competencies that plays a bigger role in improving their professionalism. This intention should also be followed by their capacity to self-regulate their own learning. As Darling-Hammond (1997) argues that teachers are required to have more knowledge and different skills than they have at the present to meet the challenges in their work. Therefore, teachers need to be able to self-regulate their learning as also mentioned by Van Eekelen, Boshuizen, and Vermunt (2005). They added that professional development programme should be grounded in active, self-directed learning, and creating knowledge. Teachers are expected to be active in gaining new knowledge not only for others to scaffold their learning, but also by connecting the knowledge they have already had with new knowledge. They are not only expected to constructively develop their own professional skills ,but also their colleagues', which classifies them as having agency.

Teachers who have agency will take action for their own professional development. Bandura (2008) states that the core features of agency are intentionality, forethought, self-reactiveness, and self-reflectiveness. Focusing on self-reactiveness, agents are those who become self-regulators. Paris and Winogard (2003, p.5) state that "the term of self-regulated learning was regarded as a valuable term because it emphasized on how "self" as an agent in establishing learning goals and

tactics and how each individual's perceptions of the self and task influenced the quality of learning that ensued". They add that self-regulated learning is important to help teacher educators in describing the ways that people approach problems, apply strategies, monitor their performance and interpret the outcomes of their efforts.

In this study, we would like to explore how teachers in Aceh self-regulate their learning in the context of workplace learning. Learning in the context of the workplace will be different from learning at school or university as demonstrated in Hager (1998) and Resnick (1987) as cited by Tynjala (2008). However, learning in the workplace context cannot be separated from the accomplishment of tasks or everyday work tasks. In the context of teachers as professionals, teachers only conduct routine activities and fulfill administration requirements that have been settled by the Education Department through school. They learn something only to fulfill their teaching needs. Thus, measuring the learning in an everyday work setting will be challenging, as also mentioned by Littlejohn, Milligan, Fontana, and Margaryan (2016), since it is not easy to see how teachers learning differs from their teaching practices. If teachers are able to see from their teaching practice the opportunities to learn, self-regulated learning strategies are skills that teachers should gain (Randi, 2004).

Teachers need to be able to be the models of a self-regulated and lifelong learning due to the explosion of knowledge. Buchori (2007, p. 187) states that "knowledge will be out of date after two or three years after people graduated from the university". Furthermore, one of the professional principles is that teachers have the opportunity to develop their professionalism continuously by lifelong learning. In this study, we want to explore how private school teachers in Indonesia, especially in Aceh, located in Lhoksemawe, Bireuen and Pidie, self-regulate their learning to improve and construct their professional growth toward the element of self-regulated learning processes – forethought, self-efficacy, performance, and self-reflection.

The different learning environments are likely to influence teachers will to learn. In our pilot project conducted in three public (primary and secondary) schools in Pidie, Aceh, with certified teachers having more than 10 years teaching experience, we found that most of the teachers from the public schools learn only to accomplish their tasks. Teachers' discussion fora (KKG or MGMP) became an important forum to improve their teaching practices, and the lack of proficiency in using technology (ICT) was one of the barriers that the teachers encountered to learning from other sources such as the internet.



In this study, we focused our research in three private schools in Aceh, which were established initially in response to the tsunami disaster and to support educational development. Supported with full internet access and a well-managed school system, concern for the learning community and the learning process, makes these schools different from other schools in the same region. Therefore, we wanted to explore how the teachers self-regulated their learning.

## *1.2 Purpose of the Study*

The purpose of this study was to obtain information on how teachers in three private schools in Aceh self-regulated learning. Additionally, this study aimed to understand to what extent teachers in three private schools in Aceh self-regulated their learning. Self-regulation can be considered not only as a reflection of personal skills, but also of agency in their work. Hopefully, the study will contribute to the teachers' of Sukma Bangsa in Aceh in enhancing their capacity in self-regulation as a part of their professional development.

## 2. THEORETICAL FRAMEWORK

### *2.1 The concept of self-regulated learning and agency*

Self-regulated learning is one of the elements of human agency that is introduced by Bandura (1999, 2001). Bandura (1999) states that people are not only those who know but also those who perform. They are also self-reactors with a capacity to motivate, guide and regulate their activities. Bandura (2001) demonstrates that agency refers to conducting action based on own intention (intentionality), setting goals ahead (forethought), motivating and self-regulating (self-reflectiveness). Therefore, he adds that “agency involves not only deliberative ability to make choices and action plans, but also the ability to give shape to appropriate courses of action and to motivate and regulate their execution”. Professional agency at work has been an area of research. Etelapelto, Vahasantanen, Hokka Paivi, and Polonium (2013) summarize professional agency within the socio-cultural framework as practice conducted by professional subjects and /or communities to influence, to choose and to act on behalf of their work and their professional identities.

Ability to play a role in self-developing, adapting and self-renewing over the changes have attached to agency Bandura (2001). Calvert (2016) describes teacher agency as teachers’ capability to act for the purpose of their own professional and their colleagues’ development constructively. Pyhalto, Pietarinen and Soini (2012) referred teachers’ professional agency as teachers’ skills in believing their capacity, in motivating themselves and in participating in their everyday interaction. In addition, they also state that professional agency represents teachers’ capability in acquiring new knowledge intentionally and as responsibility for themselves and their community. They suggest that in promoting teachers’ professional agency in their school development, teachers should simultaneously perceive about themselves and their development work. Furthermore, on their next research entitled “*Teachers’ professional agency- a relational approach to teacher learning*”, Pietarinen, Pyhalto, and Soini (2016) found that teachers learning and teachers’ self-regulated learning was driven by their interactive everyday activities with students and their colleagues.

Toom, Pyhalto, and Rust (2015) point out that teachers' engagement in innovative learning, adaptation to the diversified environment, independent in making choices and balance personal preferences and sharing with colleagues should be attached to teachers as agents of change. Moreover, they emphasize that teacher' choices and decisions on pedagogical relate to their professional goals.

In practicing agency, it is undeniable that supports are needed. At school level, leaders play important roles in supporting teacher agency. Calvert (2016) offers leader a framework which focuses on the ways that systems can maximize agency that leads to improved teaching and learning. The system conditions are school approach to professional development, reason for teacher participation, source of solutions of learning challenges, topic and skills addressed, the role of teachers, collaboration, format, tone of learning activities, district plan and priorities for professional learning.

As mentioned previously, in promoting agency, self-regulation is one of the core features. Teachers as professionals are required to not only promote self-regulated learning to their students but also to be able to self-regulate their learning in acquiring new learning in term of knowledge acquisition. Randi (2004) mentions that teachers have to be able to comprehend the principle of self-regulated learning, so that they are able to design strategies to promote self-regulated learning to their students.

## Social Cognitive Theory

To become agents, who are able to self-regulate their own learning, social cognitive theory is essential to be discussed. The theory of social cognitive was first introduced by Bandura. He emphasizes that learning is able to be performed within a social context through interaction with their environment and by observing. Ormrod (2012) adds that there are four general principles of socio-cognitive theory. First, people are able to learn by observing others' behavior. Second, behavioral changes may not be occurred when people learn. Third, cognition is essential in learning. The last, people have capacities to control their action and environments. Moreover, social cognitive theory considers individuals as agents of change who intent to function, to achieve their goals and to have control over their outcomes and environments (Bembenutty, White, and Velez; 2015). In addition, people have control over their situation to enable them to learn together with competency, self-belief and their outcome expectation.

Ormrod (2012) mentions some cognitive factors in social learning. First, learning involves mental change rather than behavior change. Second, learning occurs through certain cognitive processes. Third, existing response-consequence contingencies have to be learners' concern. Fourth, future response-consequence contingencies are the form of learners' expectation. Fifth, learners various behaviors are formed from learners' beliefs. Next, cognitive processes that follow learning are influenced by learners' outcome expectation and learners' efficacy expectation. The last, a consequence that occurs in learning may also include the absence of expected consequences.

In socio-cognitive theory, the key factors are interaction between personal, environment and behavior. This interaction is called triadic reciprocal. Bandura (2008, p. 34) states that:

*“Social cognitive theory conceptualizes the interactional causal structure as triadic reciprocal causation. In this conception, human functioning is a product of a reciprocal interplay of intrapersonal, behavioral, and environmental determinants. In the analytic decomposition of triadic determination, different subspecialties of psychology have centered their inquiry on particular segments of the reciprocal interplay. In the reciprocative relation between intrapersonal and behavioral determinants, people’s biological endowments, conceptions, values, goals, and affective states influence how they behave. The natural and extrinsic effects of their actions, in turn, affect their thought processes and affective states. In the reciprocative relation between behavioral and environmental determinants, behavior alters environmental conditions and it is, in turn, altered by the very conditions it creates. In the reciprocative relation between intrapersonal and environmental determinants, social influences in the form of social modeling, instructional practices, and various modes of social persuasion alter personal attributes. “*

The interaction between personal, environment and behavior is schemed on the following:

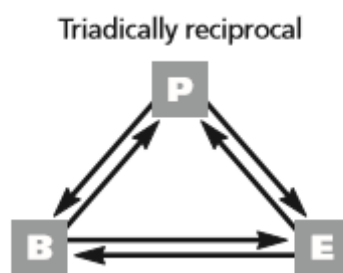


FIGURE 1. Triadic Reciprocal (taken from Bandura, 2008, p.33)

## ***2.2 Self-Regulated Learning (SRL)***

Zimmerman (2000) states that self-regulation refers to ones' capacity in self-regulating their thoughts, feelings and action in order to meet their goal. Zimmerman adds that these are planned and cyclical because the processes are linked to each other. In addition, Pintrich (2000) adds that in general, the actions performed by people in self-regulate their learning are supported by monitoring, regulation, and control efforts which are limited to the goals and the contextual features. As self-regulated learning is learning process of someone who actively maintains self's capacity to attain goal setting, teachers have important roles to support students' achievement. However, before teachers promote their students to have SRL, teachers should also have the ability to self-regulate their learning to achieve their professionalism. Therefore, teachers and students are at the same position and they will be active participants in the same position to practice self-regulated learning. Zimmerman (1989) states that those who are described as self-regulated learners are those who are active in their own learning process metacognitively, motivationally, and behaviorally.

### **2.2.1 The Phases of SRL**

In implementing self-regulated learning, Zimmerman (2000) who took Bandura's social cognitive perspective theory describes that self-regulatory processes are elaborated into three cyclical phases namely forethought, performance, and self-reflection processes. The scheme of self-regulated learning is shown below.

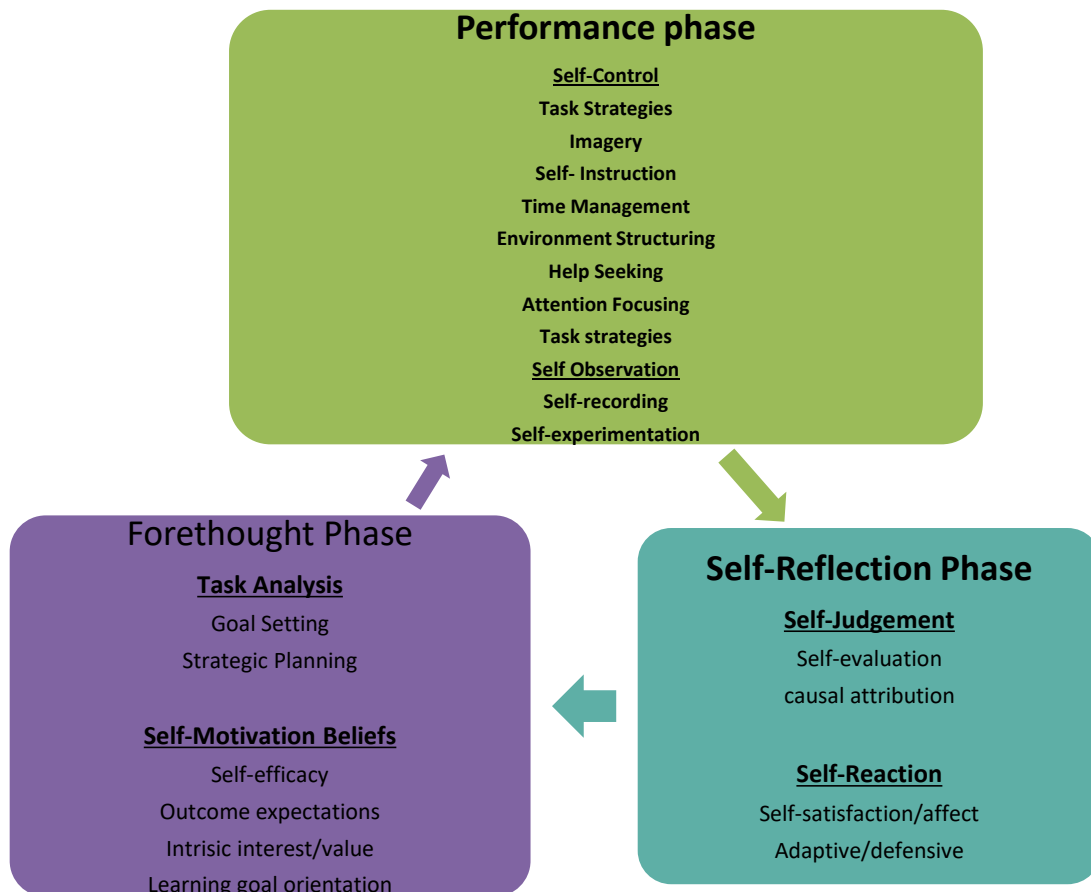


FIGURE 2. Phases and sub processes of Self-regulated Learning taken from Development and Adaptation of Expertise: The Role of Self-Regulatory Processes and Beliefs by Zimmerman (2006, p. 708) In K. A. Ericsson, N. Charness, P. J. Feltovich, & R. R. Hoffman, *The Cambridge Handbook of Expertise and Expert Performance* (pp. 705-722). New York: Cambridge University Press.

### ***Forethought***

Being self-regulated learners are impossible without active action in achieving the goals that have been set. Zimmerman (2000) points out that forethought is influential processes. According to Bandura (2001), forethought exercises will enable people to motivate and guide learners to anticipate events in the future. He adds that this stage directs and gives meaning to ones' life, of experiencing matters of value. Zimmerman (2002) elaborates forethought into two phase processes, task analysis and self-motivational beliefs.

Task analysis consists of goal setting and strategic planning. According to Locke and Latham (2002) as cited by Zimmerman (2006, p. 708), goal setting refers to “specifying intended actions or outcomes”. Moreover, Zimmerman also cited some research (Filby, Maynard, and Graydon, 1999; Kingston and Hardy, 1997) that when learners combine improved strategies and

outcome goals, they have better performance than those who only set a single goal. In addition, Locke and Latham (2002) point out that there are four ways in which goals influence one's performance. First, goals enable people to pay attention to goal-attainment activities. Second, the efforts undertaken depend on the goal level set. Third, the goal level difficulties will also influence one's persistence. Fourth, goals lead to the discovering and the use of knowledge relating to the tasks. Zimmerman (2006) proved that experts prefer strategies that are oriented to techniques. In addition, research conducted by Endedijk, Brekelmans, Verloop, Slegers, and Vermunt (2014) found that some individual student teachers set their goals and some did not set their goals. Strategic planning refers to selecting strategies that effectively assist people to attain their specified goal (Zimmerman, 2000). Goal setting and strategic planning will lead to engagement when people have motivation to learn.

When people have set their goals and planned their strategies to attain their goals in learning, self-motivation should be attached to the self-regulated learner. Self-motivation is associated with people's beliefs that they have the capacities to perform their tasks. This capacity is called self-efficacy. Bandura (1997) as cited by Zimmerman (2000) states that one's belief in their own capacity to learn and perform effectively is called self-efficacy. According to Bandura (1999), the basic element of human agency is self-efficacy. People's belief in their own capacity is crucial in maintaining motivation. Bandura (2009) argues that the main determining factor for people to execute their expected results through their action is rooted in their self-efficacy. Bandura (1999) proposes that people will perform their tasks effectively and will strive to the challenges they encountered when they believe that they are able to do their tasks. In achieving one's goal, self-efficacy is needed. Bandura (1997); Schunk and Pajares (2004) as cited by Ormrod (2012) points out that people do not only develop their expectations but also develop their efficacy expectations (their belief in their ability to execute particular behaviors successfully). Teachers who perceive self-efficacy are able to measure their capability for setting their goals. Bandura (1991) states that the more people can judge their efficacy, the higher the goal that will be created. An agent will use self-efficacy to exercise themselves in self-regulated learning. Moreover, Bandura mentions that self-efficacy mechanism has the role in personal agency which will impact on human thought, affect, motivation and action.

In teachers' self-regulated learning, Gibbs (2002) states that self-efficacy is an influential factor that predicts how teacher will perform and if they will perform. Citing from some researchers, Gibbs (2002) points out that people, who have high self-efficacy beliefs, find their jobs more satisfying (Trentham, Silvern, and Brogdon, 1985), commit to their jobs (Trentham, et al.

1985), and have a low tendency to be away from work (McDonald and Siegel, 1993). Furthermore, high self-efficacy teachers are likely to strive to difficult situations (Gibson and Dembo, 1984), to challenge themselves with a curriculum that is considered to be risky (Guskey, 1988), to apply new methods in teaching (Gibson and Dembo, 1984), (Brookover et al. 1979), and to have students with high motivation (Midgely et al. 1989). Cited from various socio-cognitive theories, Ormrod (2012) summarizes some factors that develop self-efficacy. They include previous success and failures, current emotional state, messages from others (for example, praise and support) and successes and failures of others.

The next motivational belief in self-regulated learning is outcome expectations. According to Zimmerman (2006, p. 709), “outcome expectations refer to self-motivational beliefs about the ultimate ends of learning, practice, and performance”. Moreover, Pintrich (2000) in his research found that those who have high concern on the performance for learning (mastering) are more motivated than those who only expect to be smarter than others. Next, self-regulated learning is supported by how learner value tasks assigned to them. When they have high interest in the tasks assigned, learners will be more intrinsically motivated (Kitsantas and Zimmerman, 2002). The last is learning goal orientation, which refers to self-motivation that values progress in learning (Zimmerman, 2002). For instance, old teachers who want to learn to use laptop or computer will consider that being able to use a computer will ease their job in finding sources or learn new things will increase their motivation to learn rather than just fulfilling certification requirement. Moreover, Ames (1992) as cited in Pintrich (2000) states that there are mastery goals (new skills improvement, work understanding, competency improvement which are based on standards set by learner themselves) and performance goals (self ability focus and recognition from others).

## ***Performance***

After specifying goals and efforts, the next phase is to act. Zimmerman (2000, p. 16) explains that “performance or volitional control involves processes that occur during motoric efforts and affect attention and action”. He adds that self-control and self-observation are the major types of performance. As illustrated in figure 1, a self-control process involves self-instruction (a process in which people instruct themselves how to execute their task), imagery (create image to enhance learning), attention focusing, and task strategies (effective methods to perform learning) that assist learners to keep focusing on their tasks and lead to the maximized efforts (Zimmerman, 2000). It was found that demanding situations lead teachers to use some specific strategies (Buzza & Allinotte, 2013 and Corno, 1989). One of the strategies that are likely to be used is mind mapping.



According to Tarriseven (2014), mind mapping he used in planning had a positive effect in self-regulation and motivation. Some strategies that are possible to be used are learning styles (Peeters, De Backer, Reina, Kindekens, Buffel, & Lombaerts, 2013)

Next is help-seeking process. Newman (1994, as cited by Zimmerman, 2006) defines help-seeking as selecting people, books, and other resources to assist learners to learn. Fotana, Milligan, Littlejohn, & Margaryan (2015) employed this category to measure self-regulated learning for learners at the workplace context. The finding revealed that teachers did help seeking to perform their learning. Randi and Zeichner (2004) state that study group will support teachers in their professional learning. They share knowledge by discussing particular subject matters, implementing learning strategies, and discussing particular issues related to teaching learning. Moreover, Bird (2009, P.183) concluded that “teachers have interacted professionally with their peers and collaborated on a teaching and learning intervention, exploring, facing challenges, inventing solutions, and bringing creativity to classroom practice”. Meirink (2007) argues that sharing might be carried out by exchanging idea or discussing and identifying or solving problems.

Elaboration and critical thinking are also processes that are helpful in performing learning. Mayer (2008; as cited by Boer, Bergstra and Kostons, 2012) and Schneider (2014) state that elaboration is one of cognitive strategies that supports self-regulated learning. Wojcik (1996) argues that critical thinking is needed for individuals who work in an organization. It will be successful if leaner have initiatives to think differently, communicate, and solve problems creatively. Learners also should be aware of the fast growing technology that requires them to be update with the latest theories for teaching and learning (Smith-Groundwater & Retallick, 2014). Also, in learning, learners are also expected to interact and share their learning experiences (Ching & Cheng, 2001). Besides help-seeking, time management and environment structuring that are entitled to formal learning are also aspects of performing learning. Zimmerman (2006) defines time management as allocating use of time. Meanwhile, environment structuring refers to choosing effective ways to perform learning (Zimmerman, 2006; Boer, Bergstra, and Kostons, 2012; Ziegler, 2014). Next, self-observation is divided into self-recording which refers to “a common self-observational technique that can increase greatly the proximity, informative, accurate, and valence of feedback” (Zimmerman and Kitsantas, 1996 as cited by Zimmerman (2000, p. 20). Self-experimentation is ones’ strategies to identify if people or things will be helpful to their learning.

## ***Self-Reflection***

Reflection is compulsory for teachers to improve their learning process and to make decision to continue what works and what does not work and which one needs to be improved. A study conducted by Meirink, Meijer, Verloop, and Bergen (2009) indicated that teachers often reflect and include colleagues when they are in a challenging situation. Imants and Veen, (2010) state that teachers' reflection occurred from students' performance and work are able to promote professional development. Zimmerman (2000) points out that after performing their learning, learners respond to their learning experiences. This is called self-reflection. In addition, he adds that self-judgment and self-reaction are the major parts of self-reaction. He elaborates self-evaluation as one form of self-judgment which refers to how people compare their performance to some standards (Zimmerman, 2002, and Zimmerman, 2006). People observe their own performance through their prior performance, their opponent or the national standard. Besides self- evaluation, causal attribution is the other form of self-judgment which leads people to improve or diminish their effort to learn.

The other major part of self-reflection is self-reaction. Self-reaction involves feeling of satisfaction that has impact on ones' further attempt to learn (Zimmerman, 2002). Moreover, Zimmerman outlines that adaptive or defensive responses are also forms of self-reaction. Adaptive reaction ends in adjustments that learners take to perform. In contrast, defensive reaction prevents learners from learning because of avoiding opportunities.

### **2.2.2 Barriers to Self-Regulation**

Being self-regulated learner is suggested to keep being active in constructing themselves. Bandura (as cited by Shirkhani and Ghaemi, 2011) believes that self-regulation occurs to most of human behavior. However, some professionals who have been working for a long time probably have less motivation to learn than novices. Environment, personal and behavior interaction purposed by Bandura as triadic reciprocally influence people to act (1999). According to Bandura as cited by Shirkhani and Ghaemi (2011), low competence, being feared, worry of critique, low self-efficacy, being discriminated by others, unable to reinforce intrinsically and failure in setting goals are barriers to self-regulation. Additionally, Schaufeli & Bakker (2004) concluded that burnout has associated with the job demands and job resources and it also can be predicted.

### 2.3. Teachers learning in the workplace context

Vermunt and Endedijk (2011) describe how teachers learning pattern is influenced by personal and contextual factors as well as their beliefs and motivation to learn. These trigger their intention to self-regulate their learning (Figure 2). Van Eekelen, Boshuizen, and Vermunt, (2005) in their research, which investigate if teachers actively self-regulate their learning and figure out how teachers implement self-regulated learning in the workplace found that teachers learning are not completely self-regulated learning but externally regulated. Moreover, they learned spontaneously or unplanned. This is also in line with a research conducting by Endedijk, Brekelmans, Verloop, Slegers, and Vermunt (2014) that many student teachers learned unintentionally or incidentally. Day-to-day experiences have also contributed to how they self-regulate their learning in the workplace context. Imants and Veen, (2010) cited Eraut (2000) that teacher routines activity has converted explicit knowledge to tacit knowledge through repetition. In addition, Imants and Veen argue that teachers' reflection of their students performance and work are able to enhance professional development.

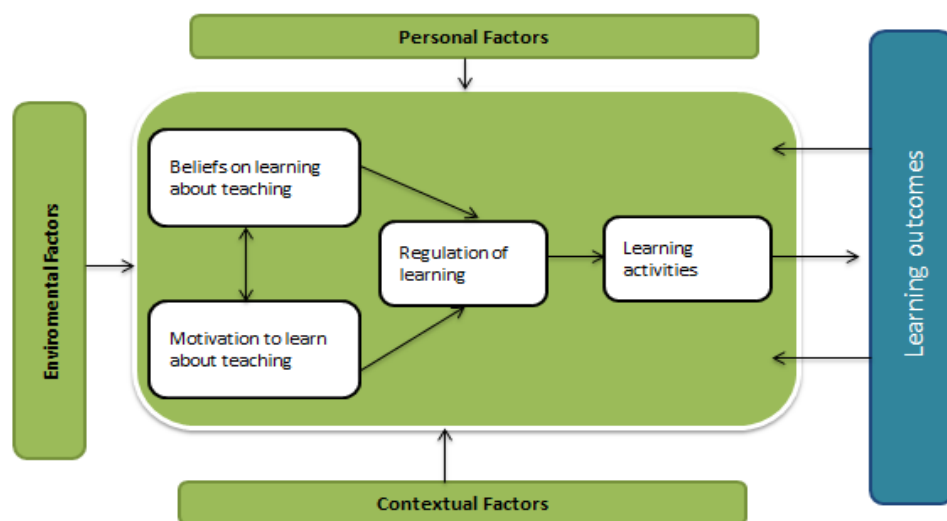


FIGURE 3. Teachers' learning pattern adapted and modified from *Vermunt and Endedijk(2011)*.

In supporting teachers' learning, teachers should participate in an environment that 1) support teachers to be inventor, problem-solver and to be free to choose their own instruction, 2) focus on the evaluation of their instructional practice, 3) implement cyclical curriculum design (involving planning, enacting, dan reflecting on lessons), 4) provide learning opportunities, 5)

concern about placing pupils at the center of teaching learning, 6) provide learning opportunities in the context of teaching , 7) assist teacher to develop by scaffolding, and 8) include challenges and supports (Conro and Randi , 1999). Teachers' learning cannot be separated from the context of teaching. Randi (2004) cited Ball and Cohen's work (1999) who claim that if teachers do not know how to learn in the context of their work, they cannot accomplish the work of teaching. Thus, teachers are suggested to keep being aware of their learning opportunities within the context of their work. Additionally, Randi quoted from Pintrich (2000) who states teachers may encounter some challenges in self-regulate their learning. Thus, teachers are required to develop their learning strategies.

Imants and Veen (2010) points out that work with students, and work with colleagues related to students and workplace conditions are teachers' work experiences that are very meaningful in promoting teachers' learning at the workplace (school). Moreover, they add that "teachers' workplace learning is expected to be primarily located in the teachers' own sphere of influence and interaction and in the units in which the work with students is organized" (p.571). According to Van Eekelen, Boshuizen, and Vermunt (2005), there are three learning conception in teachers learning in the workplace context. First is self-directed learning (SDL). This mode claimed by Candy (1991, as cited by Van Eekelen, Boshuizen, and Vermunt, 2005) as adult learning characteristic. Based on this learning conception, teachers will set their goal, manage their time and choose their resources for learning. Reflection, assessment and evaluation are also attached to this conception. Second, experiential learning that is summarized by Van Eekelen, Boshuizen, and Vermunt as learning by experiencing, conceptualizing, reflecting and experiencing again to gain new knowledge. The last is reflection conception in which teachers are required to act, to think of their learning in the past, to be aware of important issues, to be creative and to test what they learn.

Furthermore, in their article, Van Eekelen, Boshuizen, and Vermunt (2005) describe how self-regulated learning is supposed to be undertaken at workplace. It should involve active process and self-directed learning, consider purposive and controlled plans, end to new learning process, emphasizes on reflection, and enable changes on behaviour as the product of learning. Conversely, Candy (1991) Eraut et. al (1998), and Kwakman (1999) as cited by Van Eekelen, Boshuizen, and Vermunt (2005) argue that learners are not aware of their learning and the learning they undertaken is directed by serendipity. A situation which demands solving specific problem lead to most of learning taken place. Next, most learning efforts come from the interaction with others that raise their interest and motivation rather than self-regulated learning. The last, self-regulated learning is not always solely.

It is also challenging to differ strategies that are used by teachers to accomplish their task from learning to teach. According to Randi (2004), the differences between both of them can be illustrated by mastery goals and performance goals. In mastery-oriented, people focus on their learning and have intrinsic motivation. Meanwhile, in performance-oriented, they focus on enacting competence relating to others and it is considered as extrinsic motivation. However, relating to the job description entitled to teachers, completion of task is also compulsory. Moreover, Kwakman (2003) found that teachers' professional activities focus on the accomplishment of tasks which means that the learning are still in school, teaching improvement and preparation context. Thus, Randi (2004) postulates that teacher engagement to both work- and learning- orientation will be useful. In addition, Randi argues that today teachers' professional development focus on encouraging teachers' to be self-regulated learner and learn from their teaching practice as well. This is in line with Billett (2008, p.10) who states that "a key basis for ongoing learning throughout working life will likely be what motivates, directs and focuses individuals' efforts at learning through work".

As cited by Hodkinson and Hodkinson (2005), Sfard (1998) and Hager mentioned that learning is understood as acquisition, participation and construction. For school teachers' learning, they state that " a combination of construction and participation provide a way of understanding learning that best fits the current research evidence, and is most likely to maximize possibilities for improving teacher learning in the future" (p.110). Hodkinson and Hodkinson (2005) describe that teachers learn at work individually, collaboratively and planned. Individually, teachers learn by doing their job, teaching. Moreover, they exemplify teachers experiences on new curricula, assessment and new teaching materials as external change influence what teachers do and how they learn. Teachers can individually learn new things due to their intention or when there is a chance to learn.

Next, teachers learn at work collaboratively (Hodkinson and Hodkinson, 2005). This is related to learning that enable them to learn by interacting with others. Discussing, observing and taking joint activity are some of the examples of collaborative learning. Teachers are also able to collaboratively learn with other teachers formally or informally. Collaborative learning is advantageous especially for student teachers. Hodkinson and Hodkinson found that student teachers learn well when they work collaboratively with those who have had more experiences in teaching. Experienced teachers are also able to learn from the novice teachers. For instance, weaknesses and strengths that might be considered as their reflection that motivate them to learn.

In planned learning, teachers learn new or different things intentionally. Hodkinson and Hodkinson (2005) mention that courses that teachers attend stimulate and provide new ideas that are beneficial for teachers to develop their everyday teaching practices. Moreover, they observed through the work of Hustler et al. (2003), Retallick et al. (1999), Day (1999) that short courses are effective if they have a contribution to their teaching course development. However, they will be ineffective if they do not give any value to teachers' experience. Opportunities for development and expertise awareness for internal courses are run by school staffs. Initial or masters' degrees can be examples of courses that are very influential for teachers in understanding, seeing and approaching their work. In brief, Hodkinson and Hodkinson (2005) found that there are three dimensions underlying teachers' workplace learning. They are the dispositions and individual teachers' past experience, the quality of schools, especially the culture of teachers' working department, and the impact of school and government policy as well as regulation and interventions occurred.

Hodkinson et al. (2004) as cited by Hodkinson and Hodkinson (2005) mention that individual teachers' disposition is essential for their learning in ways that the contribution to the knowledge, comprehension and ability are valuable for their future learning and work. Next, the dispositions enable them to construct their learning and to have learning opportunities at work. Teachers' identity is developed from their working and belonging to a school. The last, the dispositions contribute to the school cultures' co-production and reproduction. Hodkinson and Hodkinson (2005) mention that department culture is influential in affecting teachers' learning. They also found that leadership and internal collaboration differences influence teachers' learning. Similar to Hodkinson and Hodkinson, Paris and Winogard (2003) claim that in order to become self-regulated learners, collaborative innovation is helpful for teachers. This enables teachers to be strategic and to be motivated from the instruction and assessment they provide for their students. Moreover, they suggest that work on reflective practice is the popular approach that can be taken into account to be innovative teachers.

Hodkinson and Hodkinson (2005) cite research conducted by Retallick et al., (1999); Hustler et al., (2003) show how school and government policy as well as regulation and interventions occurred impact on teachers' learning. In addition, government policy and intervention from government and school management have an impact on improving teachers' learning. Persico, Milligan, and Littlejohn (2014) summarize that even though self-regulated learning is primarily used for educational context, people are more critical in self-regulating their learning when they perform their learning at their workplace. In addition, they add that when people regulate their learning consciously, they are able to solve their problems effectively. Persico, Milligan, and Littlejohn

(2014) concluded that in relation between self-regulated learning and teachers professional development, teachers reflections and motivations are stimulated from their practices.

Butler (2003), Manning and Payne (1993), and Randi (2004) mention that “self-regulated teachers are mostly described as (pro)active agents who trigger certain education beliefs, construct appropriate instructional practices accordingly and proactively control the teaching environment and conditions”, which cited from Peters, De Backer, Reina, Kindekens, Buffel and Lombaerts (2013, p. 1965). According to Paris and Winograd (2003), teachers’ knowledge of teaching and learning are increased from their self-regulated learning.

Previous studies regarding learning at the workplace conducted by Margaryan, Milligan, Littlejohn, Hendrix, & Graeb-Koenneker (2009) shows that SRL is a highly social process that is structured by and deeply integrated into work task. Experts tend to draw heavily upon their personal network of trusted colleagues in the process of diagnosing and attaining their learning goals. In contradiction to existing models, SRL in the workplace does not appear to be a clearly delineated (very exactly), linear process comprised of discrete stages. Van Eekelen, Boshuizen, and Vermunt, (2005) found that teachers’ learning experiences are not as self-regulated, planned, reflective or spiral as some assume. Sometimes, the teachers’ learning was planned (self-regulated), but it mostly occurred in a non-linear (both external and self-regulated), or spontaneous (externally regulated) way. It can be concluded that the teachers do not always self-regulate their learning, but they mostly do self-regulate their teaching practice (with learning as a result).

Since the professional development and teacher certification in Indonesia might not presenting teacher quality or performance, it is the teacher her/himself that is required to implement self-regulated learning for their own as professionals. As agents who should actively and purposefully construct themselves and their communities, teachers who are able to be self-regulated learners will support their performance in practice. Goal setting and belief of their own capacity are required in helping teacher being motivated in their learning process and enable them to achieve their learning goals. Teachers also need to be the model of self-regulated learner before asking their students to be self-regulated learners. Moreover, teachers’ teaching experience should be advantageous reflection in setting their further goals.

### 3. METHODOLOGY

Research relating human agency focused on people who construct their belief, motivation or willingness to act in order to construct their capacity in learning. Constructive learning is an important part in obtaining knowledge as part of teacher quality which is also derived from the educational system and school entities. Moreover, the lack of teacher quality in Indonesia, especially in Aceh is the main reason for us to focus on figuring out how teachers self-regulate their learning in an attempt to improve their quality. In this study, we explored more on the element of self-regulated learning, which is elaborated into forethought, performance, and self-reflection phases introduced initially by Zimmerman and Pintrich.

#### *3.1 Research Design*

The design of this study is qualitative research. Qualitative research was delineated by descriptive analysis of the self-regulated learning processes of teachers in Aceh. The theoretical underpinning in this study is self-regulated learning theory (Zimmerman, 1989) and additional elements of self-regulated learning in the workplace context that is included in the questionnaire designed by Fontana, Milligan, Littlejohn, and Margaryan (2015). Moreover to explore how teacher self-regulated learning at the workplace, it is appropriate with case study to investigate the phase of the concept of teacher learning at the workplace. It is also in line with Yin (1984, p. 3), who states that “we were once taught to believe that case studies were appropriate for the exploratory phase of an investigation, which surveys and histories were appropriate for the descriptive phase, and that experiments were the only way of doing explanatory or causal inquiries. Furthermore, in this case study, we discover the processes undertaken by teacher in learning based on their informal learning and daily experiences as a teacher.

As mentioned previously, based on the national teacher competency test (UKG), out of 34 provinces in Indonesia, Aceh was in the second lowest position. We specified our object of research in three districts in Aceh. As private schools are assumed to have better system than public schools, we decided to choose three private schools in Aceh, which are under one foundation locating in



different districts namely Pidie, Bireuen, and Lhoksemawe. The ease of accessing the data had also become one of our considerations to choose these three schools. The following are the steps of the research processes that were deployed in this present research (see Figure 4).

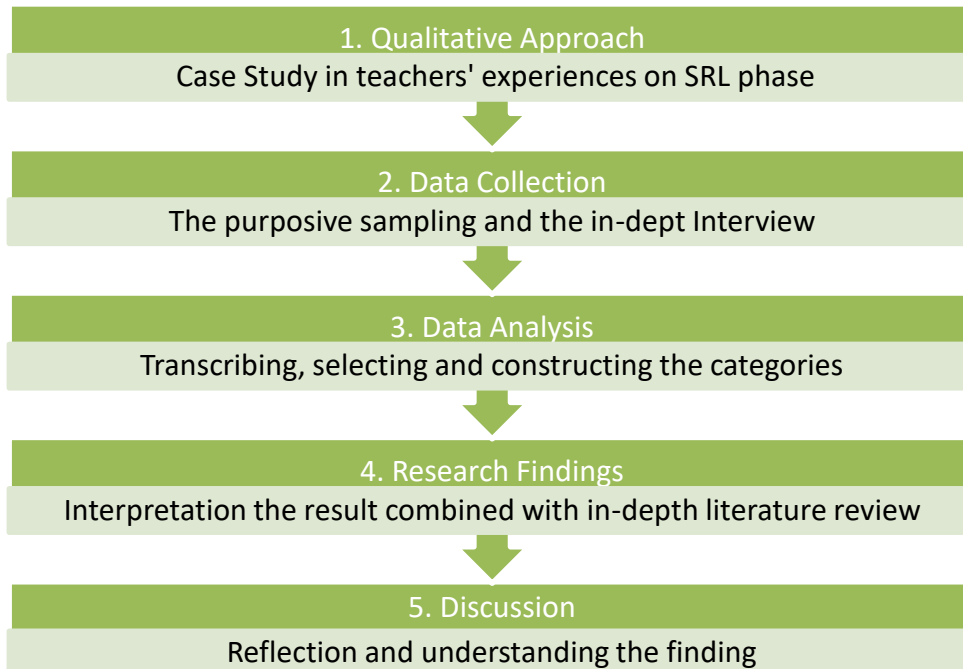


FIGURE 4. Research structure of the study modified, and adapted from Holubek, (2015)

The research structure of the study followed the process of each step the process of research (Figure 4). Firstly, the methodology in this study was deployed in qualitative research based on a case study on the phenomena of teachers' experience in self-regulating their learning. The second section is related to how data gathering in the field research of case study is collected. The Informants were selected after they had fulfilled the specific criteria as appropriate to this case study. Creswell (2007) interprets the procedure to conduct a case study that is also available and has possibilities for purposeful sampling elaborated. Regarding selected criteria in this study, we used purposive sampling who could answer our research question. Data analysis was described in the third section. In this section, we conducted some steps carefully such as transcribing, selecting and also considering some categories that emerge during the analysis of the data. The fourth section, the data was interpreted. In the same way, we associated our findings to the literature review. Finally, in the end section we discussed the finding.

### 3.1.1 Qualitative approach in Case Study

The qualitative approach in education was a prestigious methodology to deeper understanding the phenomenon that occurred. It employed words more than numbers to define the existed phenomena. However, the qualitative approach should be done through an inductive process to conceive the phenomena. Therefore, qualitative research emphasized the researcher as the person who immersed to attain the data. Moreover, Hatch (2002, p.7) argues that “qualitative research seeks to understand the world from the perspective those living in it”

Furthermore, Wallen and Fraenkel (2001) state that investigating qualities of relationships, activities, situations, or materials are referred to as qualitative research. There are types of qualitative research, such as phenomenology, ethnography, grounded theory, narrative studies, critical studies and case studies. By 1980s, case study was acknowledged as the others forms method of qualitative research which enable us to find the meaning and to understand phenomenon. Case study is one of the types in qualitative methodology that has depth with complex analysis in limitation of cases. Similarly, as mentioned by Zainal (2007, p.1),”case studies, in their true essence, explore and investigate contemporary real-life phenomena through detailed contextual analysis of a limited of events or conditions, and their relationships”. Case studies will be defined within complex analysis in depth explanation to understand the meaning of situations of the phenomenon. Moreover, Merriam (2009) argues that there is some unit which included in the phenomenon such as a program, an institution, a person, a process, or a social unit that is helpful in describing and analyzing.

A case study can define specific the unit of analysis the phenomenon in education. As Hatch states (2002, p.30), “that case studies are a special kind of qualitative work that investigate a contextualized contempory (as opposed to historical) phenomenon within specified boundaries”. Moreover, Merriam (1988, as cited Hatch) mentions that some example bounded phenomena such as a program, an event, a person, a process, an institution, or a social group. Therefore, the phenomena teacher self-regulated learning is the unit of analysis in this study. The size of the bounded case involved in this study is teacher personal process in implementing the phase of learning at the workplace.

To draw the phenomena of teachers implement the concept self-regulated their learning in Aceh, this qualitative research utilizes case study by interviewing in three private schools in Aceh. Based on explanation about teachers’ experience of self-regulate their learning will be explored in this study. A case study-based interview was conducted to gain in-depth analysis of the complexity of how teachers implement self-regulated learning at the workplace context. According to Zainal

(2007), case study is one tool which can help this study to provide holistic and in-depth explanations of the social and behavioral problems. He also adds that it also gave more information beyond the quantitative statistical results and conceives more about the condition from the subjective the informant's perspective.

According to Neuman (2009) there are six strengths in case study research:

1. *Conceptual validity.* Case studies help to “flush out” and identify concepts/ variables that are of greatest interest and move toward their core or essential meaning in abstract theory.
2. *Heuristic impact.* Case studies are highly heuristic (i.e., providing further learning, discovery, or problem solving). They help with constructing new theories, developing or extending concepts, and exploring the boundaries among related concepts.
3. *Causal mechanisms identification.* Case studies have abilities have the ability to make visible the details of social processes and mechanisms by which one factor affects others.
4. *Ability to capture complexity and trace processes.* Case studies can effectively depict highly complex, multiple-factor events/ situations and trace processes over time and space.
5. *Calibration.* Case studies enable researchers to adjust measures of abstract concepts to dependable, lived experiences and concrete standards.
6. *Holistic elaboration.* Case studies can elaborate on an entire and permit the incorporation of multiple perspectives or viewpoints.

Based on the above explanation, those strengths have advantages for researchers who conducted research in case study method. Consequently, Neuman (2009, p.42) points out that “case study research that is an in-depth examination of an extensive amount of information about very few units or cases for one period or across multiple periods of time”. According to Zainal (2007), case study is a research method that examined in a specific issue. The specific issue included a single case or multiple cases. It depends on the case study, which it will be explored. The present research was employed in case study research. The case study research discovered how to understand particular issues in teachers' self-regulated learning in a particular workplace notably at schools.

### 3.1.2 The In-Depth Interview

This study was conducted with a particular question to attain the information from certain informants. Semi-structured interview was used in this study. The semi-structured interviews were

conducted to obtain deeper understanding of the teachers' experience on how they self-regulate their learning. In order to fully obtain the information, we also used probing. Seidmen (2006, p. 9) mentioned that "at the root of in-depth interviewing is an interest in understanding the lived experience of other people and the meaning they make of that experience".

The interviews were recorded by using digital recorder and mobile phone. After that, they were transcribed verbatim. Next, the transcripts were read several times to obtain familiarity. Then, the transcripts were coded and categorized based on the phases in self-regulated learning (Bandura, Zimmerman, Pintrich, Fontana, Milligan, Littlejohn and Margaryan). In the phase of teachers' learning, there are categories which are related to the process of learning. The categories were coded as follows:

- a. Forethought Phase; Goal setting (GS), Strategic planning (SP), Self efficacy (SE), Outcome expectations (OE), Intrinsic Interest/Value (II), Learning goal orientation (LGO);
- b. Performance Phase; Task strategies (TS), Elaboration (E), Critical thinking (CT), Self-Instruction (SI), Time management (TM), Environment structuring (ES), Help-seeking (HS), Interest enhancement (IE);
- c. Self-Reflection Phase; Self-evaluation (SEv), Causal Attribution (CA), Self-Satisfaction (SS), Adaptive/defensive (A).

### 3.1.3 The selection of participants

The general characteristic of qualitative research in this study is a purposive sample. As mentioned by Wallen and Fraenkel (2001), a purposive sampling uses certain participants that the researcher assumes will be representative to answer the aim of the research. Thus, some teachers, who met the criteria, were selected to be voluntarily involved in this study in order to obtain information regarding the way they self-regulate their learning.

The objects of the study were primary and secondary school teachers in three private schools located in Pidie, Bireuen and Lhoksemawe. Out of 115 teachers from three locations, excluding the teachers who were taking the Master Programme, we chose nine teachers from each school to be interviewed based on some criteria. First, we asked the primary and secondary principals to fill in the form concerning teachers' information (gender, educational major, period of teaching/teaching experience, number of training events attended, certification status, active participation in school's

programme and the result of principals' supervision and annual performance appraisal). After we had all the data, we both chose three teachers from each level who had taught for less than three years, three to five years, and more than five years. After that, we focused on the teachers who had most of the criteria and the highest score of principals' supervision and annual performance appraisal). Two teachers were on maternity leave. The participation was voluntary and we had permission from the schools before conducting the research. As Creswell (2008) defined, researchers will be assisted by worthy information to conceive qualitative studies.

**TABLE 1. Total of informants from three private schools**

District	Female	Male	Total
Bireuen	6	3	9
Lhoksemawe	6	2	8
Pidie	6	5	11
Total	18	10	28

After we chose the final informants, we made phone calls or asked personally to the potential informant and asked if they were willing to voluntarily participate in our research. Two of our targeted participants from Bireuen and Pidie were on maternity leave. One primary teacher in Bireuen refused to participate in this study. We spent one month to collect our data from the 28 informants. On the 1<sup>st</sup>, 3<sup>rd</sup>, 17<sup>th</sup> and 24<sup>th</sup> October, we interviewed teachers in Bireuen. We continued to Lhokseumawe on 4<sup>th</sup> to 5<sup>th</sup> October and Pidie on 6<sup>th</sup>, 7<sup>th</sup> and 10<sup>th</sup> October. During our interviews in Pidie, we also had some information regarding teachers that we considered as potential informants in our research. Therefore, we decided to also include them in our list of informants. We also asked his voluntary participation in our research and he agreed to participate on that day. Considering that Pidie is the only school which still has students who are staying in the dormitory, we decided to add one informant who is in charge in the dormitory.

### **3.2 Data Analysis**

Data Analysis is the interpretation process stage. Data analysis involved the deep analysis of interview transcripts, selecting statements and constructing categories simultaneously. However, as stated by Yin (1984 as cited in Zainal, 2007), a case study has categories encompassing exploratory, descriptive and explanatory case studies. In this study, we presented exploratory case studies on

teachers' self-regulated learning. In addition, Zainal (2007) asserted that in exploratory case studies, researchers reveal an interesting phenomenon to be explored in one set analysis.

Merriam B. S. (2009) mentioned that there are three steps in data analysis such as:

1. Data collection, which explains about the issue of interest at the beginning of the analysis.
2. After data gathering, in depth analysis, which should be sustained during organizing and managing the data.
3. Focus on constructing categories or themes that will obtain the findings.

Following this, she also mentioned that the process also depends on the researcher in how to analyze the data. Furthermore, in collecting data, researchers may also analyze the data simultaneously. Ultimately, data analysis will give explicit detailed information on the topic being studied (Creswell, 2007).

The present study was done using some steps in data analysis. Similarly, Holubek (2015) mentions 7 steps involved in data analyzing:

1. Data preparation from transcribing the interviews and selecting the relevant utterances. In this study, we selected 9 teachers consisting 3 primary teachers, 3 secondary teachers and 3 upper secondary teachers in each school (Pidie, Bireuen and Lhokseumawe). We also include one certified teacher who teaches in the secondary level.
2. Coding the relevant utterances; the relevant utterances were the priorities as evidence for analysis. In this step, the data was coded into 18 categories based on the phase of self-regulated learning such as Goal setting (GS), Strategic planning (SP), Self efficacy (SE), Outcome expectations (OE), Intrinsic Interest/Value (TI), Learning goal orientation (LGO), Task strategies (TS), Elaboration (E), Critical thinking (CT), Self Instruction (SI, Time management (TM), Environment structuring (ES), Help-seeking (HS), Interest enhancement (IE), Self-evaluation (SEv), Causal Attribution (CA), Self-Satisfaction (SS), Adaptive/defensive (A)
3. Grouping the utterances according to similarity of themes (Thematic analysis); the theme of self-regulated learning phases are forethought, self-performance and self-reflection. (Zimmerman, 2016; Fontana et. all., 2015)
4. Building the preliminary set of categories of description and looking for further varieties of conceptions. In this step, we were aware that other categories that support teachers to regulate their learning may be appeared.
5. Going back to the transcripts and adjusting the categories of description

6. Analyzing the categories in terms of their structural and referential aspects (data) and formulating the final set of categories of descriptions (data + literature).
7. Discussing the data and literature

According to the steps above, the present study was defined particular case into 18 categories. The coding stage (step 2) enabled us to get other categories that were relevant to our research question. Then, the categories were grouped into three themes due to the similarity of the utterances. The three themes were used in this study, namely forethought within six categories, self-performance within eight categories and self-reflection within four categories (Table 2).

**TABLE 2. Theme and Categories of SRL**

<b>Theme</b>	<b>Forethought</b>	<b>Performance</b>	<b>Self-reflection</b>
Categories	Goal Setting (GS)	Task Strategy (TS)	Self-Evaluation (SEv)
	Strategic Planning (SP)	Elaboration (E)	Causal Attribution (CA)
	Outcome Expectation (OE)	Critical Thinking (CT)	Self-Satisfaction (SS)
	Intrinsic Interest/ Task Value (II)	Time Management (TM)	Adaptive/Defensive (A)
	Learning Goal Orientation (LGO)	Environment Structuring (ES)	
		Help – Seeking (HS)	
	Interest Enhancement (IE)		

We adjusted the particular utterances that provided manifestation into new categories which were relevant to our study. Moreover, it enriched our description of this present study with the amount of information. Next, the interpretations of the findings were analyzed through the themes based on the referential and the structural aspects. Then, the data were also confirmed with the literature review into final categories. The research findings provide final details of the exploration based on the final set of categories. In addition, there are major concerns in qualitative research such as validity, reliability and ethic. Therefore, in the last step, we discussed the research findings within the relevant theory underlying the topic of this study.

### **3.3 Research Ethics**

All of those who were invited to participate in this study were voluntary after getting the permission from the School Foundation to conduct a research. Regarding the ethical issue in qualitative research, we did not only obtain permission from school foundation but also from the principles and directors and local Educational authorities. After getting the appropriate informants,

we invited the informants (the teachers) to participate in a semi-structured interview. Before starting the interview, we informed the informants that their names will be pseudonymous. Furthermore, we have informed the teachers that they have a right to refuse, leave anytime when they feel uncomfortable during the interview. All are informed about the focus of the study and the significance of the study. Also, we gave informed consent letters in English and Bahasa, which state their voluntary participation concerning detail information during the interview session. In this study, we stressed that the data is confidential.



## 4. FINDINGS AND DISCUSSION

### 4.1. *Teacher self-regulated learning in Aceh*

The finding is generated from the data analysis, which are presented in the theme taken from Zimmerman and Pintrich self-regulated learning cycle to address the research question about how teachers in Aceh self-regulate their learning. The themes are 1) Forethought phase, which involves the learning process and motivational beliefs that can elevate effort to learn, practice and perform, 2) Performance phase, which involves the use of process and 3) Self-reflection phase which involves process that occur after efforts to learn. The citation is presented in italics and the omitted text is marked with dots [...]. The participants are symbolized based on the school location (1, 2 and 3) , level (primary /SD, lower secondary/ SMP and upper secondary/ SMA) and the line number of the statement taken from the transcript. As an illustration, 1-SD01\_10 represents participants from location one (1), a primary teacher and the statements taken is in line 10.

#### 4.1.1 Forethought

As mentioned in the literature review previously, forethought is processes that influence people before performing their learning. In this study, the forethought phase taken by the teachers is elaborated into sub-processes. They are goal setting, strategic planning, task interest, outcome expectation, self-efficacy and mastery goal orientation.

##### *Goal setting*

Those who had been teaching for less than three years specified their action or set their goals. They are primary and upper secondary teachers. Their goal is to know about what they are learning relating to their teaching practice (*1-SD01-181*). They specified that they had to know what they teach and they must master it. The upper secondary teachers related their goal setting to a teacher's responsibility who must master the subject they teach so that the students will understand the lesson well.

*If I don't understand the subject I teach, it will be difficult for my students to understand. Therefore, when I want to teach, I have to assure that I know the topic well. I must look it up so that when I come to class, I have already known what I am going to teach and in the end, the students will understand it as well. (1-SMA01-275) – Less than three years teaching experience.*

Some of those who had been teaching for three to five years also mentioned that they must know the subject they teach to enable the students to understand well. However, particular topic apart from the subject matter became one of their considerations in assisting students' understanding. In addition, the fast development that enabled the students to learn faster had encouraged the teachers to know more about further information or more updates than the students. The others specified that they wanted to enhance the skill that entitled to the subject they teach. Meanwhile, the primary teacher mentioned that they wanted to be able to adjust with any of the students' condition, especially those who taught the first year students.

*I do set my own goal for myself,. When I learn, I must understand...I must understand. That's the target. (3-SMA05-153) - three to five years teaching experience*

*...At the time the students enrolled, there were students with various abilities. Some have been able to read, there was a student who has not been able to read. Those variations that I need to understand. Able to understand all because there was a time when I teach a topic where students commented "what are we learning about, miss?, always that topic, it's boring". They spontaneously said " I don't want to study this". However, I realized some of the other students who haven't understood it yet....(1-SD02 -12)- three to five years teaching experience*

A primary teacher who had been teaching for more than five years mentioned that she wanted to teach by using English (3-SD02-49). In addition, the upper secondary teacher mentioned that he wanted to obtain higher knowledge and he dreamt of learning in a foreign country "actually, I want "Daurrah, a visit to a country where we will learn there..(3-SMA03-188) and he wanted to be better as well (1-SMA03-211). The only certified secondary teacher mentioned that the outcome of her learning was for her students' improvement. She mentioned that "If I do not learn, my students will not be improved (1-SMP02-33). Also, due to the certified teacher entitled to her, she wanted to be better by being more update.

*I have been certified, it is impossible if I do not learn. People said that those who have been certified must be professional. It can be said that I have to be professional. That's what leads me to do many things as a teacher. I have to increase my quality. We must be better time after time, don't we? The students see a lot of things. Their capacity is getting more increased. They browse internet. What if we left behind? It*

*will be ashamed. It means that as a teacher, we should be more update and know more that they are. (1-SMP02-224) / more than five years teaching experience and certified teacher.*

This present study revealed that more than half of the total of informants set their own goals. Some teachers did not specify their goals. Similarly, a research conducted by Endedijk, Brekelmans, Verloop, Slegers, and Vermunt, (2014) found that some student teachers set their goal but some did not. Out of eight primary teachers, only three of them specified their goals. It was likely caused by their assumption that the materials in primary level were easy. However, two of the teachers who set their goals were also in charge for the school curriculum. Most of the secondary teachers who had been teaching for more than five years also specified their goals more than those who had been teaching less than five years. Of 11 upper secondary teachers, only five of them set their goals. Most of the goals set by the teachers were related to mastering the subject they teach. It could be concluded that they set mastery goals which focus on learning. As their capability in mastering the subject they teach influenced their students' understanding, teachers were more intrinsically motivated to learn. This is similar to Randi (2004) who mentions that mastery goals enable people to focus on their learning and to have intrinsic motivation.

### *Strategic planning*

For attaining the goal they had set, the primary teachers planned different strategies in attaining their learning goal. They varied from the need to look for methods that can be shared to her colleagues because she was also in charge for the curriculum (less than three years teaching experience), learned about how to manage her classroom as the essential part for the success of teaching (3-5 years) and learned the topics that were going to be taught (more than five years).

*...I have looked for some methods and will offer it. It is better to not directly offer it to the religious teacher that they can use this methods..Therefore, I only say this is good. What do you think?". It is up to them. If they disagree, it means that it doesn't fit to them. What is underway is English because I did it with other teachers .I said" there are videos about bla..bla..bla... ".they responded: "yes, sure, we can use it"(1-SD01- 390) /Less than three years teaching experience*

*Still with the class management, because if the class management works well, what I teach will also be success. If I cannot manage my class, the learning goal will not be able to achieved (3-SD01\_264)/ three to five years teaching experience*

*The updates one is about day and night. The students must know about it. I have to bring globe to the class and flashlight. Because it is new for them, I have to learn in because there will be a lot of questions asked by the students. I have to learn about it first. (1\_SD03-288) / More than five years teaching experience*

The secondary and upper secondary teachers who had been teaching for less than three years mentioned that they thought of ways to assist their students who left behind and sought for more detail information regarding the subject they teach especially for those who teach more practical subjects such as physical exercise. The methods to deliver the lesson were also one of the methods of how to accomplish the goal of learning.

*What should we do with students who do not understand well,? How do we apply it to the students so that they can also understand as their classmates. (1-SMP03\_110) /less than three years teaching experience*

*Script. In theater, we cannot only speak. I don't know how to say it. We cannot just say it. Mimic is needed. The expression, the intonation, the voice.(3-SMP03\_176) /less than three years teaching experience*

*I finally understand that I have to really learn about it more detail. If I understand about it, the evaluation that I use for students will also be reviewed to see if it's been appropriate. I wonder if the the evaluation is appropriate. Why do the students often take remedial?. Are the questions we asked to the students has been appropriate? There are a lot of things to be reviewed (1-SMA01\_46). /less than three years teaching experience*

One of the strategies that the teachers with more than three years teaching experiences planned was attending training relating to their subject, pedagogical approach and the specific training for student competition purposes. In addition, the job demanding the teacher a high ability also encouraged the upper secondary teacher to search for more sources to assist her. Moreover, those who had been teaching for five years mentioned that to know how to manage the classroom and keep being update were essential.

*What I want now is to attend more on the training relating methods and the learning media. (2-SMA01-26)/three to five years teaching experience*

*For professional training, I want to have more sources. Sources for teaching material. Have more tricks, more ice breaker. Lack of ice breaker. Because it can help me to handle the students/ manage the students. I think I need more ice breaker and learn more. (3-SMA01- 209)/three to five years teaching experience*

*Okay. To support my profession as a teacher, I prefer to attend training relating to my subjects, such as training held by the local education authority or any seminars held in the universities. I am interested to join or attend it because it relates to my subject. Next, read anything relating to the material such as article and books. (3-SMA02-14)/more than five years teaching experience*

*I need to learn more about the SNMPTN (university entrance test) questions. I teach it to my students. There is a difference between national examination and university entrance test. I want to read about it more. I want to look it up and I plan to make small note. I want to have ways and small note containing SNMPTN questions in one place with national examination questions which will be interesting, but in other word a little bit difficult. (3-SMA01-250)/three to five years teaching experience*

*Perhaps learn about the teaching material. Because to handle such students. According to me, the content knowledge is not the main thing, but how to manage the class. Thus, the most important thing is managing the student and later on the knowledge I would like to share. (2-SMP01-18)/more than five years teaching experience*

*Another thing is I think of what I am going to teach tomorrow in the class. It's impossible if I do not prepare it. I like browsing in the internet. Besides, if I have to teach a class which need special attention. It is not enough for me to teach as usual. Thus, I have to find ways. For instance, now in the year 9 class, I cannot only...come to class and directly give the lesson. There will be only one to two students who're going to understand. (1-SMP01-37)/more than five years teaching experience*

Even though there were only half of the teachers who set their goals to learn, most of all teachers mentioned that they decided their strategies to learn. Deciding strategies are one of the processes that learners undertake for self-regulating their learning. However, the absence of goal set by most of the teachers may lead to the lack of engagement. Zimmerman (2000) argues that goal setting and strategic planning will lead to engagement when people have motivation to learn.

### *Self-efficacy*

One of the most important elements of self-regulated learning is self-efficacy – people beliefs in their capability in achieving their goals. As mentioned by Bandura (1999), people will persevere to face their difficulties when they believe that they can produce desired effects by their actions. We discovered various findings regarding teachers' belief in their own capabilities dividing into low and high self-efficacy. The primary and secondary teachers who had been teaching for one to three years had high self-efficacy in mastering the subject they teach. However, we also discovered that they had low self-efficacy on particular task that they were responsible for.

*Because of the work in curriculum, now I am in charge of the primary curriculum which enables me to teach English only. Because I have known about English, I do not need to use mind mapping. (1-SD01-216) – High/less than three years teaching experience*

*I am not confident in assessment because I am still confused about it...(1-SD01-553 - low)/less than three years teaching experience*

*I can play all traditional music instruments (3-SMP03-136)- High/less than three years teaching experience*

*The main barrier is I sometimes find difficulties in describing, imagining kind of thought, I am not really good at it. (3-SMP03-256) – Low/less than three years teaching experience*

*I do not find any difficulties or barriers so far. It doesn't mean that there is no barrier. The barrier was in understanding the material/ theory, but I can solve it because I always search/ browse it on the internet (1-SMA01-303) – High/less than three years teaching experience*

*I didn't propose training at that time. But I am not sure if I propose for it or not. But at that time, I prefer Olympiad training because I am asked to teach Olympiad students. I am a teaching education graduate. I think that it is a bit inappropriate if I teach students for science Olympiad. It's not all but up to now, I think that I still experience being burnout. (1-SMA01-333) – Low/less than three years teaching experience*

Similarly, teachers who had been teaching for three to five years, especially the upper secondary teachers, were indicated to have high self-efficacy. There were confidences that they were capable of the subject knowledge they teach. Moreover, we found that teachers who were responsible for teaching Science Olympiad realized that the high level of the materials led them to search for more sources about the materials. Being confidence of having capacity to be a tutor was also an example of high self-efficacy.

*The test is very difficult. It's very difficult. I think it is a Phd level. Moreover, some of geography test is in English.*

*First, I collect all of the paper tests from the previous years, I collect it from the internet and then sometimes I ask the local education authorities "May I ask for the previous paper test of a science Olympiad? They said that I can have it. Copy a lot of books. I separate the books into some parts. This belongs to this theory. I classify the questions and make it into a book and copy it to be shared with my students. After that, we discussed it together. Later on, the additional reference which is in English because it is for the Olympiad, I buy the English version.... The questions in the English version book have a question about sea. There are only two questions. I try to read, comprehend it. It is very difficult to comprehend it. Therefore, I need supporting books. (3-SMA05-207-209)/three to five years teaching experience*

For those who had been teaching for more than five years, they also had high self-efficacy on mastering particular skills, being able to solve the difficulties they encountered and having confidence to teach different subjects. A female certified teacher, who teaches art subject, was also indicated to have high self-efficacy, which was influenced by her previous success. In addition, the

certified teacher believed in her capability on some skills, but had low self-efficacy on playing music instruments. In contrast, male art teacher who had been teaching for three years mentioned that he had the capability in playing most of all music instruments, but had low capability in particular topics / materials requiring deep understanding.

*There is still a relationship between Geoscience and Geography, but astronomy is related to physics. At first, I cannot handle it so that I asked my students to go to Bireuen on Saturday to study with Ms... because she has the capacity. (2-SMA03-50) low /more than five years teaching experience*

*Now, there has been a module. I learn more about astronomy by myself because I focus on Geoscience and geography (2-SMA03-50)/ High/ more than five years teaching experience*

*At least I motivate myself. I can do it. Since that day, I am confident to participate/register my students to competition. I am confident now. (1-SMP02-67) certified/more than five years teaching experience*

*I am okay in fine arts. I never skip the material/lesson (1-SMP02-97). Theater is not too difficult for me (1-SMP02-113) / High certified/ more than five years teaching experience*

*At that time, I gave up. And I really gave up. I couldn't do it. Ok, I will not handle the music. But for the other three, I can still learn them (1-SMP02-33)/ certified Art teacher-female- Low. /more than five years teaching experience*

*I can play all traditional music instruments (3-SMP03-136) - Art teacher (Male) – High/less than three years teaching experience*

*It is difficult, it's difficult to make it into writing. I find difficulties in expressing, writing it is difficult because when I write, I sometimes find that the word I use is not appropriate even though I have ever learned how to write.(3-SMP03-262) -Art teacher (Male) – Low/less than three years teaching experience*

In summary, we discovered that most of the teachers had high self-efficacy regarding their capabilities on the subject they teach and particular skills they had. Their personal belief of their capabilities in doing the task assigned to them enabled them to solve any obstacles they encountered. In comparison, their low capacity in conducting particular skills prevented them to be more persistent. This is similar to what Bandura (1999) has described that people will work effectively when they believe that they are able to do the task. We also found that those who set more specific goals also had higher self-efficacy Bandura (1991). Therefore, the goals set by teachers also contributed to their persistence (Locke and Latham, 2002).

## *Outcome Expectation*

Another self-motivation that motivates teachers is their outcome expectation. The primary teachers who had been teaching for one to three years expected their learning would enable their students to comprehend the lesson they teach.

*A situation which doesn't make me exhausted because of teaching several times. For instance, when I teach this particular topic, I want it to be understood by the students after two meetings and they remember the lesson. That is what motivates me. To find the way. (1-SD01-429)/less than three years teaching experience*

The outcome expected above contrast to the primary teachers who had been teaching for three to five years. They expected that the students' parents were satisfied. In addition, they expected to keep remembering what they have learned.

*Yes. I want to be better. It is because I like to be a teacher in the primary level. I love the first grade students and I want their parents to be satisfied. Actually, it is more on the parents that the students, but when I give the final result of the study and see their parents are satisfied, it is a great things that make me want to do more. (1-SD02-154)/three to five years teaching experience*

*Perhaps when I learn something, it is to make me always remember.(2-SD03-189)/three to five years teaching experience*

Avoiding students of being bored was the expectation in learning of the primary teachers who had been a teacher for more than five years. In addition, a teacher mentioned that she learned to support her capacity in teaching.

*Because I teach a social subject, if I do not have variation, the students will get bored and feel sleepy (3-SD02-21)/more than five years teaching experience*

*It is clear that to support our capacity, no matter what it is, I have to learn. What I have to I want to teach, I have to learn about it first, don't I? What I teach to the teachers from another school who join the training. There are a lot of senior teachers. (2-SD02-67)/more than five years teaching experience*

There were various outcome expectations mentioned by secondary teachers with different teaching year experiences. A physical exercise teacher who had been teaching for three years stated that others success motivated him to learn. In addition, being a success figure for the students to be better than the teachers were also the ultimate ends of learning for the physical exercise and art teachers.



*What motivates me can be seen from the success made by others. I see myself from others. How can they succeed. That makes me want to be successful so firstly, I motivate myself (1-SMP03-138)/less than three years teaching experience*

*My target is to make my students achieve more than what I have achieved in the sport. Because I am a physical teacher, I want my students to be a winner in O2SN (National students sport Olympiad) at least in the sub- district level and hopefully it will continue. If I am able to be like this now (one of the winner in the national sport event), I want my students to achieve more than I did (1-SMP03-178-physical exercise teacher)/less than three years teaching experience*

*The biggest motivation is for the sake of my students. Just for my students. The students can also follow what I have achieved and how far I go and hopefully more than what I have achieved. (3-SMP03-516- art teacher)/ Less than three years teaching experience*

Not all teachers in the secondary school, who had been teaching for three to five years, mentioned their outcome expectation. A math teacher mentioned that the ultimate end of her learning was to pass the next teacher competence test. Meanwhile, for the two-year math teacher, obtaining new knowledge was not only for him but also for his students.

*The only answer of what motivates me is I want to be a teacher who learn and teach. I don't want to see my students come to school without knowing nothing when they go home. The point is I have to change and so do my students (2-SMP02-159-160)/three to five years teaching experience*

*The only answer of what motivates me is I want to be a teacher who learn and teach. I don't want to see my students come to school without knowing nothing when they go home. The point is I have to change and so do my students (2-SMP02-159-160)/less than three years teaching experience*

Those who had been teaching for more than five years mentioned that mastering the content knowledge and being able to answer the students' questions were their outcome expectations. In addition, the satisfaction after teaching was also expected from their learning.

*Even though I am bored, I force myself to not to because that is my responsibility. It is funny if I do not know about the paragraph. My students will think that how can I teach something I don't know. Therefore, I have to know first before I share it to the students.(2-SMP01-52)/three to five years teaching experience*

*Yes, because I keep solving the math problems/ question. It is impossible for me to give it to my students if I don't do it (2-SMP01-179) /three to five years teaching experience*

The upper secondary teachers, who had been teaching for more than three years and five years, mentioned that their outcome in learning was the students' comprehension. Others mentioned that they wanted to be relieved by being able to answer students' questions.

*Because our system that when we come to class, it is impossible because we have the book or what we have had are not read. At least, we explain the students based on our own word that can be understood, don't we? Therefore, I should know the concept first. (2-SMA01-163)/ Three to five years teaching experience.*

*I have to think hard about how my students will understand the lesson. (3-SMA02-48) /more than five years teaching experience*

*I have the target actually. A satisfaction when the students understand my subject. For instance, when in the national examination, the score is good for geography subject. It means that I have my own satisfaction (2-SMA03-116)/more than five years teaching experience.*

*The students have broad knowledge. Moreover, besides the Mindanao students, when I teach in "gebber" class the science class, they have a lot of questions to ask. They have a lot of questions. After I explain, there must be a lot of questions (2-SMA01-53)/three to five years teaching experience.*

Those who had been teaching less than three years stated that they wanted to obtain new knowledge and to have their students achieve their learning goals.

*There is a new thing that we haven't had before. Even though there is no new thing, there is a thing that strengthens our skill and more detail which exactly new things. New things that we haven't had before (1-SMA01-271)/less than three years teaching experience.*

*Ehmmm, yes, it is. For instance, the most important thing is what is achieved by the students. That's the main point. For the students' achievement, I have to really understand about it. (2-SMA02-201)/less than three years teaching experience.*

Another expectation was derived from the label attached to the school that their students were supposed to obtain more knowledge.

*Smart students, great students and active students. I feel that there is something missing if I cannot give more to them. Because they have to pay expensively to learn in this school, it is not good when the teachers are the same as those who are not from this school. It means that I have to give them more. Therefore, I have to learn, I don't want to be like the other teachers outside. Because the students perceive most of the teachers outside are certified so that it is only transferring the knowledge, angry at the students and score their work. Nothing's more than that. I don't want the students perceive the teachers here are the same as those who are outside this school and say it's better for me to study outside. It is free. Study here and pay for it,*

*but the teachers are the same as those who are outside. (3-SMA04-133) /more than five years teaching experience.*

Those who had been teaching less than three years concerned more about their mastery learning to motivate themselves rather than those who had been teaching for more than three years. Similar to Pintrich (2000) who argues that those who concern more on their mastery are more motivated than those who expect to be better than the others. However, it shows that most of the male secondary teachers who teach more on practical such as physical exercise and arts expected to obtain higher performance than the others to motivate them.

### *Intrinsic Interest/value*

Besides the goal and the strategic planning, we found various self-motivations that were mentioned by the teachers. First is the value or the interest of the task that motivates them to learn. The primary teachers, who had been teaching for one to three years, stated that the method/ pedagogical approach and difficult topic motivated them to learn. Meanwhile, for those who had been teaching for three to five years, they mentioned about creativity. A social studies teacher who had been teaching for more than five years mentioned that she was motivated to learn because of the changes that relates to the subject she teaches.

*Yeah. English as well. English yeah. The method is the same. The method of English. I learn new method because as I have already said before in primary school, the content/topic is easy... easy.. the method is difficult. (1-SD01-360)/less than three years teaching experience.*

*... the method. The students...we handle the students. Next, the games for students....such as athletic for students. There is a lot of athletic. I will then make it... the games and if it relates to movement, the basic is running, jumping, walking. From those, I create games. (2-SD03- 121)/three to five years teaching experience.*

*in social subject... it relates to countries as an example. The existing book from the past until now are the same. Today's development including the changing ministry. ...the knowledge that there are changes as I mentioned previously. Member of representatives, President, Ministry etc. country, additional country, expansion of provinces . those are the information that I need to add. I look for it. (3-SD02-166)/more than five years teaching experience.*

The secondary teacher, who had been teaching for three to five years, stated that the need to develop what she had learned motivated her to learn. For those who had been teaching for more

than five years, their value of learning higher level of knowledge and collaboration project with other subject motivated them to learn

*In Geometry. Aaa. Probably, I will develop. Next, if there is a training, it will focus on that discussion...that's the advantage because I have just attended the training in Sigli which also focused on Geometry. (3-SMP01-48)/three to five years teaching experience.*

*When I walked around with my wife, she bought a book or look for books in the Olympiad bookshelves (laughing) because I teach Olympiad and I am more excited because it is a higher level material. It's higher.(3-SMP04-27)/more than five years teaching experience.*

*Class project is interesting for me and I have to read physics book. It is about a collaboration of music instruments from several simple instrument. They make from simple music instrument and practice it. in physics subject, they have to make reports. They have to know the frequency, the sound and the vibration frequency and sound. It's interesting. I love it. I like such things. Next, I collaborate with math teacher about angle. How to make repeated pattern. At that time, there was 2 dimension art works which I made by using repeated pattern. In Maths, repeated pattern is the same as angle topic. One more collaboration is with chemistry teacher. It was about fragment of glass. fragment of glass in chemistry. It is interesting for me because I have to learn again. I have to know what chemistry topic which will suit to my subject. (1-SMP02-161) CERTIFIED/more than five years teaching experience.*

The upper secondary teachers' interest of attending training for a particular topic (such as a science Olympiad) and learning more about the specific or particular topics (2-SMA02-213) motivated them to learn from those who had been teaching for one to three years. Meanwhile, those who had been teaching for three to five years mentioned that being relieved of answering students' questions and being more update and having more knowledge for the students encouraged them to learn. In contrast, for those who had been teaching for more than five years, they stated that classroom management became their motivation.

*It's better to have specific training for Olympiad for teachers who teach Olympiad students. I mean that for teachers who teach Olympiad, it will be necessary or good when we teach the students. I do not have basic in teaching Olympiad, but I am asked to teach it. I don't have choices. I have to teach. I mean, the lesson focused is different. So, I teach as I best as I can. (1-SMA01\_333)/less than three years teaching experience.*

*I mean that I don't want to look stupid in front of the students.. thus, there is a need. Absolutely it is a need. when I can answer students' question, I feel relief. That's way I need to read more to master my own subject to teach. I really need it. (3-SMA01-87)/three to five years teaching experience.*

*The term is win one night more than the students, isn't it? the students have known about it while we haven't. Therefore, I also do preparation, read. When I am learning and stuck to one material, I can predict which difficult material that the students will encounter. I will solve the problem. Thus, I search in the internet. Look for the way how to explain the material to the students clearly so that they will understand. I learn about it. Of course, what I learn is very difficult for students to understand. . (3-SMA05-62)/three to five years teaching experience.*

*...not in theory or the material, perhaps the class management (3-SMA03-36)/more than five years teaching experience.*

As mentioned above, teachers' interest in the particular things to support their teaching practices motivated them to learn. This is in line with Kitsantas and Zimmerman (2002) who state that when people have high interest to the task assigned to them, they will be more motivated.

### *Learning Goal Orientation*

The last sub-process of forethought phase is goal orientation. Two primary teachers oriented to keep learning for their own benefits. One, who had been teaching for two years, described that even though she realized that the primary school subject was easy, it did not prevent her from keep learning. The other primary teacher, who had been teaching for more than five years and also in charge of the primary curriculum, stated that no matter how much work she had, she had to keep learning.

*It is improving, but sometimes I forget. Therefore, I keep learning TOEFL no matter what I have to be able to practice it. After that, I learn about grammar. I directly open the TOEFL paper test. (1-SD01-354)/less than three years teaching experience.*

*Now, I am in charge of curriculum. The job is different from the teachers who teach full time, 24 hours/ week. Now curriculum, staff has 15 teaching hours per week. Even though I have additional job, learning is learning. I have to keep learning. (3-SD02-144)/less than three years teaching experience.*

On the other hand, most of the secondary school teachers from any range of teaching year experience, including the certified teacher mentioned that they oriented to mastering the subjects they teach. Thus, they were aware of the importance of searching for detailed information relating to particular topics relating to their subjects.

*I still have to master the theory. If I cannot master the theory, it is impossible for me to practice it. Later, I have to explain about the theory to my students and then we practice it. (1-SMP03-6)/less than three years teaching experience.*

*In Guru Pembelajar programme (teacher who learns) , I have taken UKG (teacher competence test). It is annual test. Actually, it is applied for position promotion or certification and additional allowance. However, as we are from private institution, we do not hope for it. At least, I get the knowledge. From the last test, there are modules that I have to take. (2-SMA01-58)/three to five years teaching experience.*

*Compare to other students from other schools, the students in this schools are more initiative. They know earlier. I need to look for it. Therefore, every time I want to learn the topics that I am going to teach next week I have to know more about it than my students. I have to know more than my students do. I shouldn't win one night more than they are. I should be a year smarter than they are so that I know many things. (3-SMA02-129)/more than five years teaching experience.*

In addition, the upper secondary teachers' motivation to learn varied from a capability to evaluate students' learning, a teacher's ambition to be a tutor that allows him to share with other teachers and the fast development demanding teachers to keep being update.

*When I was here, I looked at the situation. I thought that I have to know what is C1, C2, ...C6 (taxonomy bloom). It is pretty useful. After I know it, I can give a test to my students and the test is adjusted from c1 to c6. That's why it is useful. (1-SMA01-42)/less than three years teaching experience.*

*Yes. I am interested in and dream of becoming a tutor. A tutor in education. (3-SMA05-22)/three to five years teaching experience.*

*Knowledge is dynamic. If I do not update and only count on what I learn from the book, when I was at the college. I am done. (2-SMA03-233)/more than five years teaching experience.*

As Zimmerman (2002) points out that the self-motivational aspect of self-regulated learning is mastery goal, which value progress in learning. Only 11 out of 28 teachers concerned about their mastery goals to motivate their learning.

#### 4.1.2 Performance

In this section, performance is the continuing part of the cyclical phases in self-regulated learning. Teachers perform learning effort after they had done through the process of volition from the forethought phase. Performance phase has two parts encompassing self-control and self-observation (Zimmerman, 2006). The present study had emerged some sub categories in each part categories on self-regulated learning. Based on their explanation, teachers have inherent in some subcategories. For instance, some sub-processes through self-control are task strategies, self-instructions, time management, environment structuring, and help seeking. The other parts of self-

control which present in this study are elaboration, time management, environment structuring, critical thinking and interest enhancement. Moreover, for self-observation, there are sub-processes that emerge from this study, namely metacognitive self-monitoring and self-recording.

Furthermore, this study explored how teachers' self-regulate their learning. Even though the informants did not familiar with the concept of self-regulated learning, they undertook some process performance in their learning. The informants shared their experience within the sub categories of self-regulated learning processes. The information was viewed from their explanation about their current learning as teachers. In this study, informants also learned things relating to their needs as professional teachers in informal situations.

### *Self-Instruction*

Not all of the teachers conducted self-instruction in performing their learning. Only three secondary teachers mentioned that they used self-instruction process to perform their learning. They had been teaching for three years and the other one had been teaching for more than five years. The present research discovered that only one male teacher who mentioned it in this sub-process. Regarding the questions to make the interviewee conceive learning comprehensively, some of them illustrated the next step that they will take.

*For instance... .... I guesst that assessment is conducted by dividing them into groupp I imagined it directly. I think that...students can be treated like this way....I directly imagine it for the class where I will teach . (1-SD01-102). Less than three years teaching experience.*

The sequence of performance was emerged in their mind. They did self-talk to think of the best way to perform learning in the attainment of their goal. The same statement was mentioned by the other teachers. As outlined by Zimmerman (2006), self- instruction is one part of self-control in teacher to do self-performance in self-regulated learning phases. He added that this part of using sub vocal guidance as one of the strategies to effectively attain their learning goals.

*I think of how to make students understand it comprehensively,...a....a....the meaning of enzymes, finally I gave an example such as the parent experience while they cooked meat...in that time, because meat is not tender, they put a spoon, spoon from metal....(3-SMA02-179). More than five years teaching experience.*

The teacher did not only think of the most effective way for her to learn but also for her students. The teacher's awareness of what occurs in her surrounding has assisted her to adopt new

strategy to learn. This strategy enabled her to easily learn and remember particular matter. The method would probably be useful for the student to adopt as well. Similar to Zimmerman (2000) who states that one of the ways to perform learning is by self-instructing one's self how to execute tasks.

### *Task Strategy*

All informants commented in task-strategies sub-process. The data showed that most of the teachers, who had been teaching for more than five years, used task strategy methods more frequently than those who had been teaching for less than five years. In addition, almost all of the teachers from the secondary level performed their learning strategically more than the primary level. In relation to gender, it was found that male teachers constantly used some task strategies for their learning. On the contrary, just a few female teachers performed their learning.

As Buzza and Allinotte (2013) state that to attain academic success, learners who have targets in their practice in their own learning will use some specific learning strategies. They added that it will be worthwhile if they can promote the strategic learning to their students. However, they attempted to do their tasks with some strategies to obtain their learning goal or their outcome expectation. All the teachers integrated into their task strategies. It shows from the data that they frequently took notes in their learning process.

*“...I wrote on that day....the points...a...a...for example....I read a book...book...for example I got the point directly....I wrote the point...so it just the point....Actually I made mind mapping ....(1-SD01\_115)/ Less than three years teaching experience.*

Similar to the research conducted by Tanriseven (2014) that mind mapping used in planning had positively affected to self-regulation and motivation. Besides, the others performed their learning strategies to assist them.

*On the paper. When I got the learning material, I sometimes just read and make folder file, then I just wrote the points, so it made me remember to explain this material learning. Just it, make notes. I also read from the internet. Actually, I did not read them all. If I read them all, it will make me dizzy...so I just get the points. Sometimes, I do not get the term, so I open the dictionary. It is not really dictionary; it is like guide book/ handbook for art. There are many art terms....(laughing)...about art...I just open that book....just it...(1-SMP02\_280). More than five years teaching experience.*



*I make notes. Notes of what I've got today. I make notes. Indeed, there is one book that I made. Later, I read them for many times what I have made, so I will remember..., Therefore, I put together the notes and make a book,..."here is my notes for geographic subject. I compiled all the notes.I usually made a book. I compiled them. (3-SMA05\_106-112) /three to five years teaching experience.*

There was no single strategy that was used in their learning process. As Zimmerman (2002) has also mentioned that in this phase, learners do self-control during implementing strategic learning to find the most effective way to attain the goal. The data perceived that some strategies had been used by informants. Based on their explanation, there were types of learning that they used to enhance their learning. It was delineated from their comment on the use of appropriate strategies to adjust their type of learning such as visual learning type:

*For me, it's more about metabolism that I represented it in animation. I have to...what the term is....explain it by using animation. To be honest, I learn that way because I am a type of visual learner (3-SMA02\_153)/ More than five years teaching experience.*

Some teachers perceived their learning performance by ordering the sequence of strategies to make them easier to learn. For instance, they made a particular learning step or some formula that assisted them to remember easily. This method had some advantages for the teacher who performed difficult task.

*Yes, I analyze it by myself. Then, I like to make formulas. For instance, because we don't have the formula for compound sentences, I made it by myself such as comma. They have a formula that is easy for us to remember...so, I use that formula to make me remember it, just it (1-SD02\_200). Three to five years teaching experience.*

*I am a person who prefer to the context. I meant, if I want to learn, strategically, I have to write, I am kind of that person. If I forget it, I open it again (2-SMP02\_247).More than five years teaching experience.*

It is similar to Corno (1989) who states that when teacher faced a demanding situation, he or she should have volitions to encourage and maintain self-regulatory strategies that is needed a higher of meta level in SRL process. Furthermore, what teachers learned had a link to their students' needs. Before they applied their knowledge, teachers would do some strategic learning for themselves. For example, the present data had shown that teachers learned intensively in particular situations to obtain higher performance in front of the student. The teacher perceived their learning performance by using some strategies that make them easier to achieve their learning goals. Sometimes, they shared the similar patterns of learning with their students.

*Sometimes, I made quick method for myself to remember what I have learnt. For example, some steps that make me easier to remember...I applied it for my students. If they want to use it...just take it but never mind if they did not want to use it,...so far...what I have applied to my students, they used it and it reminds them of it (3-SMA02\_58). More than five years teaching experience.*

*If It's me, I read it first. After reading, I practice it. How to make it easier and more comfortable. How to achieve the success. Thus, I implemented it by myself. Next, I will give it to my students (1-SMP03\_44). Three to five years teaching experience.*

*...Actually, I meant that what I have learned will also be applied to the students...so what I saw in reading..Firstly, I analyze the reading to understand comprehensively with title of the reading. Then,I realize that the title has wh-questions..It told about something ....as a result..it told about the place. for example...so ehmm...that's firstly I did skimming then I looked the main idea, automatically I would look the topic, what the keywords? I seek the keywords firstly. The keywords...so I could predict it...oh I see...while reading I try to analyze it slowly if I read in a hurry, I just got prediction and the keywords. for example the keyword in the first paragraph, secondly..It will be like quick reaing like previous learning. Therefore I taught student with the same way, in the few time we should prepare to find the keyword...find the keywords, skimming and scanning (3-SMA01\_41). Three to five years teaching experience.*

Peeters et. al. (2013) states that teaching style has similarities with the way teacher do their learning (Gordon et al., 2007). They added that the effective learning strategy style have associated with the way how they nurture the student. (Dembo, 2001; Gordon et al., 2007; Kramarski and Michalsky, 2009).

### *Elaboration*

Elaboration is one of the sub-processes in self-regulated learning in the workplace. Fontana, Milligan , Littlejohn, and Margaryan (2015) suggest using elaboration to measure self- regulated learning in the workplace. School is the place for teachers to implement their knowledge of the student. This category is needed for teachers as learners who enhance their insight by using some sources. Teachers were also seen through this process. They did not only use one learning material from help seeking but they also attempted to gather significant information. This sub-process has associated with help seeking categories. Indeed, references from help seeking sub-categories will be used within the performance of teachers' learning process to enhance their insight. Therefore, creativity was salient in this part sub-processes. The information will not be useful if teachers do not know how to elaborate it within appropriate action. Teachers, who had been teaching for less

than five years elaborated more for their learning. Because of the lack of experience, they still needed to integrate previous knowledge into new knowledge from several references to improve their performance. The data had also shown that most of informants did elaboration process. There were no differences in each level. Either primary teachers or secondary teacher had similar comments during the interviews. Although some study showed that gender had associated with self-regulated learning, in this category, there was no discrete in gender. Both female and male had the same frequency in the elaboration process. The following informant statements had shown that teacher learned through this process:

*I bought Some of them (book) and some of them did not...it is not many...but..I have the hard copies. I got it from my sister, who has her master degree in Australia...so those are books from Deakin University. Collage books...from internet...then I asked some friends...then I asked my colleagues too (1-SD01\_41-54). Less than three years teaching experience.*

Moreover, as Hodkinson and Hodkinson (2005) stated that the ideas from external such as training, reading, use the internet that relevant with the teachers' need in their teaching practice pushed them to learn new material learning.

*2013..a..a...I did not take from one book, Indeed, I used K-13 curriculum last year. I am kind of person, during learning I collect 5 or 7 books and open mobile phone again to search in internet. Thus, if it match with material learning, I will take it. I am kind of person do the planning. I could not teach if my students did not listen to me..I am kind of person taught with structure pattern...after this...if it won't fit what I have written.. I meant the steps like that (2-SMP02\_46). More than five years teaching experience.*

Most of the teachers did not only learn from books, but they also learned from internet. When informants felt that books did not really helpful, they attempted to find other references from the internet such as trusted and relevant websites. In their teaching practice, informants did not rely on one reference for learning material content. Based on their explanations, they combined it with some books or information from website to strengthen their insight understanding of their learning material.

*” I self-regulate my own learning. It comes from myself. For example, our curriculum has been changed, it has influenced us a lot to comprehend things. I search for it directly on the internet. I mostly use internet. If I don't understand something or face any problems, I will ask experts on facebook because I have friends who join in education group on that website. Fortunately, someone posted on facebook about that problem. Training is also helpful. There was training from other schools. When, I don't understand in specific problems, I will ask with friends from*

*the same group in that training. They have many experiences. Thus, I often ask them (1-SMA01\_33). Less than three years teaching experience.*

Due to the global networking, it changed the paradigm of teachers to gain new information. The book was not the only resource to gain information. Recently, there are some ways to gain information, especially by using the internet. As Cheng and Ching (2001, p.174) stated that “the tremendous developments in IT that makes it possible for multiple learner to be networked and participate in the learning task, thus greatly enhancing social interactions, sharing of learning experiences and resources in a very convenient ways”. However, some teachers mentioned that sometimes sources from internet did not give enough information so that they took one of sources which give more information for their learning.

*Focus on sport ...then if website did not give more information, I open another sources. If it has the same information with the implementation stated on the books, it still the same. It is about sport. As I have mentioned, the rules is still rigid. It is only from the modification we made (1-SMP03\_220, 222, 226). Less than three years teaching experience.*

*It Could be from the book, it could be also from the internet. Actually...ehm...the book is used by students. there is a book for teachers as well. Then, I do not only search for some reference from the book but also from the internet. For me, the material is not enough from 2013 curriculum book. We have to combine it with other books because the 2013 curriculum book is lack of deeper explanation so that if we want to assist students to study, the result will not be optimal. Therefore, I took some learning materials from other books. (2-SMP01\_40). More than five years teaching experience.*

Similar to Boer, Borgstra, Kostons, & M (2012) who state that elaboration is one type of three main types of cognitive strategies, which establish connection between new material and the material that has already been known. In addition, in the workplace context, elaboration has an important part to enrich learners’ ability to attain higher level of knowledge to have new perspective.

*In the internet, google. I will compile the books from internet by searching in the google. For Olympiad material. Because Olympiad material is more difficult, I seek for script of basic math. I also try to search for it at a collage. I have ever asked my friends as well. If I don’t understand, I will ask the solution...just it...Thanks God, I got the formula...I feel happy because I got it. i did not understand it. (3-SMP04\_88-94). More than five years teaching experience.*

Moreover, a study of self-regulated learning in teacher education conducted by Schneider (2014) found that a complex level was emphasized for teacher to frequently use the learning

strategies such as elaboration, organization and self-motivation to attain learning goal. We found that most of the teachers were more eager to attain learning materials by using some strategic learning in their learning process.

### *Critical Thinking*

Critical thinking is always expected to be occurred in teacher learning process. They demanded to be able to develop their ideas to gain optimal goal during their learning. This study found that some teachers tried to relate some alternative strategies to different sources such as methods, internets, etc to obtain the best result. Alternative strategies are needed for teachers, especially regarding the changing of education system in teachers' work. As pointed out by Retallick and Groundwater (2014) suggested teachers to be update on the latest theories regarding teaching and learning. The following statement illustrated that teacher tried to think critically about strategic learning in their pedagogical approach to students. They attempted to find an effective way in teaching strategically to transfer knowledge for the student.

*I don't remember all of the contents. The book makes me dizzy. At least, I remember one thing to guide me in teaching. What should I give to my students? for example hmm....Art of dancing. What is dancing. I did not use that book. I search for learning material in the internet. I will pick from the books, if there is something that I can pick it. I will pick it. In 2013 curriculum, it has not enough explanation compare to the previous books. KTSP is better. It is more complete. Thus, I prefer that book. (1-SMP02\_115). More than five years teaching experience.*

Becoming critical thinkers, people need supportive environments with colleagues who are expert on the topics being studied. Based on the data, it seemed that teachers had new ideas, but they needed experts to support them in developing their ideas. When they encountered difficulties to develop their ideas, they would search for supporting sources to help them in their learning.

*....., and we adjust with the books in our school. Sometimes, there are many good animations in English. Perhaps, when I have difficulties in English, I will ask my colleagues who teach English to translate it correctly. When they did not understand because of the scientific term, they will ask if the meaning is correct. So, I will just relate it to each other. (3-SMA02\_161). More than five years teaching experience.*

During teaching and learning processes, teachers insisted to develop their thinking to transfer knowledge effectively. When teachers attempted to be critical thinker, she or he would be able to figure out how to construct their thinking to change into better solutions in the workplace,

especially if they found some issue related to stakeholder at school. Based on Wojcik (1996), critical thinking is needed for individuals who worked in organizations. It will be successful if learners have initiatives to think differently, communicate, and problem solving creatively.

*Math is not only about mathematical calculation in daily life. It is more than that. Therefore, after I attended the training, I become more excited to find more on any materials relating to the daily life. In fact, when we transfer it to students, they will not think that math is related to complicated formulas without implementation. Moreover, there are a lot of new things related to the learning media. When I was teaching, ... the students looked different. I don't know because when I want to the class, the students said "you always ask us to search in the internet". I replied "Yeah, try to search for it by yourselves". They got new information, so did I. I become more excited in teaching (1-SMA01\_85). / less than three years teaching experience.*

Moreover, due to the updates and the situation in the classroom, teachers attempted to relate their previous knowledge to the new knowledge. Considering the condition, some informants had shown in their statements that they became a more critical thinker on finding effective ways to gain the best learning. Either teachers or students had the same benefits of this process. Teachers were more aware of the challenge to have a new perspective in their learning.

*For instance, relating to the metabolism topic, specifically about enzyme. I used to define enzyme as a reaction of metabolism. It doesn't include in the reaction, but it fosters the reaction. It was a definition when I was in the upper secondary school. However, when I was at the college, it is revised. Enzyme is a compound that fosters a reaction involving in the reaction, but it doesn't change after the reaction occurred. (3-SMA02\_179)/ more than five years teaching experience.*

### *Help Seeking*

Help-seeking is one of the important sub-processes that can support teacher for learning. The studies by Zimmerman (1989), Fontana et. all (2015) employed this category to measure self-regulated learning for learners at the workplace context. The finding revealed that teachers asked help to perform their learning. The secondary teachers used help-seeking to perform their learning more frequent than the primary teachers. It is probably caused by a higher level of task that the secondary teachers had. Teachers needed to strengthen their knowledge before they transferred it to the students. Furthermore, male teachers sought for help more frequent to assist them to learn.

*I learn by myself. Moreover, when I am crazy about learning, I will not have a rest sometimes. I search for books until I get it. Sometimes, if I have to buy it online, I*

*will do it. I use to buy upper secondary handbook consisting five sets. I bought it in Genius. I buy it myself. I learn the exercise and watch the teaching technic from Genius because it is easier to understand from it. I may miss something in teaching. This will help me (3-SMP04\_21)/ More than five years teaching experience.*

*To strengthen the content knowledge, I open books again. How to solve it?. For tutoring books, I borrowed books from the library. Also, I searched for it on internet. I open again the material. I opened more than one book because they sometimes have different way in solving math problems. (2-SMP02\_226)/ Less than three years teaching experience.*

Some sources were beneficial for learners to strengthen their knowledge when they encountered problems in learning. The teachers used to use some sources such as book or internet to obtain information. In addition, teachers also sought for help from their colleagues in learning to attain their learning goal. They attempted to search for experts to solve the problem with the best solution related to the issue of learning. As Randi and Zeichner (2004) stated that study group will support teachers in professional learning to share the knowledge for instance through discussing particular subject matters, implementing the strategy method learning, and discussing the particular issue related to teaching learning.

*At the beginning, when I taught a material to the fourth grade students, they did not respond to it well. It is different from the secondary school students and college students. At that time I thought of looking for information about primary students. Finally, I knew that for primary students, class management is more important. Discipline in the classroom, I also learn about children's physiology. I also ask the senior teachers. (1-SD01\_31)/ Less than three years teaching experience.*

The statement indicated that teachers tried to adjust her pedagogical knowledge when they had problems in their teaching practices. The new information from colleagues through informal way at the workplace had contributed to their competence as a professional teacher, notably in the classroom. As also pointed out by Bird (2009, p.183) that “teachers have interacted professionally with their peers and collaborated on a teaching and learning intervention, exploring, facing challenges, inventing solutions, and bringing creativity to classroom practice”. Based on his statement, collaboration in learning was needed to change the transformation into new ones. Therefore, asking help from other teachers who teach the same subject was also the effective way for teachers to perform their learning. The other comment below was deployed that informants/ teachers obtained help to learn from their colleagues:

*Yes...it is similar to the others English teachers at this school. When I have teaching strategy, I sometimes asked my colleagues (.....,.....,....) before teaching the students. I*

*also asked Bahasa Teacher that have similar contents to English language. It is just how to teach the students or what kind of appropriate method? I usually discuss with English teachers when I felt confused about the contents and methods....because I sit next to them in the office, discussed with (,,) and chat with Zuhra. We are in humaniora teacher so, sometimes I asked Mr....about tips of teaching from him. Actually, our subjects are rather similar to each other (3-SMA01\_18)/Three to five years teaching experience.*

Nevertheless, it did not occur to all informants/ teachers. Ideally, they requested for help from their colleagues with similar subject to learn difficult tasks. It would be useful for their learning. The fact that a teacher who was the only teacher for the subject in each division has considered to be the reason for a teacher not having colleagues' assistance to help him/her to perform their learning. There are comments from informants that illustrated their barrier to their self-regulated learning:

*As a teachers, I have problems...but it doesn't matter for me, actually I have a few friends, so I seldom share with others. Honestly, I am an extrovert person.. I am not usually having shoulder to cry with others about my problems, I think, it will be solved by the time flies (1-SMA02\_75)/ Less than three years teaching experience.*

When teachers' forum was active, it was beneficial for teachers because of the knowledge they obtained. Consequently, help seeking from teachers' forum motivated teachers to learn. We also found some informants/ teachers had their learning problems were solved through the teachers' forum (MGMP).

*Together with the physical exercise teachers. When I encountered problems, I always asked my senior colleague. The senior have more experiences. She has capability in teaching and she graduated from master degree....so, she has more knowledge. Thus, I still asked her when I faced problems (1-SMP03\_98)/ Less than three years teaching experience.*

*Hence...I did not understand to learn from the book. I have link. Fortunately, there is a teacher forum (MGMP) in Pidie. Every week, once in a week, teacher forum is held. We, all of the biology teachers, gather there. There are senior teachers. Some are the junior teachers like me. Therefore, I take the chance on this forum to ask. (3-SMA02\_34)/ Three to five years teaching experience.*

On the contrary, Informants also still found that they obtained nothing from the teacher forum due to the unqualified trainers. Some added that qualified trainers were mostly from outside of Aceh. This was one of the barriers to learn directly with experts, notably, teacher who needed to practice in their learning.



*When I asked about how the teacher forum looked like. Most of them do not gain benefit from the teacher forum. In fact, if they want to share something, they only share RPP (lesson plans). They only discuss about lesson plan, copy it. It only focuses on how to make lesson plan, how to make it. That is it. Nothing special (3-SMP02\_168)/ More than five years teaching experience.*

*I do search for information. In Pidie, we still have less information. Art teachers forum is only a few (3-SMP03\_197, 201)/ Less than three years teaching experience.*

*At the beginning, there was internal teachers' forum. There was social studies teachers' forum in the first year I joined this school, but now it is no longer routine activity. We usually shared about methods (1-SMA02\_158)/ Less than three years teaching experience.*

*it is hard to find trainers. Indeed, we should go to java to find good trainers. (1-SMA02\_329)/ More than five years teaching experience.*

When teachers had difficulties to seek helps from their colleagues or teachers' forums, they attempted to search for alternatives to assist their learning. Recently, ease in accessing internet had also contributed to the ease of obtaining information. They were various types of online websites specifically relating to education that were available.

*I usually google it. The web page usually offer us links to other website such as blogs. The focus is to share to each other (teachers) because the blogs are created by They have different experience. How they define a material/theory. (1-SMA02\_31)/ Less than three years teaching experience.*

*There are some book references, blogs, website. I also read books, books that are available at schools, or textbooks that I bought, or students textbooks. (3-SMA05\_16)/ More than five years teaching experience.*

*There is a professor of geographic in Pidie who was asked to be the tutor of National Science Olympiad in Bandung. I asked him the files that he got from Bandung when he went back here. (3-SMA05\_34)/ Three to five years teaching experience.*

Similarly, Zimmerman (2006) explains that learners do self-control by using specific tools such as model, teachers, or books to assist learners to learn that similarly was deployed above. In the other studies about sharing knowledge with colleagues, Meirink (2007) concluded that sharing might be undertaken by exchanging idea or discussing and identifying or solving problems. Therefore, help seeking is an important part of self-regulated learning which has linked to the external factor to support learner to solve the individual problem of learning.

## *Time Management*

Time management is a strategy that learners need to manage the allocation of the time in performing their learning or tasks. Teachers practiced frequently to improve their quality in their learning day by day. They sometimes made schedule for one week, but because of the workloads, they just did it when they had time to learn. The data presented that most of teachers who had been teaching for more than three to five years managed their time as a way of performing their learning. Moreover, the male teachers attuned their time management more than the female teachers.

*The point is that even though I have set the time, for example, in the morning at 8 o'clock I am worried if I have immediate task, I just do it at home. I have to know how far should I teach. However, if I do not have time to do it at home, sometimes I felt exhausted at the last minute of my 1st teaching hours. Thus, I don't have a choice. I have to do it here (at school) or if I don't have time today, I will learn about it in the other days (3-SMP01\_139)/ Three to five years teaching experience.*

Time management is needed for teachers in tacit learning. Learners set their time in informal situation to attain the aim of learning, Moreover, the strategies are employed within cognitive, metacognitive and resource management while the teacher does their strategic learning (Pintrich and De Groot, 1990, as cited by Alharbi et al., 2011). Both studies of Zimmerman (2006) or Fontana et. all. (2015) were employed this category in the process of self-regulated learning in education either teacher or student to gauge the level of learning goals.

*.....I have time. I have two times for reading, before going to sleep and subuh prayer at 04.30 am. I always read it. I usually read about geographic from my own books (3-SMA05\_163)/ Three to five years teaching experience.*

They mentioned that they were able to optimize their learning if they set their learning environment. Therefore, time management and environment structuring are associated with each other. As mentioned by a teacher (3-SMA04) “*Actually, It doesn't matter. It doesn't bother, but because I also need to prepare for teaching my students. If I have a time, I will do it. However, I prepare the time for reading, listening to Moslem preach before I sleep at 11.00 pm. I always do it.*”. In brief, teachers set their places and their time simultaneously for learning. In addition, the secondary school teachers set their time to perform their learning more than the primary teachers. However, some also described that their low capacity in managing their time to join in teachers' forum was due to the time clash and personal issues apart from teachers' work.

*Teachers' secondary forum for geographic subject is active in Lhokseumawe...but..sometimes I have obstacle to match in with my teaching schedule...(2-SMA03\_58)/ More than five years teaching experience.*

*I don't have problems in normal situation. If I have teaching time in the afternoon...so I have arranged my schedule...thus, in the morning, I have a emergency task activity such as school guests, Osis activities, I felt that I have a workload in that situation (1-SMA03\_223)/. Less than three years teaching experience.*

### *Environment Structuring*

Teachers illustrated how they self-regulate their learning by structuring their environment. They needed to create their learning environments that enable them to learn effectively. The appropriate environment or situation was more likely to increase the quality and quantity of their learning. For example, lower and upper secondary teachers who had five year teaching experience said that they avoided noisy places and preferred quite places ((1-SMP03\_194) and (3-SMA04\_297).

Based on the statement above, it presented the evidences that teacher also had a learning style while they were learning. Uncomfortable environment hindered teachers to perform their learning. Similarly, the study of Boer et. al. (2012) found that a learning environment is an element in the context of self-regulated learning, which gives supporting environment for learner either good or bad. It depends on how the learners adjust with their learning style. *"I cannot study if I am in a crowd. I cannot even check my students' test. I can't"* (1-SMP02\_210)/More than five years teaching experience.

Likewise, teachers mentioned that they needed suitable place that support their learning. For instance, quite places without distraction from the routine task at the workplace. Subject teacher forum was also a forum utilized by secondary school teachers to learn. As mentioned by an art teacher (3-SMP03) that he learned every week with other teachers who teach the same subject.

*I want to learn in a quiet place. Therefore, I cannot learn at school especially when I do my assignment for my master write the thesis at school because it's too crowded at school. There are some students want colleagues who come and go. I cannot learn in such condition. I have to be in a quiet place.(3-SMP02\_236)/ More than five year teaching experience.*

*I learn it every week....Every week I always go to Bireuen....there is an art' club(3-SMP03\_394) / Less than three years teaching experience.*

The other commented that he needed to adjust the place based on the level of difficulties of the tasks assigned to him. It showed that the difficulty of tasks needs high attention and appropriate place to learn effectively. As mentioned previously that teachers sometimes set their time and their environment simultaneously to perform their learning.

*"I cannot do that at school. It does not matter to to solve math problem at the office. However, it's difficult to comprehend it at the first time. I prefer to study at home at 10 pm or after 10 pm. ....and then I read it so that I comprehend it. (2-SMP02\_330-332)/ Less than three years teaching experience.*

Environment structuring according to Zimmerman (2006) is an important category in self-control process of learner performance. He added that environment structuring should be selected or created by learners to gain effective learning. The other literature has illustrated that environmental variable have associated with self-regulated learning that should be designed carefully to gain success in self-regulated learner (Ziegler, 2014).

### *Interest Enhancement*

Interest enhancement category is one facet of the performance phases. Learners enhanced their learning and strived to perform learning because of learners' interest in the task challenges. Primary teachers were eager to strengthen their capability in learning more than the secondary teachers. They felt that it was the opportunity to advance their capacity in particular level to achieve their learning goal. In this sub category, informants seemed that they were ready with harsh situation that enable them to increase their motivation to learn.

*When I was in Lhokseumawe. I always asked in higher level. Ok...the highest in secondary level is grade nine, and in upper secondary level is grade 12. I can upgrade my knowledge in higher level than grade 1 and 2. The contents are not always the same by the time. Because of my experience as a teacher, I have the capability to teach in higher level especially grade nine and upper secondary. Ehm...hm... maybe the contents in upper secondary level always update everytime, so that pushed me to learn. I have a motivation to seek more...moreover, if I face the competition, not only student that have motivation but also I have motivation to learn and teach more in that events. Therefore, I need to keep learning and keep find as*

*much as material learning to prepare that competition. (3-SMP04\_19)/ More than five years teaching experience.*

*at moment...I am learning about outer space....the space is changing constantly....this is about changing of the universe...actually it is not about difficulties, but it is about I don't get enough information about it. It will make me in the worse situation when students ask me about that subject. I am afraid with my student thinking that their teacher did not get anything while they asked the questions. Thus, I keep updating the knowledge...because it is constantly changing, and I should know it....I read about NASA...and what the term in English language, so I learn English language too...(3-SMA05\_68)/ Three to five years teaching experience.*

The statements above shows that teachers needed a challenging task to increase the level of their learning. They felt enthusiastic when they had an opportunity to involve in the complex task that strengthened their knowledge into higher level. In addition, Randi et al. (2011) also mentioned that “*Put another way, challenging tasks can provide opportunities for learning volitional control strategies that translate into productive work habit*” (p. 90).

Some teachers were eager to learn when they encountered complicated situations. However, they recognized their capability in performing the challenging situations. In a similar way, upper secondary level had shown that they took this process. The challenge situations had required them to learn and to think more to find solutions for their learning. Moreover, to achieve their learning, they tried and did task strategically in their learning.

*Not all...sometimes...I learn it when I faced the problems...when it appears the problems...it started me to learn....sometimes, when I have a times...I try to seek the problems...especially today....(1-SMP03\_66)/ Less than three years teaching experience.*

*What makes me challenged is twice a week. Every twice a week, I make a TO examination. The first week for upper secondary level, next week for secondary level. It pushes me to learn the contents how to make the questions for the students. At the beginning, that challenged is unusual for me. (2-SMP02\_36)/ Less than three years teaching experience.*

Some curiosity required informants to do some strategic learning. It did not matter with difficult tasks because they would conduct it with strategic ways to attain their learning. As Fontana et. all (2015), pointed that interest enhancement is the sub category of performance that learners take to regulate their learning with high stake of difficult tasks. The teacher emerged that they had intrinsic motivation to engage their learning with new knowledge.

*My curiosity made me easy to remember. When I am curious with something, it will easy for me memorizing especially when I do the exercise. it's automatic. for example, I already got the vocabularies..but I forgot it...so I searching in dictionary...So, I see it again...see again.... Similiarly, with Subi's teaching style. I made a sentences for example 2 or 3 sentences. when it sticked in my mind...in fact that are vocabularies from my curiosity. (3-SMA01\_196)/ Three to five years teaching experience.*

*I always think of what I wanna do, keep thinking in my mind. Although I am looked like as usual, actually I still keep thinking what should I do....I have to try again...try to learn makeup, which appropriate cloth? looked it again. I searched in internet, didn't I? the last time I searched on google....so I asked the budget for cloth...I felt confidence that I have capability (1-SMP02\_65)/ More than five years teaching experience.*

Not all of the informants had interest enhancement in this present study. Sometime, challenging situation did not trigger teachers' will to learn. They just did their tasks to fulfill their everyday tasks at school. They would eager to learn if they felt that it would be needed in their workplace (1-SMP01\_187).

*I got that contents from our school, but I did not exactly the point is. That is the school rules, I need to know what the C1 until C6. I should know that. when I made the tools of learning, I did not really need it. So I ignored it....I did not want to know it because I did not need it, especially when I taught in shadow curriculum.... I meant, it will be disappeared.....I did misconception about it...later I realized that I need it, especially when I become as vice principle.....(1-SMA01\_42-68)/ less than three years experience.*

The similar comment came from the teacher that she just did not learn the content because she had already known it. Therefore, it was the repetition actions to learn it. She did not really need to increase her content knowledge because she just taught the lower level students. However, the situation in her workplace pushed her to increase their ability, especially in the high level, such as upper secondary level.

*I feel...not at moment....fortunately...the repeat material learning...every years...except, it has changed like I said it before...I previous ago when I taught in upper secondary level...it is totally different from secondary level...I knew the contents but I did not depth know it...that push me to learn more comprehensively. Moreover the students in upper secondary level are active students. They have critical thinking and they will point out the teachers' mistaken of the contents, so I should strengthen my knowledge... because I am still studying in master degree, so I didn't focus...that is my bad behavior...because of its not needed, so I did not learn it. (3-SMP02\_173-174)/ More than five years teaching experience.*

As professional, teachers need a challenge or opportunity to strengthen their knowledge. Although they had already acquired the knowledge from previous experience, it is needed to face the demanding world in new educational system. However, interest enhancement could be one of the solutions to construct their capacity to face the challenging world. Therefore, teachers should not depend on their own knowledge that she or he has already known from the previous. Indeed they need to construct their capacity as professional. On the other hand, teachers did not only do routine activities, but they also attempted to develop it into a higher level of learning.

#### 4.1.3 Self-Reflection

The next process of self-regulated learning is self-reflection. This process occurred after learner performs learning efforts that have impacts on learners' response to the learning experience. This process is divided into self-judgment involving self-evaluation and causal attribution and self-reaction involving self-satisfaction and adaptive/defensive response.

##### *Self-Evaluation*

One of the forms of self-judgment in self-reflection is self-evaluation. Primary teachers who had been teaching for one to three years and more than five years evaluated their learning performance from the success of their teaching practice in the classroom. Being relieved of the target achieved by the teacher was also one of the evaluations that teachers used as an indication of the success of their learning. Surprisingly, teachers also evaluated their success in learning from the students' response and the colleagues' feedback.

*..When I came to class today, I didn't use gestures. Students understand more what I mean when I use gesture (1-SD01\_412)/less than three years teaching experience.*

*I realize that I also need to add something on the method. There were also methods that did not work in the class. I have to make another one and I learned. I did it at that time and I learned as well (2-SD01\_97)/less than three years teaching experience.*

*..... my colleagues said that the material I get is too high. Thus, I have to change the material to the basic (3-SD01\_257)/less than three years teaching experience.*

*Experience from the everyday learning processes in the class. I learned from it. today, the students do not like the way I teach. I will change it on the next day. They*

*are bored every day. The social class is full of story, speech except when we make them play roles so that they will directly involve. For instance, how is the president's speech, the attitude of a president ... (2-SD02\_141)/ more than five years teaching experience.*

Similarly, the secondary school teacher, who teaches physical exercise subject, evaluated his performance from his previous performance as the coach in a competition and his students' failure in understanding the knowledge he transferred. He added that he evaluated his performance against the national standard where he failed in the national preliminary event.

*In tutoring, it's me who should learn more and more. I also experienced when the students competed in O2SN. They haven't had a chance to win ... I was wondering why they could not win. It means that I am as the instructor, the coach, should evaluate myself.(1-SMP03\_56) /three to five years teaching experience.*

*Previously, in the preliminary, when I want to go on in the National Sport event selection, I got nothing. In the preliminary session, I evaluated what the barriers are. I realize that I practiced only for one month. It's not effective to have practice in one month.. I should practice more. (1-SMP03\_186)/ less than three years teaching experience.*

*So far I correct which one is wrong or fix the mistakes or what I need to.(3-SMP01\_23) /three to five years teaching experience.*

In contrast, math teachers, who had been teaching for less than three years and more than five years, evaluated their performance from his ability to solve math-problem. Above all, the evaluations are considered as part of their self-improvements.

*.... As I mentioned before that there wasn't evaluation. However, the reflection is seen from the my level of understanding. Solving problems. Sometimes, I found difficulty in some exercises relating to the lesson. In comprehending the task or to solve math problems, it become my own reflection...If I find difficulty in solving the math problems, it means that I need to learn more...2-SMP02-220)/ Math teacher/Less than three years teaching experience.*

*The questions were easy but I didn't put attention on it./ I was careless. (3-SMP04\_35) / more than five years teaching experience.*

The certified secondary teacher and upper secondary teachers, who had been teaching for more than five years, also evaluated their effort in learning from her students' understanding and



her colleagues' feedback. However, she also wrote down what to be learned further and what was appropriate for her students.

*I fix what makes students do not understand. Sometimes, I see on the sequences of the lesson delivery. It should also be reviewed. (1-SMP02\_151) Certified /more than five years teaching experience.*

*The word choice/ diction and I have to explain. I cannot assume that when I use these questions, my students have also known about it. That's what happened. I put myself on it. I didn't put myself on my students' shoes. That's what I did so far. I am happy that my colleagues advise me and I also asked them "what's wrong?" What should I fix? (1-SMP02\_149) /more than five years teaching experience.*

*After teaching, there will be evaluation. I record it. I will definitely evaluate what my weakness is and how students response?that's what I fix and I make notes on it. (1-SMA01\_118) /more than five years teaching experience.*

*I have some feedback from students for some times. How was it going? The students replied, "the last time is better". It is acronym. Okay. I need to reflect on that. For instance, I did not use speech. I used what students said. I also use the feedback from the supervisor. (3-SMA04\_182) /more than five years teaching experience.*

*Perhaps, I prefer to reflect on the teaching process. For instance, when I teach particular topic, what is my weakness? Relating to learn about something, I haven't reflected on it yet because I think that I do not have difficulties on it. I rarely make notes. However, for the teaching process of particular topic, I usually write down the barriers. I want to have class-based research, but I still have no time. It can also be teachers portfolio. (3-SMA02\_198) /more than five years teaching experience.*

The upper secondary teachers, who had been teaching for less than five years, varied in evaluating their self-improvement. Teachers' supervision report (1-SMA02\_97), students' responses and their progress in learning particular thing such as taxonomy bloom (1-SMA01\_46), the difficulty in particular topic and the update issue relating the subject they teach were parts of their learning evaluation.

*I evaluate my own self. I don't know. I mean that I think that I am lack of reading. However, I always think that I have less information. When I learned this, later on, there will be another update because there is always update in economy. There is another information that make me feel I have less information. Therefore, I read and read again. (2-SMA02\_251) /less than three years teaching experience.*

*Of course, while I am learning that found myself stuck on the material that I learn, I will make reflection. The term is I do not understand it. I change the time when I will learn more about it. (3-SMA05\_144)/three to five years teaching experience .*

*When I am still lack of something, I have to learn more. (3-SMA04\_211)/ more than five years teaching experience.*

Teacher reflections in the form of evaluations varied from self-improvement to the teachers' experience to defeat national standard to measure their learning success. As previously mentioned by Zimmerman (2000, 2006), people judge their success by comparing their performance to some standards, namely self-improvement, prior performance and opponent or national standard. Teachers' evaluation that was obtained from their students' performance and colleagues' feedback shows that some teachers did not concern with the learning they undertaken. Evaluations obtained from others are similar to the study conducted by Meirink, Meijer, Verloop, and Bergen (2009) that found teachers often reflect and include colleagues when they are in a challenging situation.

### *Causal Attribution*

The other form of self-judgment in self-reflection is causal attribution. This refers to the belief about the errors' or the success' people experienced that lead them to increase their skills or diminish their skills. We found that most of the secondary teachers reacted positively on their errors that enhance their motivation to be succeeded by applying different strategies.

*When I sang "Head and shoulder", I learned about it. then, the song "I am hungry", I didn't practice it. when I asked my students to sing it again, they didn't remember it. I think of the way. I used body language and facial expression which shows that I am hungry, I am thirsty and I'm happy. When I met them in the next year, in the end of the class, my students asked me to to play I'm hungry, I am thirsty....Students who cannot speak English still remember it. (1-SD01\_414) /less than three years teaching experience.*

*YA. It was very difficult. I was frustrated. How to do it? it also happened in the dormitory. I taught in the dormitory for the mindanaou students. My colleague arrange it. she said that she cannot speak English. Therefore ...,... and I teach more than others. But that's fine. (3-SMA03\_44)/ Upper Secondary teacher /more than five years teaching experience.*

*Sometimes, I experienced frustration moment when I cannot do something. Moreover, I am frustrated when I am not capable of playing music instruments. How can't I do it? when I have a lot of jobs to do, I think of why me? Why? Because I never have partner as the physical exercise teachers do. I have ever asked for school paid teacher but it was refused. ... however, as the time flies, I realize that if I didn't*

*do it, what would I do? Do I only teach? What success do I make? How can I contribute in the school?, I thought. Now, there are some competitions. .... I think that if I didn't do it, I would never know my ability. I would get nothing. I only learned the material transferring to my students and it's done. I would not have other capabilities. No competitive challenge. Nothing will encourage me to learn. I would not join in the competitions. (1-SMP02\_188) Secondary Teacher –certified/more than five years teaching experience.*

*.. I have to learn. I have to learn again because sometimes, when I see others who are better than me, I envy for their success but it is a positive envy. I have to be like him/her. (3-SMP04\_148)/ Secondary Teacher/more than five years teaching experience.*

Not all of the teachers reflected from their learning. Only seven out of 28 teachers considered that their failure as their motivation to strive to learn. The failure or errors they experienced had become a trigger for them to learn. As stated by Zimmerman (2000), causal attribution as the form of teachers' reflection which lead to diminishing or improving efforts to learn.

### *Self-Satisfaction*

We discovered that the primary teacher who had been teaching for more than three years enhanced their motivation to learn more as the impact of her dissatisfaction with the students' result.

*The reflection is not pretty serious. It's only when the teaching is not satisfying. When I have prepared this and that, I found that it is not maximum and the students result is not good enough. I have to try it again and it should be maximal. (1-SD02\_244)/three to five years teaching experience.*

Similarly, the secondary teacher striving on the difficulty he experienced while he was learning was satisfied with his effort in solving his problem. The increased satisfaction that an upper secondary teacher experienced had also led her to enhance her motivation to learn. The increased motivation experienced by the secondary and upper secondary teachers was also varied from the dissatisfaction of not having further information of particular issues, the feeling of relieved to answer students questions to the students' failure competing for the place in a competition. However, this dissatisfaction encouraged them to learn.

*When I cannot do it, I am stressed. If I cannot answer, I am stress thinking of the way to solve it. it takes a long time for one question. But I am satisfied when I am able to solve it. I get new knowledge. (3-SMP04\_100) /more than five years teaching experience.*

*When I am satisfied, I want to know more. I want to know more Ms. Tika. When I have already known about something, I am curious to know another thing. Why is it like this way? It makes me not satisfied, I am satisfied for this thing but I have to search for another thing. I have to search for it. 1-SMA01\_337) /less than three years teaching experience.*

*The training is short. I haven't satisfied yet. It was about teachers' professional protection. I haven't proposed training to the school. I only wait from the institution. For instance, quantum learning. I decided to solve the problem with my friends on Facebook. It's Geography teacher association group.(3-SMA05\_295 and 299), /three to five years teaching experience.*

*It wasn't relieved, but what can I do is I have to keep learning, don't I? for instance, today I couldn't answer students' questions. I have to skip it first, search for it. it means that I have to learn as well. Relief feeling motivates me to answer questions on the next meeting. (3-SMA01\_113) /three to five years teaching experience.*

*Because the students who competes on the Economy Olympiad always have ticket to the province level but they never win it. it is my evaluation. It means that the material given is not enough. That's the reason I ask for the training for teachers who teach Olympiad students. (1-SMA03\_323) /more than five years teaching experience.*

One of the forms of self-reaction is self-satisfaction. People who increase their self-satisfaction will enhance their next efforts in learning. Otherwise, it will diminish their effort in further learning. This is similar to Zimmerman (2002), who states that the feeling of satisfaction impact on one's further attempt to learn.

### *Adaptive/Defensive*

We discovered that the upper secondary teacher mentioned that her students' low ability of comprehending the lesson had encouraged her to consider ways to help her students. The secondary teacher, who had been teaching for more than five years, stated that after she performed her learning, she adjusted her strategy. Meanwhile, for the other secondary teacher, who had held certification, described her adjustment on the strategy designed for her learning.

*The material is detail. Pedagogically, for students who have low ability in math, it encourages me to think of what should I do so that the students will actively participate. Therefore, I give them this sticker. (1-SMA01\_365) /less than three years teaching experience.*

*There are some from the teachers' book that we can use. Some can't be used. I only need to adjust it. (2-SMP01\_140-142)/ less than three years teaching experience.*

*I was stressed when I have to teach dancing because art is not about theory. I have to practice it. I ask my friends to buy me a CD about dancing because we didn't have internet access at that time. I couldn't learn, I asked my friend to buy me a CD, to download music and others. (1-SMP02\_33) certified/ more than five years teaching experience.*

The reaction undertaken by the teachers enabled teachers to adjust their strategies for their learning. Zimmerman (2002) calls this as the other form of self-reaction as adaptive reactions. This refers to people's efforts that adjust or avoid strategies to learning.

## **4.2 Barriers to Self-Regulating Learning**

Recently, development of SRL as an indispensable concept in the world of education is not only to assist teachers to become expertise in education but also to promote students to be independent learner. It is not an easy concept to be implemented. As Bandura emphasized that teacher as personal has ability to regulate their act after having self-belief and motivation to attain their learning. Teachers are able to regulate their own learning either in formal or in informal situations. However, Informal situation is not as easy as formal situation that has fixed schedule to emphasize learner to learn. There are some distractions and barriers that probably are not only from internal factor such as personal or behavior but also from external factor such as environment. On the other hand, learners have to be intrinsically motivated to self-regulate their learning even though in harsh situations.

The finding result indicated that there were some barriers that teachers encountered to self-regulate their learning. Most of those who found difficulty in self-regulate their learning were teachers who had been teaching for less than three years. Teachers felt burnout with her job demands or the other reasons to do their learning. Moreover, workload was the dominant reason for the teacher that led to teachers of being exhausted to learn. The lack of time spent to learn was not available.

*K: A...a...that is enough....is your additional position as curriculum staff waste most of your time?*

*I: Of course*

*K: Really....is that also take your time to learn something ?*

*I: Yes*

*K: it significant?*

*I: Yes, it is.....(3-SD01\_110)/less than three years teaching experience.*

The teacher found that it was difficult for her to manage the time for learning. As the previous study conducted by Schaufeli and Bakker (2004) that concluded that burnout has associated with the job demands and job resources and it also can be predicted. Therefore, the balance of the amount of jobs and the teachers' self-efficacy to regulate the learning should be parallel to each other. Indeed, it needs hard effort to do it simultaneously to achieve the learning goal and to finish on time in job demands.

Furthermore, teachers' workload impacted on teachers' difficulty in maintaining their learning scheduled. As Shirkhani and Ghaemi (2011) concluded that it is excessive self-censure as the factor to barrier in self-regulated learning. The female teacher mentioned that she could not manage her schedule due to another responsibility as a housewife.

*I have a trouble with the schedule....also I have some responsibilities task, so, finally I don't have a time...I am a housewife, so, when I came back home, I have responsibility to take care my family. (3-SMA02\_)/ five year teaching experience.*

Most of them did more learning at school than at home. Shirkhani and Ghaemi (2011), mentioned that it is as social inhibitors for learners to self-regulate their learning. Conversely, We called it as culture factor that become a barrier for a female teacher to do her learning in the concept of self-regulated learning in informal situations. The other teachers mentioned that she had low self-efficacy as expert teacher. She was not confident. She also had less motivation to find something that enhanced her capacity as a professional teacher. She argued that the workload at the workplace was the main reason.

*It is not only one. Sometimes, my workload is overlapping. I have to prepare lesson plan, this and that. That is the problems. (3-SMA01\_77)/ More than three years teaching.*

*Regarding professionalism, I don't know. I don't think that I am professional. I think we have been busy with the school activities so that I don't have time to look for*

*other activities outside. To support my professionalism... It is rarely for me to attend teachers' forum for secondary teachers. (2-SMA02\_19)./less than three years teaching experience.*

As Shirkhani and Ghaemi (2011) concluded that lack of self-efficacy and incompetence are the others barrier factor for learners to self-regulate their learning. They added that less competence could not control a learner to gain a higher success in level degree on learning. Due to the low self-efficacy, the teacher lost their confidence that enabled them to attain their expectation.

### **4.3 Teacher Self-Regulated Learning in the Workplace Context**

As mentioned above, teachers' learning in three private schools in Aceh was mostly influenced by their teaching practice. The sub-processes that are introduced by Zimmerman (2002) starting from the forethought phase shows that teachers from the three schools specified their learning goal by mentioning subject mastery and students' understanding. In attaining their goals, some of strategic planned were also related to how they could achieve their goal by stating that they had to obtain more information from some sources and searched for methods in managing classroom so that their students would obtain a better understanding. Those who set more goals had higher self-efficacy which was also supported by their persistence on their learning efforts and reflected more on their learning. Meanwhile, those who did not set their learning did not mention their self-efficacy and rarely reflected their learning. This finding proved the cyclical phases in self-regulated learning framed by Zimmerman (2000) are linked to each other.

Their interest to the task that was likely considered as routines activities that varied from the classroom management to the higher knowledge demand for specific task relating to students' ability on particular subject such as science Olympiad and projects that were parts of the school programme. Specifically, difficulty that was experienced by those who had been teaching for less than three years, creativity that was mentioned by three to five year experience teachers and the collaboration with other colleagues showed how teachers valued their task. Next, the outcome with their everyday work, teaching. The school affordances and the teachers' participation as part of learning through work confirm Billet's (2008) statement that motivation, direction and focus on individuals' efforts at learning through their work is the basis of learning at the workplace.

Besides the learning that set out to attain their mastery learning goal, some teachers were concerned about their students' understanding. The support that the foundation provided for

teachers in the form of training had also motivated their learning. Next, the need to learn a higher level of knowledge, such as Olympiad and critical students, triggered teachers to learn. Moreover, the support from the school management, such as school director, online integrated school system (which recorded teachers' performance and activities) improved some of teachers to learn. This is similar to Conro and Randi (1999, cited by Randi, 2004) who state that in order to support their learning, teachers should participate in an environment that places students at the center of teacher learning, assists teachers to develop by scaffolding, and includes challenges and supports.

We also found that those who were able to self-regulate their learning used some strategies to develop their learning. To illustrate this, teachers identified their learning style to enable them to perform their learning, science teachers and those who became Olympiad instructors for students developed their skills in solving or answering questions, including in the Olympiad, by practicing them several times. Art and physical exercise teachers learned from some sources by imitating or practicing by themselves. Most of the teachers strategically learned based on the subjects they teach. For example, mind mapping, taking notes, making journal, etc. Online tools were mentioned frequently in supporting teachers to learn. School subject teacher groups such as on Facebook or sites relating to subject teachers' forum were helpful for the teachers to obtain information or to discuss in enhancing their learning.

Teachers' discussion forums such as KKG and MGMP (Cluster of Primary School Teachers and Secondary School Subject Teacher) were considered as less effective in enhancing teachers' learning for some teachers. Only some teachers stated that the forums were effective. Moreover, they were also able to discuss with the internal forum, such as with similar subject teachers (*guru serumpun*). This forum seemed to be effective to help their learning, especially in one of the schools. However, this has been no longer active due to the time constraint to gather. The lack of time to have discussion with the same subject teachers and the challenges they encountered in their own learning had directed them to learn individually. Thus, online teacher groups or online searching were commonly used by teachers to support their learning. The teachers' learning strategies to develop their learning strategies in self-regulating their learning validate Pintrich's (2000) statement. However, the art certified teacher was interested to collaborate with their colleagues, who are science teachers. Collaborative learning, which is one of the school programmes had enabled teachers to improve their learning. Thus, learning at work can be individual or collaborative (Hodkinson and Hodkinson, 2005)



In addition, along with the task strategies that occurred, help seeking and elaboration were dominant strategies for teachers to perform their learning. Teachers sought assistance to support their learning differently. Some used books, some used articles obtained from online searching from the internet, and some had assistance from their discussions with their colleagues or experts. Combining different sources such as books, articles and colleagues' or experts' information were examples of elaboration.

Those who were sent out to attend training due to their achievement on the national teacher competence test found that training which was instructed by a qualified tutor motivated them to learn more. Training that is categorized as formal learning also influenced their learning. Teachers were eager to search for more materials or resources to support their learning. Moreover, teachers ,who had been teaching for less than five years were more motivated to learn that which was not only for transferring their subject to their students, but also for thinking about how the implementation relating to the subject occurs in students' daily lives. This indicates that the learning that they performed after attending training at some points had also influenced some teachers to self-regulate their learning, which ended in new knowledge acquisition and different ways of learning. This was mostly experienced by those who had been teaching for less than five years and they all were responsible for curriculum as well. This is in accordance with Van Eekelen, Boshuizen, and Vermunt (2005) who stated that the method that is supposed to be undertaken in self-regulated learning at the workplace involves learning that ends with new learning and different ways of learning.

The findings in this present study have also shown that some teachers learned to accomplish their tasks and some learned to teach. The accomplishing task was indicated from the teachers' preparation for the class they would have on the next day, repetition in reviewing the subject they had taught several times to help them remember the material. On the other hand, teachers' learning to teach was indicated from the way the teachers' searched for further information that supported their learning intentionally. Their intention to concern on themselves with the acquisition of knowledge became their effort to master their teaching subject for the purpose of their professional development and also for their students' achievement. Orientation to mastery and performance occurred, which indicated their persistence in learning. Therefore, those who self-regulated their learning through the cyclical phases were more intrinsically motivated, as also argued by Randi (2004).

After performing their learning, teachers did reflection on their learning. It was found that the upper secondary teachers, who had been teaching for less than five years, focused their evaluation more on the result of learning particular topics. Meanwhile, others evaluated their learning from their students' results and colleagues' feedback. In addition, the primary teachers and the secondary teacher reacted positively to the failures experienced by their students and to the lack of information to support them in learning. The ability to adjust their strategy also occurred more in the secondary teachers. Teachers' reflection that motivates their efforts to their further learning is in accordance with Van Eekelen, Boshuizen, and Vermunt (2005) and Persico, Milligan, and Littlejohn (2014).

Based on the description above, it can be concluded that some of the teachers had the abilities to self-regulate their learning through the cyclical phases. The others did not experience their learning through the all of self-regulated learning phases. The teachers who were indicated to self-regulate their learning mostly came from school 1 and school 3. Length of teaching experience did not significantly influence teachers' self-regulated learning. It is indicated from our findings that those who self-regulated their learning were teachers who had varied teaching experience. Moreover, the teachers' self-regulated learning was not only influenced by their own intention, but also by external factors, such as task demand. Teacher agency, that emphasizes the intention to act in order to develop their own learning and their colleagues' development, teacher learning in the workplace context, was also influenced by everyday activities. Thus, based on our findings, those who were indicated to self-regulate their learning were mostly responsible for curriculum at school, were olympiad instructors, and certified teachers. They did not only learn to teach and share their learning to their students, but they also shared their learning with their colleagues at school. Some who shared with other colleagues did not only do it intentionally, but also because of the obligations related to their roles they held, which required them to share. In addition, some also shared what they learned in online forums or teachers' fora. This is in line with Pyhalto, Pietarinen, and Soini (2012); that the intentionality and the responsibility of teachers to acquire new knowledge for themselves and their community refers to professional agency.

## 5. CONCLUSION

### *5.1 Conclusion Based on Research Findings*

This study has revealed how teachers in three private schools in Aceh self-regulated their learning. In the forethought phase, the teachers set their learning processes and beliefs to motivate them to learn. First, the teachers set their goals. The goals set varied from fulfilling their professional and pedagogical competencies by mastering the subject to be taught that correlate to their expected outcomes, to students' understanding, for those who had been teaching for five years. Acquiring a higher level of knowledge and higher skills were the intended goals that were specified by those who had been teaching for more than five years and by a certified teacher.

Teachers also had planned strategically how to attain their goals, especially relating to classroom management. Attending training, keep being updated, and performing learning were mostly mentioned by those who had been teaching for more than five years. Updating pedagogical skills, creativity, and knowledge were the interest of the primary teachers. Meanwhile, developing the existing knowledge and collaboration were the motivations of the secondary teachers to learn. The upper secondary teachers' interests in acquiring higher knowledge and the ability to manage their classrooms were their motivation.

Primary teachers' expectations of their learning were students' comprehension, parents' satisfaction, keep remembering what they have learned, and avoiding students' boredom, which likely informs us that the learning they performed was not for their own learning benefit. The secondary teachers' expectations to be the students' role model of success and to gain new knowledge motivated them to learn, as also in the case of the upper secondary teachers. Mastery of the subject motivated teachers to keep striving with their learning difficulties. Previous success had also enhanced teachers' belief in performing their learning. However, their low capacity in particular skills prevented them from keeping learning. Primary teachers orientated themselves to keep learning, even though they realized that primary materials are easy. Secondary teachers oriented to mastering the subject they taught, and the upper secondary teachers oriented to the ability to evaluate students and being professionals.

In the phase of performance, some processes were undertaken by the teachers. Self-instruction was performed more frequently by female secondary teachers. Elaboration by using different sources and combining them to perform their learning was also undertaken by the teachers. Online sources were one of the most used resources besides books. Teachers also tried to develop their ideas by combining their existing knowledge. In helping their learning process, teachers sought help from colleagues, books, teachers' forum and online sources. Secondary teachers sought help more than primary teachers and males sought help more than women did. Teachers demonstrated low help-seeking from the teachers' forum, due to the unqualified instructors and repetitive training materials. In performing their learning, teachers set their time and set their environment simultaneously. Teachers also learned due to their enhancing interest of capacity development and their curiosity towards the subject matter requiring insight and understanding. However, we also found that some teachers learned based on their teaching practice needs.

Finally, primary teachers reflected on their learning through evaluating their success of learning from their teaching practice success, and from students' responses and colleagues' feedback. The secondary teachers evaluated their learning through their previous success. Specifically, secondary math teachers evaluated their success in learning from their ability to solve math-problem. Meanwhile, upper secondary teachers evaluated their learning from the principal supervisor and their progress in understanding difficult topics. In addition, secondary teachers reacted positively to their failure by being motivated in learning. Dissatisfaction with their students' results had become primary and secondary teachers' motivation to learn more. Lastly, secondary and upper secondary teachers adjusted their learning by adapting new strategy to perform their learning.

Schools that well-equipped with internet access and integrated systems that are aimed to enhance teachers' professional development provide no guarantee that all of the teachers implement self-regulated learning. Only some teachers implemented self-regulated learning through the cyclical phases. They learned to teach. On the contrary, most of them did not self-regulate their learning through the three phases. They learned only to accomplish their task, teaching. However, teachers' learning was related to the teachers' work context. Thus, their learning was mostly influenced by external factors such as their tasks, their additional roles and the certification entitled to them. The barriers to self-regulation of their learning were mostly caused by their ability to manage their time and structuring their learning environment due to the workload. However, in fact, these two categories initially were not included in the previous study as part of informal learning. Low self-efficacy had also been identified as the barriers to self-regulated learning.

There are some limitations to this present study. First, we conducted this research in five months. Second, we did not do prior quantitative research in selecting the teachers to be investigated more as the criteria in choosing the informants as the previous studies did. The lack of insight information due to the absence of observation on teachers' teaching practice or classroom practice to check the change of their behavior in learning, information from colleagues and school director or principals to be triangulated with the data we obtained from the interviews.

## *5.2 Practical Implications and Future Research*

Our finding suggests support to stimulate teachers' self-regulated learning, targeting those who did not self-regulate their learning through the cyclical phases of self-regulated learning. When teachers are stimulated to learn from their daily activities to work, intention to learn will be aroused. Tasks that require teachers to contribute to not only their professional learning but also their communities should regularly be assigned to different teachers so that all teachers have learning opportunities. Although for some teachers' discussion forum and qualified training triggered most of the teachers to learn more, focus on effective internal discussion will be beneficial for those who considered that some trainings and teacher forums did not give any impact in changing their learning behavior. Therefore, the assurance of the effectiveness of the teachers' discussion forum internally and externally should become the attention of school and local educational authorities.

We found that some teachers were challenged to learn more due to the assigned tasks given to teachers, such as tutoring national Olympiad students. Therefore, activities that also have higher level of responsibility that require teachers to learn should also be promoted for teachers whose subjects are not included in the national student Olympiad. Appropriate allocation of school work should become principals' or schools' management concern as well, to avoid teacher burnout. Future research is needed to explore more how teachers self-regulate their learning, by triangulating data from the interviews, observations and school entities. Next, it would also be interesting to figure out teachers' intention to learn, as the other indication of agency introduced by Bandura in the workplace context. Since most of those who were identified as having good self-regulated learning were science teachers, it would be advantageous for future research to explore how school tasks influence social studies teachers and how they self-regulate their learning. Research conducted in public schools would also be beneficial, to compare how public school teachers implement self-regulated learning.

Theoretically, self-regulated learning is a person's capacity in self-regulating thoughts, feelings, and actions to meet his or her goals. However, the teachers' perception of self-regulated learning in the three private schools in Aceh was quite different. Their perception of self-regulated learning was that they learn by themselves when they find their tasks are demanding. Practically, this study could be used as a reference for teachers to implement and to enhance their self-regulated learning. At the school level, this study will be beneficial for management in identifying and mapping teachers' self-regulated learning. Furthermore, this study will enable the stakeholders of the three schools, including the director and the principals, to make decisions or school policies that enhance teachers' self-regulated learning. Furthermore, this study could be very useful in designing education to enhance teacher quality as part of teacher professional development programmes.

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## APPENDIX 1

### CONSENT FORM OF INTERVIEW WITH AUDIOTAPING

#### **Consent to Participate in Research**

##### ***Title of Study***

*("Exploring Teachers' Self-Regulated Learning in Aceh")*

##### **Introduction and Purpose**

This research is doing by Kartika Hakim and Maina Sara. We are graduate students at Tampere University, Finland, in the Department of Education. We would like to invite you to take part in our research study, which concerns on teachers' self-regulated learning.

##### **Procedures**

If you agree to participate in my research, we will conduct an interview with you at a time and location of your choice. The interview will involve questions about your experience in self-regulating your learning as a teacher. With your permission, we will audiotape and take notes during the interview. The recording is to accurately record the information you provide, and will be used for transcription purposes. If you choose not to be audiotaped, we will take notes instead. If you agree to be audiotaped but feel uncomfortable at any time during the interview, we can turn off the recorder at your request. If you don't wish to continue, you can stop the interview at any time.

We expect to conduct only one interview; however, follow-up may be needed to add the clarification. If so, we will contact you by mail/phone to request this.

##### **Benefits**

There is no direct benefit to you from taking part in this study. However, it is hoped that the research will contribute positively to the teachers' capacity development and to educational and institutional development both locally and nationally.

##### **Risks/Discomforts**

Some of the research questions may make you uncomfortable or upset. You are free to decline to answer any questions you don't wish to, or to stop the interview at any time. As with all research, there is a chance that confidentiality could be compromised; however, we are taking precautions to minimize this risk.

**Confidentiality**

Your study data will be handled as confidentially as possible. If results of this study are published or presented, individual names and other personally identifiable information will not be used. When the research is completed, we may save the tapes and notes for use in future research done by myself or others.

**Compensation**

You will not be paid for taking part in this study.

**Rights**

***Participation in research is completely voluntary.*** You are free to decline to take part in the project. You can decline to answer any questions and are free to stop taking part in the project at any time. Whether or not you choose to participate in the research and whether or not you choose to answer a question or continue participating in the project, there will be no penalty to you or loss of benefits to which you are otherwise entitled.

**Questions**

If you have any questions about this research, please feel free to contact us. We can be reached at [0812-5092-8889 & 0812-6446-358] or [borneo\_v3@yahoo.com & m41n4sara@gmail.com]

**CONSENT**

You will be given a copy of this consent form to keep for your own records.

If you wish to participate in this study, please sign and date below.

\_\_\_\_\_

Participant's Name *(please print)*

\_\_\_\_\_

Participant's Signature                      Date

*[Optional/If applicable]*

If you agree to allow your name or other identifying information to be included in all final reports, publications, and/or presentations resulting from this research, please sign and date below.

\_\_\_\_\_

Participant's Signature                      Date

## APPENDIX 2

### SURAT PERSETUJUAN WAWANCARA DENGAN REKAMAN

#### **Persetujuan untuk berpartisipasi dalam penelitian**

##### ***Judul Penelitian***

*(“Exploring Teachers’ Self-Regulated Learning in Aceh”)*

##### **Pendahuluan dan Tujuan**

Penelitian ini akan dilakukan oleh Kartika Hakim dan Maina Sara. Kami adalah siswa S2 di Universitas Tampere, Finlandia Jurusan Pendidikan. Kami ingin mengundang anda untuk berpartisipasi dalam penelitian kami yang berfokus pada kemampuan guru dalam mengelola pembelajarannya secara mandiri sebagai indikasi *agency*.

##### **Prosedur**

Jika anda setuju untuk berpartisipasi dalam penelitian ini, kami akan melakukan wawancara dengan anda di waktu dan lokasi yang anda tentukan. Pertanyaan wawancara meliputi pengalaman anda dalam mengelola pembelajaran mandiri sebagai guru. Dengan izin anda, kami akan merekam dan mencatat selama proses wawancara. Rekaman dilakukan untuk mendapatkan informasi yang anda berikan secara akurat, dan akan digunakan untuk tujuan penelitian. Apabila anda tidak berkenan untuk kami merekam, kami akan melakukan pencatatan. Jika anda setuju wawancara direkam namun merasa tidak nyaman selama wawancara, kami dapat mematikan alat perekam atas permintaan anda. Jika anda tidak berkenan untuk melanjutkan, anda dapat menghentikan wawancara kapan pun.

Kami berharap untuk hanya melakukan satu kali wawancara, akan tetapi, wawancara lanjutan mungkin diperlukan untuk menambah informasi atau mengklarifikasi. Jika demikian, maka kami akan menghubungi anda melalui email atau telepon.

##### **Keuntungan**

Tidak ada keuntungan yang secara langsung atas partisipasi yang anda lakukan dalam penelitian ini. Akan tetapi, penelitian ini diharapkan dapat memberikan kontribusi secara positif terhadap

pengembangan kapasitas guru dan untuk pengembangan pendidikan dan institusi pendidikan baik secara local maupun nasional.

### **Resiko/Ketidaknyamanan**

Beberapa pertanyaan mungkin dapat membuat anda tidak nyaman. Anda bebas untuk menolak menjawab pertanyaan apapun yang tidak anda kehendaki, atau untuk menghentikan wawancara kapan pun. Seperti halnya semua penelitian, terdapat isu kerahasiaan yang dapat disepakati secara bersama. Akan tetapi kami akan melakukan upaya untuk meminimalisasi resiko tersebut.

### **Kerahasiaan**

Data anda akan ditangani serahasia mungkin. Apabila hasil dari penelitian ini di publikasikan atau dipresentasikan, nama dan informasi pribadi lainnya tidak akan disertakan. Ketika penelitian selesai, kami akan menyimpan rekaman dan catatan untuk digunakan pada penelitian selanjutnya dimasa mendatang yang dilakukan oleh kami sendiri atau pihak lain.

### **Kompensasi**

Anda tidak akan mendapatkan kompensasi atas partisipasi anda dalam penelitian ini.

### **Hak**

***Partisipasi dalam penelitian ini adalah sukarela.***

Anda bebas untuk menolak untuk berpartisipasi dalam penelitian ini. Anda dapat menolak untuk menjawab pertanyaan apapun dan untuk berhenti berpartisipasi dalam penelitian ini kapan pun. Jika anda memilih untuk berpartisipasi atau tidak berpartisipasi dalam penelitian ini dan apabila anda memilih untuk menjawab atau tidak menjawab pertanyaan atau melanjutkan partisipasi dalam penelitian ini, tidak akan ada penalty yang diberikan kepada anda.

### **Pertanyaan**

Jika anda memiliki pertanyaan yang berhubungan dengan penelitian ini, silahkan menghubungi kami. Di nomor telepon [0812-5092-8889 & 0812-6446-358] atau email kami [borneo\_v3@yahoo.com & m41n4sara@gmail.com]

## Persetujuan

Anda akan mendapatkan salinan dari surat pernyataan persetujuan ini

Jika anda bersedia untuk berpartisipasi dalam penelitian ini, silahkan berikan tanda tangan dan tanggal dibawah ini.

---

Nama Narasumber *(Silahkan tuliskan)*

---

Tanda Tangan Narasumber

Tanggal

*[Optional/Jika dibutuhkan]*

Jika anda setuju untuk memberikan kami izin menggunakan nama atau informasi pribadi anda untuk disertakan dalam laporan akhir, publikasi, dan/atau persentasi sebagai bagian dari hasil penelitian ini, silahkan tanda tangan dan tuliskan tanggal dibawah ini

---

Tanda tangan narasumber

Tanggal



## APPENDIX 3

### Interview Questions

NO	Bahasa	English
1	Bisakah anda jelaskan atau ceritakan apa yang anda lakukan/yang anda rencanakan dalam menunjang profesionalitas anda sebagai guru?	What do you do/plan to support or enhance your professionalism as a teacher?
2	Tolong jelaskan pengalaman belajar anda sebagai seorang guru?	Tell me about your experience in learning as a teacher
3	Ceritakan pengalaman anda apa yang anda lakukan untuk membantu bapak/Ibu dalam belajar?/ apa yang anda lakukan untuk mendukung proses belajar anda?	What do you do to help you in learning?/ what do you do to support your learning process?
4	Jika anda menghadapi masalah ketika belajar, apa yang anda lakukan?	If you face problems while learning, what do you in such cases?
5	Situasi seperti apa yang mendorong ibu mempelajari sesuatu?	What kind of situation that encourage you to learn something new?
6	Bentuk refleksi seperti apa yang ibu lakukan selama anda mempelajari sesuatu?	what kind of reflection that you did when learning?

## APPENDIX 4

### LIST OF INFORMANTS

SCHOOL 1	SCHOOL 2	SCHOOL 3
1-SD01	2-SD01	3-SD01
1-SD02	2-SD02	3-SD02
1-SD03	2-SD03	3-SMA01
1-SMA01	2-SMA01	3-SMA02
1-SMA02	2-SMA02	3-SMA03
1-SMA03	2-SMA03	3-SMA04
1-SMP01	2-SMP01	3-SMA05
1-SMP02	2-SMP02	3-SMP01
1-SMP03		3-SMP02
		3-SMP03
		3-SMP04