

# Incorporating Self-Regulated Learning into English Teaching:

Early lessons from the implementation of SMELT I 4.0 DE in an UPI Senior High Lab School class

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**Abstract**—Self-regulated and autonomous learning strategies are now in the heart of Indonesian curriculum. Ministerial regulation on standards of process requires teachers transform their teaching from teacher- to student-centered, autonomous, and self-regulated learning. As an effort to develop this learning strategy, a team in Universitas Pendidikan Indonesia, implement I SMELT I 4.0 DE (the Implementation of Synergetic Multilayered English Language Teaching in Industry 4.0 and Disruptive Era), an English teaching model designed to develop competences required to live in Industry 4.0 and disruptive era through four synergetic layers, of which self-regulated learning inculcation (SRLI) is one of them. This paper is intended to present lessons from preliminary data from the project. The data were taken from the class involved in I SMELT 4.0 DE through observations, questionnaires, and performance tests. The data analysis shows that they developed self-regulated learning strategies, good learning motivation, and improved English speaking ability. Based on the findings, some recommendations are presented at the end of the paper.

**Keywords**—self-regulated learning inculcation; I SMELT I 4.0 DE; learning motivation; industry 4.0; disruption era

## I. INTRODUCTION

Self-regulated learning (SRL) has attracted more researchers in the field of education, including those involved in English language teaching (ELT) enterprise. The significance of student-centered-, self-regulated, and autonomous learning has been manifested in Indonesian curriculum [1]. Hence, it is imperative for teachers in Indonesian educational system implement this teaching strategy in their teaching. This policy is critical as far as 21<sup>st</sup> century Indonesia is concerned [2]. As highlighted by Gleason, today's world needs persons with cognitive flexibility, i.e. an ability of finding alternatives to cope with a rapid changing world in which disruptions are integral parts [3]. Meanwhile, cognitive flexibility needs a teaching environment that promotes self-development, self-motivation, self-monitor, and self-control of their own learning. In this conjunction, metacognitive strategies, motivation, and active participation are among the central underpinning concepts. These all are the main concepts involved in SRL. SRL has been implemented in

various contexts and curriculum subjects such as in elementary school, high school, and college, even in the context of education for students with learning disability; in mathematics, writing, and reading.

In the meantime, the context of this research is concerned with the teaching of English using SMELT I 4.0 DE [4], in which SRL is synergistically interwoven with ICT and transversal competences as well as ELT as the core see, and therefore a review of SRL in ICT-based ELT will be presented in the following section. However, while it is easy to find references in SRL in ICT, and SRL in English teaching, or ICT in English teaching, it is hard, if any, to find references in SRL in ICT-based English language teaching.

Research on SRL and ICT has been well documented in many research reports and writings such as. The work of Bennett et al. is concerned with debate on digital natives, which is also used as one of the considerations in this study; while is concerned with profiles of self-regulated learning in online environment; and is dealt with similar focus, i.e. self-regulated learning and technology-enhanced learning environment; and with learning management system as metacognitive tools in self-regulated learning, which is, to a great extent, similar to this current study [5].

In the meantime, research of the use of ICT in ELT has been documented in many research reports, e.g. Abu Seileek et al. investigated the effects of synchronous and asynchronous computer-mediated communication (CMC) oral conversations on English language learners' discourse functions [6], while Hyland et al. investigated the interrelationship between technological innovation and teacher change, particularly information technology in teacher professional development Innovation and change in English language education [7]; and Suherdi is dealt with ICT and religiosity English language teaching [8]. In the meantime, Pegrum surveyed the impact of mobile devices on the improvement of language and literacy across Asia [9]; and Guo and Chang investigated deep learning for adaptability of English curriculum materials [10].

Other research is focused on the use of specific programs and platforms. The work of Dewi investigated the use of

Edmodo as a social learning platform in a blended learning class in higher education contexts [11], and while Insani investigated students perspective on Edmodo as a social network [12]. Guo compared the effects of learners' performance, motivation, and usefulness between YouTube and educational video learning platform [13]; Clayton and Murphy investigates the use of smartphone apps, i.e. students creation of videos to teach smartphone use as tool for learning [14]; Benko et al. study is concerned with the use of Twitter with preservice teachers as a means of reflection and engagement in communities of practice [15]; Purnawarman et al. investigate the use of Edmodo in teaching writing in a blended learning setting [16]; Wang used YouTube to automatically generate transcripts of student English presentations [17]; Lee et al. on promoting the elementary school students English listening and speaking abilities by using the picture annotation on the tablet e-book [18].

In the meantime Kurniawati et al. study is concerned with the praxis of digital literacy in the EFL classroom: digital-immigrant vs digital-native teacher [19]; and Li investigated the practice of the flipped class models in the English class for graduate students [20]. Other researchers took students affective factors as their focus, e.g. Kruk who investigated the variations in motivation, anxiety and boredom in learning *English in Second Life* [21]; Suherdi investigated ways of helping students as digital native in developing effective learning [22], and Suherdi and Ihrom investigated students' motivation, ownership, and achievement through YouTube video maker [23].

The aforementioned works have clearly shown how previous researchers and authors dealt with both SRL and ICT or ICT and English, while as suggested by, learning management system may be used as metacognitive tools in self-regulated learning; while at the same time, findings on ICT-based English research projects are enlightening. Hence, it is reasonable to expect significant results on the synergy of SRL and ICT on English language learning excellence. This paper is intended to present the study of how SRL in the framework of ICT help develop students learning English as a foreign language, which is a part of a bigger study of I SMELT I 4.0 DE, the implementation of SMELT I 4.0 DE in an UPI Senior High Lab School class see. To help readers understand the context of the study, a glance at I SMELT I 4.0 DE will be presented in the methodology section.

## II. METHODOLOGY

### A. The Context

The research reported in this paper is conducted in an UPI Senior Lab School English Class, implementing a synergistic multilayered English language teaching model, called SMELT I 4.0 DE, standing for Synergetic Multilayered English Language Teaching in Industry 4.0 and Disruptive Era. The model consists of four synergistic layers: ICTC (Information and Communication Technology Cultivation), SRLI (Self-regulated Learning Inculcation, TCD (Transversal competences Development), and ELT (English Language Teaching). Hence, it is clear that this paper focus on the second layer, i.e. SRLI in

the framework of the first layer in relation to the fourth, i.e. ELT.

I SMELT 4.0 DE involves a teacher and his 29 tenth grade students learning English as one of the curriculum subjects in the school. English is scheduled to have two credit hours a week. I SMELT I 4.0 DE, in the stage reported in this paper, adopts flipped classroom settings. Hence, apart from the allotted two hours, the students were also provided extra time to study at home, in which self-regulated procedures took place. This part of I SMELT I 4.0 DE is where the focus of this paper lies.

### B. The Data Collection

The data required to answer questions related to this focus were collected through observations, questionnaires, and performance assessment. Observations were used to collect data on the practice of self-regulated learning during the English teaching-learning processes (TLPs) in I SMELT I 4.0 DE; while questionnaires were used to collect students self-rating on their motivation in learning English during I SMELT I 4.0 DE. In the meantime, performance assessment was used to see students progress on the achievement of English, at least, up to the stage in which this report is written.

### C. The Data Analysis

The data collected were then analyzed using relevant analysis tools. Observation data were analyzed through qualitative data analysis procedures: organization, categorization and classification, and interpretation. Questionnaire data were analyzed, and performance assessment data were analyzed through descriptive statistical analysis.

### D. The Results of Data Analysis

The data analysis results were then interpreted and the results are to be presented in this section. The findings will be presented in line with the research questions posed in this study, i.e.: "How does I SMELT 4.0 DE help develop students learning motivation?" and "How does I SMELT 4.0 DE help develop students learning achievement?"

Question 1: How does I SMELT 4.0 DE help develop students learning motivation?

In general, the patterns of students learning motivation were observable in the TLPs during the I SMELT 4.0 DE. Following the schema developed in ICTC, the students were led to planning, executing, monitoring, revising, and finalizing their learning tasks. In this stage, the assignments were designed to be group works. This is to guarantee that students development ran well. In fact, the students groups worked through such steps throughout the TLPs. The groups started their works with learning the materials uploaded on the Google classroom developed for this project, i.e. "SMELT 4.0 DE: ENGLISH LANGUAGE TEACHING IN INDUSTRY 4.0 AND DISRUPTIVE ERA UPI SENIOR HIGH LABSHOOL" that can be accessed through <https://classroom.google.com/u/0/c/MTUwMjUwMTQ5ODNa>.

Based on their understanding on the nature of the assignments, they plan the ways how they would accomplish

their works. They managed to accomplish the assignment before their face-to-face learning in the classroom. The classroom was used for scaffolding periods in which teachers and more able students help less able students to maximize their learning. The fact that they accomplished all the assignment and their cheerful ways of finishing the works are clear evidence of their motivation in learning English through SMELT I 4.0 DE.

Questionnaire data support the previously described data by the fact that in general 85% of the students felt that they were motivated. Twenty-eight or 97% felt that they were motivated to do editing before submitting their works, and had good self-efficacy to perform the learning task due to their hard-working.

In the meantime, 89% of the students stated that they listened attentively to their teachers explanation; asked questions when they felt that they did not understand teachers explanation or questions; and self-motivated themselves to best achieve the learning targets. Smaller number came from punctuality in submitting their works (62%) and active participation during classroom TLPs (62%). Smallest number came from out-of-classroom activities (52%), persistence in facing difficulties (76% of them felt that they could not persist the difficulties, and hence, only 24% had good persistence), and keeping focused on the lessons (59% of them confessed that they played around in the TLPs. Hence, only 41% managed to focus on their lessons). Detailed picture of students learning motivation may be found in Table 1.

TABLE I. DATA OF STUDENTS LEARNING MOTIVATION

No.	Components	Frequency	%
1	Editing before Submission	28	97
2	Punctuality in Submission	21	72
3	Low persistence	22	76
4	Self-efficacy	28	97
5	Active participation	21	72
6	Listening to Teacher's Explanation	26	89
7	Playing around during the TLP	17	59
8	Asking Questions	26	89
9	Out of classroom learning ativities	15	52
10	Self-motivation	26	89

From the table, it can be seen that while most of the students may be rated high in some motivation indicators (editing works before submission, self-efficacy in performing, listening to explanation, asking questions, and self-motivation); in some of the components they are rated medium (punctuality in submitting works and participation in classroom TLPs), or even low (out-of-classroom activities, persistence in facing difficulties, and focus on the lessons). This is predictable as far as this stage is concerned. The patterns may not be appropriately developed in this initial stage. Longer period of implementation may result in different patterns of data.

Question 2: How does I SMELT 4.0 DE help develop students learning achievement?

Students progress during the TLPs and their achievement in completing communicative tasks may be seen from the data represented in Figure 1.

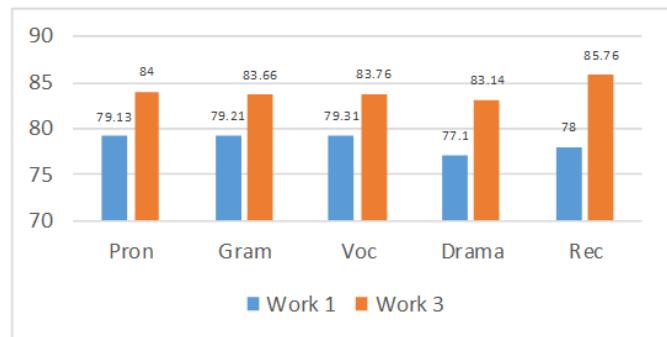


Fig. 1. Data of students progress in English conversations.

As shown in the figure, the students make a significant progress during the TLPs. This is indicated by a large difference between the first work and the last work in every assignment. For example, in general, the progress of students achievement was very significant. The first scored 78.55, and the second 84.06, and hence, the difference is 5.51. In the meantime, the details are summarized in Figure 1. The best improvement was made in the recording quality, the difference made reached 7.76; the second is the drama with 6.03; then, pronunciation with 4.86 and grammar and vocabulary, each with 4.45. Vocabulary started with a slightly better score, i.e. 79.31, but they ended up with the same difference because the final scores proportionally in the same distance from the starts.

The results may not demonstrate the appropriate standing of their achievement. However, observational data confirmed that this results are plausible. Their enthusiasm in conducting monitoring and self-assessment as well as revising and finalizing their works. This attitude towards learning is by no means usual as far as the majority of Indonesian students are concerned.

### III. FINDINGS AND DISCUSSIONS

The result of data analysis has shown that SRLI developed in I SMELT I 4.0 led students to two main patterns. First, SRL development in relation to ICTC; and second, motivation and achievement development in relation to SRLI. These two patterns will be discussed in sufficient details in this section.

#### A. SRL in Relation to ICTC

The students enjoyment and comfort in learning through ICT led to some productive habit of using metacognitive strategies. Project-based learning applied encouraged them to develop careful and thoughtful planning of how they would accomplish the projects. High demands on accuracy, transparent, and open to public product led them to execute their planning with optimum care, monitor their quality, and revise some unexpected results, and finalize their works with good responsibility [24]. In other words, main characteristics of self-regulated learning begins to grow and develop within the most of the students, at least up to the extent set for the phase of initial stages. This is in line with the conclusion of Ariza [25] study:

Integrating the use of metacognitive control strategies, independent activities enhanced by ICT tools within the

context of language learning for beginners not only contributes to the development of student language proficiency, but also provides them with insights of themselves as learners. This experience can be transferred to other situations of learners academic lives and is key to long life learning.

The ongoing development of SRL in students part may be responsible for the development of their motivation and achievement. This would be the topic of the second pattern.

#### *B. Motivation and Achievement in Relation to SRL*

The ongoing development of SRL in students part may be accounted for the development of their motivation and achievement. This is possible for at least three reasons. First, the series of planning, doing, monitoring, revising and finalizing, students get adequate clarity so that the path to the goal is not only clear but also motivating. Students can see the whole map of their pursuit and set adequate steps to guarantee their learning success. Second, success in accomplishing each of the stages in the series is not only giving intellectual satisfaction but also motivating students to get the next successes in the project. Third, monitoring, self-assessment, and revising and finalizing gives students opportunities in maximizing their efforts in achieving the learning targets [26].

The variability of motivation development may be related to some external as well as internal factors. High motivation indicators in editing works before submission and self-efficacy in performing may be due to motivating circumstances in group works; while listening to explanation may be encouraged by the needs to have maximum works. Besides, this may be the most common practice in their learning thus far. Asking questions and self-motivation are, to a great extent, unexpected because it requires high level of courage. However, considering the nature of transparent and open-to-public of online upload, the students did not have any "ways to escape". The only way out is maximizing their efforts. Hence, asking questions and self-motivation are the most productive alternatives in this respect.

In the meantime, punctuality in submitting works and participation in classroom TLPs are not as smooth as the aforementioned variables. This is not surprising because doing assignments outside the classroom, without the presence of the teacher, is hard for most Indonesian students. Moreover, the prolonged practice of cognitive-oriented assessment has made this even harder for them. In other words, this component of students motivation is evidently new in many contexts in Indonesia, and hence it is clear that SRLI in the framework of ICTC led students to new tradition in their learning, i.e. starting to take more serious concerns on punctuality in submitting assignments, and on in participating in the classroom TLPs.

Last but not least, out-of-classroom activities, persistence in facing difficulties, and focus on the lessons were rated at the lowest levels. This is also plausible as far as the context of this study is concerned. National exam-oriented classroom practices that have been dominant in the last two decades have ruined good teaching practices in Indonesian educational landscapes. Malpractices in national exam administration led to even worse situations. Motivated learning is by no means rare. Hence, these data are not surprising. However, the fact that a

few students started to do out-of-classroom activities, persisted in facing difficulties, and focused on the lessons is a good direction in the students learning. Again, SRLI in the framework of ICTC is accounted for this emerging productive trends [27].

Similar patterns are also observable in English competence assessment data. The students achievement levels vary in terms of the distance between the students first and last performance in each assignment. The difference made is 5.51. This is a large score considering that it comes from authentic assessments on authentic English communicative tasks. Seeing the detailed difference for each components of the competence, the achievement is promising. The fact that the improvement of language components is less than that of dramaturgical and recording components indicates that (1) English development takes place in slower rate than the dramaturgical and recording components; and (2) The dramaturgical and recording components may be far more interesting for the students than the language components. Their optimum efforts on the improvement of all the components result in different levels of achievement.

Looking at more detailed data, the three components assessed came up with two scores of difference. Pronunciation obtained larger difference than grammar and vocabulary. In the context of the study, and even in Indonesian context, this is predictable. Like in other contexts of foreign language teaching, Indonesians are more motivated in maximizing their efforts in making their pronunciation closest to receive pronunciation (RP), either British or American. That is why Indonesian speakers pronunciation is often considered to be better than speakers in the countries where English is a second language. In the meantime, grammar and vocabulary are considered the most difficult components to grasp. This may be due to the ways in which the components are taught, i.e. through rote learning and memorization.

The fact that the research is still in the initial stages may be accounted for the data resulted. Longer period of time may give different patterns of language improvement. In addition, the ways of doing English in I SMELT I 4.0 DE and the metacognitive effects of longer SRL development and ICT-based teaching may give ways to significant improvement and, later, excellence in the students English learning that is relevant to Industry 4.0 and disruptive era.

All the findings discussed show that there is a promising tendency in the students learning achievement. However, this is by no means conclusive because, as has been earlier reiterated, this project is still in the initial stages. The result is still in the process of development. It is still in progress. We need still to wait for more data to come in the next stages of the project. To this extent, suffice it to say that the results are thus far promising, but more data are still needed. Based on this preliminary findings, there are three main recommendations that need to be put forward here. First, recommendations for continuing this longitudinal project as already planned; second, those for the improvement of planning and administration of the projects to guarantee better results, and third, the recommendation for scrutinizing the synergy among SRL, ICT, and TC in the larger context of I SMELT I 4.0 DE.

#### IV. CONCLUSION

This paper has been successful in presenting the nature of SRL and its synergy with ICT and ELT in the contexts of I SMELT I 4.0 DE. It is shown that SRLI in the framework of ICTC indicates some promising improvements. The improvements vary according to the contexts of the students' background, prior learning and experiences as well as learning environment. Some relevant recommendations have been presented at the end of the discussion section.

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