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## Observing the EFL Students' 21<sup>st</sup> Century Skill Performance through Learning Activities of Research on the ELT Course

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### Abstract

Students' 21<sup>st</sup>-century skills; soft skills, and hard skills were developed through student-centered e-learning (SCEL) activities in Research on the ELT Course. The current study was conducted to improve teachers' instructional strategies in e-learning to enhance students' 21<sup>st</sup>-century skills through their learning activities. Data were gained by observing and assessing 24 students' performance in practicing 21<sup>st</sup>-century skills through SCEL activities. Teachers have successfully improved instruction techniques and encourage students to learn in a group, independently, using online resources, discussion, and video presentations, as the result, the students' 21<sup>st</sup>-century skills could be improved from cycle to cycle. Each SCEL activity developed certain soft skills and hard skills components differently. In conclusion, the teacher successfully applied SCEL activities to engage and enhance students' 21<sup>st</sup>-century skills. The findings implicated that teachers should be more creative and innovative in using e-learning for teaching and learning to create an active online learning environment and enhance students' 21<sup>st</sup> century skills. Further research is expected to apply an experimental research design to search for the most effective method and measure the level of effectiveness of e-learning usage for the students' 21<sup>st</sup>-century skills development.

### Keywords

English language teaching, e-learning, hard skills, higher education Soft skills, student-centered

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## Introduction

E-learning has been integrated into the teaching and learning of higher education worldwide for at least 15 years. Some teachers revealed that the students fail to catch up with their class match, deliver course content, and engage students in various learning activities. In other ways, teachers wonder that the students learning activities, skills, and knowledge cannot be enhanced through e-learning (Hadyanto, 2019). On the contrary, the current researcher wonders about teachers' ability to optimize e-learning features in their courses. E-learning futures are mostly designed to support students centered learning (SCL) approach. In present studies, SCL teaching and learning implementation is designed into e-learning activities called student-centered e-learning (SCEL). Teachers seem to be not competent enough to operate e-learning features and combine supported applications in the teaching and learning process. They just posted material to be learned by the students without utilizing appropriate e-learning features and organizing students' activities in e-learning (Hadiyanto, 2019).

Teachers can embed students' SCL activities thus typically conducted in the classroom into e-learning activities. Engaging students through e-learning needs teachers' experience, digital skills, initiations, and creativity. However, the significant challenges in using E-learning are teacher creativity and developing instructional strategies. It affects fewer students' activities, interaction, communication, discussion, and work in a team in the learning process (Schober et al., 2008). On the contrary, it is vital to support the teaching and learning process creatively and productively. Good learning quality, creative and productive learning will be accomplished if supported by designing systematic and innovative learning activities to develop the students' 21<sup>st</sup>-century skills and the students' ways in the learning process through appropriate learning activities. Developing student 21<sup>st</sup>-century skills is not only done in the classroom learning strategies yet more interestingly can be done through e-learning activities.

The current study was conducted to improve teachers' instructional strategies in e-learning to enhance students' 21<sup>st</sup>-century skills through their learning activities. The teaching and learning process was designed and revised from cycle to cycle to allow the students to practice and enhance their 21<sup>st</sup>-century skills. Observation and assessment on students' practice of 21<sup>st</sup>-century skills were conducted to know students' improvement of 21<sup>st</sup>-century skills practices through SCEL activities. This study was sought to look at the result of students' practices and improvement of the 21<sup>st</sup>-century skills during SCEL activities in Research on the ELT subject.

## Literature Review

### *The 21<sup>st</sup>-century skills*

The 21<sup>st</sup>-century Skills in this study are the integration of soft and hard skills to be practiced by the students in learning activities. Soft skills are defined as generating communication skills, IT Skills, numeracy skills, learning how to learn skills, problem-solving

skills, and teamwork in learning activities and working (Hadiyanto et al., 2021). Keywords of soft skills practices are synthesized from the following resources: Hadiyanto et al. (2018), Balcar et al. (2018), Chiu et al. (2016), Emmanuel and Frank (2020), Gibb (2014), Hadiyanto et al. (2017b), Md-Ali (2016), Patacsil and Tablatin (2017), Pazil and Razak (2019), Salleh et al. (2017), and the keywords are used to indicate students practices of soft skills (Table 1).

**Table 1.** *Indicators of soft skills*

Soft Skills	Indicators
Communication	1. Presenting, 2. Applying writing formats, 3. Using different words, expressions, and body language, 4. Summarizing key points, 5. Giving feedback, 6. Communicating across ideas, 7. Writing a report.
IT Skills	1. Selecting relevant information, 2. Presenting using PPT and Video, 3. Using digital resources, 4. Completing the assignment in text, image, chart, 5. Using some illustrations in PowerPoint, 6. Using some applications and features, 7. Structuring presentation systematically.
Numeracy	1. Reading tables, charts, graphs with numbers, 2. Measuring learning activities outcome, 3. Labeling tables, charts, and graphs, 5. Timing for working on an assignment, 6. Identifying information sources. 7. Using simple calculation or math.
Learning Skills	1. Improving learning strategy, 2. Assessing learning effectiveness, 3. Reflecting on learning outcomes, 4. Targeting and planning, 5. Learning independently, 6. The identifying best strategy, 7. Evaluating what and how to learn 8. Consulting to teachers, 9. Adapting learning strategy, 10. Identifying best resources to learn.
Problem Solving Skills	1. Identifying learning problems, 2. Solving problems inappropriate ways, 3. Applying methods to analyze a problem, 4. Suggesting mutual understanding, 5. Searching resources to solve a problem, 6. Presenting the best approach to solve a problem.
Teamwork	1. Learning in a group, 2. Interacting across techniques and religions, 3. Working in a project team, 4. Resolving conflicts in group work, 5. Giving feedback in teamwork, 6. Keeping self and members motivated 7. Respecting diverse perspectives, 8. Offering ideas to group work.

The 21<sup>st</sup>-century skills in terms of hard skills refer to specific knowledge and technical skills toward one's major. In this study, hard skills relate to the research and ELT knowledge acquired and practiced through e-learning activities. Hard skills are divided into components; specific knowledge of a subject and specific skills. The soft skills and hard skills indicators, as presented in Table 2, were synthesized from the following resources (Chiu et al., 2016; Cimatti 2016; Hadiyanto et al., 2018, Hadiyanto et al., 2017; Patacsil & Tablatin 2017; Purwanto et al., 2021).

**Table 2.** *Indicators of hard skills*

Hard Skills	Indicators
Specific knowledge of the subject	1. Demonstrating specific knowledge, 2. Discussing ideas specific knowledge, 3. Relating prior knowledge and topic of discussion, 4. Describing content in oral and writing, 5. Answering questions proposed.
Specific Skills of Subject	1. Improving technical skills, 2. Developing specific skills, 3. presenting specific skills. 4. Interpreting subject content into technical practices, 5. Applying subject technical skills.

***Student-centered learning to e-learning***, students-centered e-learning (SCEL) is derived from "students' centered learning" (SCL). The Student-Centered Learning (SCL) approach is a learning model that places students at the center of the learning process. In applying the concept of SCL, students are expected to be active and independent participants in their learning process, who are responsible and initiative to recognize their learning strategies, find sources, question, answer, discuss, build, present and practice their knowledge based on their needs and sources found it (Glowa & Goodell, 2016; Delialioğlu, 2012). SCL is usually applied in the classroom, laboratory, and outdoor classroom. In the current study, SCEL is designed based on student-centered and applied in students' e-learning activities. Students' centered e-learning is characterized as follows:

- Students are primarily engaged in e-learning activities
- Students dominantly use E-learning space for learning activities.
- Students were given more chances to interact with other members than with the teacher.
- Students acquire knowledge and skills of subject content on their own.
- Students' do more rather than teacher
- Students learn from real activities, field and library studies
- Students explain and discuss what they have learned with others.
- Students learn much from class/group/pair members in e-learning.
- Students search-relevant resources online on their own
- Through teachers' guidance, instruction, and facilitation, students obtain their learning goals.

***Developing students' 21<sup>st</sup> century skills through SCL***, opportunities for students to develop their 21-century skills occur in selecting delivery methods and designing SCL activities. The selection of SCL methods and activities explicitly focuses on developing soft skills, thus providing students with opportunities to gain and develop their hard skills. The development of 21<sup>st</sup>-century skills will be promoted where there is the opportunity for students to practice it within learning activities in the classroom, outside the classroom, and currently in online learning (Singh & Singh, 2017; Witherspoon, 2011).

Some studies have confirmed that learning most effectively when the students have the opportunity and comfortable situation to interact with other students. Interaction among students typically leads to communication, teamwork, and problem-solving (Glowa & Goodell, 2016). When students are unable to meet together, appropriate interactive technology such as online learning, social media, e-learning, group of Whatsapp, Skype, and some selected current applications can be used to hold their learning activities. Various learning activities and assignments where students work together typically conducted in physical classrooms can now be held through online or web-based learning. They can report their assignment or present them to the e-learning class as a whole, and it will encourage student-to-student interaction and reflect on what they are learning. The teacher could ensure clear directions and realistic goals for individual and group activities or projects in an e-learning class.

Many researchers still doubt the effectiveness of promoting students' 21<sup>st</sup>-century skills due to time constraints, difficulties of a big class, lack of flexibility, and students' fearfulness. On the other hand, E-learning offers are free from those constraints. E-learning is defined as a learning process involving set computer devices with learning applications to create, foster, deliver, assess, and facilitate a learning process with SCEL activities. Previously, E-learning (electronic learning) was defined as internet technology to deliver learning materials. The essential criteria of e-learning are: network, delivery of learning materials to users via computer with standard internet technology, and focus on broad learning (Vázquez et al., 2019; Shulamit & Yossi, 2017). Edmodo platform was used to generate SCEL activities in this study. Edmodo is one of the relevant platforms with the current study definition of e-learning. It has an interface very intuitive and allows for easy navigation. It also allows the integration of vast and varied resources and links to genuine resources. Edmodo's Features support generating SCEL activities to allow students to discuss, work cooperatively and collaboratively (Hadiyanto, 2019; Singh & Singh, 2017).

Other web-based exercises apply to be integrated into Edmodo platforms, for instance, web-based exercise in *hot potato* application and other applications. Integration of video from youtube, animations are either a more accessible instructive media or an interactive game or learning tool that engages the student and encourages motivation to work on their assignment. Teachers can also store e-book in e-library and share them with the class in Edmodo, including any text-based or html-formatted documents and multimedia resources such as graphics, video, or audio. On the other hand, Edmodo also supports interaction between teacher and students, student and student, and supports other learning activities that allow a wide range of 21<sup>st</sup>-century skills practice (Kara, 2016; Witherspoon, 2011).

In relation to 21st-century development, students learn most effectively when they engage, interact, and work with other students and do real activities that refer to SCEL activities. Applying SCEL activities typically leads the students to practice soft skills such as communication, teamwork, problem-solving, and learning E-learning and at the same time acquire their hard skills. E-learning offers opportunities for the students to continue their learning activities on learning at any time and any place without any burden like they are in the classroom (Senthil & Rajamanoharane, 2016). Singh and Singh (2017) also argue that e-learning allows students to work together and then report back or present to the class as a

whole, encouraging student-to-student interaction. And the teacher can ensure clear directions and realistic goals for the group and individual assignments. Teachers' roles are designing SCEL activities, giving direction and instruction to let students acquire 21<sup>st</sup>-century skills through SCEL activities. Students are encouraged to work together, discuss, present, interact and learn through learning activities to gain hard skills of the courses (Hadiyanto, 2019), and (Shulamit & Yossi, 2017).

### **Methodology**

The study's design was Classroom Action Research (CAR) which aims to improve teachers' instruction strategy and technique to enhance students' 21<sup>st</sup>-century skills. SCEL activities were designed in six activities; group discussions, group projects, individual reports, e-resources sharing, free topic discussion, and group video presentation. One cycle was conducted in three weeks, a whole nine weeks for three cycles. However, this study did not report the teachers' planning, action, and reflection. It reports observation and reflection results from the students' side. The observation was conducted using a list of indicators of 21<sup>st</sup>-century skills as displayed in Tables 1 and 2, while reflection and evaluation used authentic assessment. The authentic assessment described the standard or benchmark of 21<sup>st</sup>-century skills to measure the students' performance of 21<sup>st</sup>-century skills. It is described based on soft and hard skills component indicators. Likert scale interval from 1 (Very poor) to 5 (very poor) was applied. The assessment was carried out in every cycle by two teachers. Data were collected by observing 24 students in SCEL activities. The result of the assessment is shown in Table 3. Two teachers facilitated, observed, and assessed students' 21<sup>st</sup> skills practices through SCEL activities. The observation was searched on indicators of 21<sup>st</sup>-century skills practiced by the students during SCEL activities, while the assessment was conducted by assessing the level of students' 21<sup>st</sup>-century skills practices from cycle to cycle. Due to the current study being a CAR, the qualitative finding is dominantly reported and discussed in this article, while quantitative findings report the overall score of 21<sup>st</sup>-century skills in each component and sub-components.

### **Findings**

#### ***Students' 21<sup>st</sup> century skills performance from cycle to cycle***

Table 3 displays students' 21<sup>st</sup>-century skills in cycles one, two, and three. The findings revealed that students' 21<sup>st</sup>-century skills were increased from cycle to cycle. The overall mean score of students' 21<sup>st</sup>-century skills increases from cycle to cycle. The findings implied that SCEL activities applied by the teachers in the subject of Research on ELT could enhance students' 21<sup>st</sup>-century skills.

**Table 3.** *Average of students' 21<sup>st</sup>-century skills-based two ratters' assessments*

Soft Skills	Cycle 1		Cycle 2		Cycle 3	
	Mean	Std.	Mean	Std.	Mean	Std.
Communication	3,39	,48	3,77	,55	4,00	,57
IT Skills	3,50	,41	4,02	,10	4,85	,34
Numeracy	3,29	,56	3,85	,45	4,39	,73
Learning Skills	3,41	,58	3,83	,45	4,12	,55
Problem Solving Skills	3,18	,56	3,66	,50	3,72	,55
Teamwork	3,58	,52	4,04	,32	4,14	,45
Overall soft skills	3,39	,31	3,86	,30	4,20	,36
Specific Knowledge of Research on the ELT Course	3,29	,56	3,95	,52	4,45	,72
Specific Skill of Research on ELT Course	3,25	,67	3,85	,40	4,18	,63
Hard Skills (Research on ELT)	3,27	,53	3,90	,44	4,32	,64
21 <sup>st</sup> century skills	3,36	,33	3,87	,32	4,23	,39

***Students' 21<sup>st</sup> century skills practices from cycle to cycle based on indicators***

Table 4 shows the result of the teachers' observation checklist of 21st-century indicators that were frequently practiced by students in SCEL activities in cycle 1, cycle 2, and cycle 3. The improvements of students' practices on the 21<sup>st</sup>-century skills indicators in each component from cycle to cycle emerges (Table 4). The improvement was indicated by more indicators of soft skills and hard skills practiced by the students from cycle 1 to cycle 2 and 3. This means that teachers' efforts to develop students learning activities to promote 21<sup>st</sup>-century skills in the classroom were successful.

**Table 4.** *Improvement of the practices of 21<sup>st</sup> century skills form cycle to cycle*

Soft Skills	Cycle 1	Cycle 2	Cycle 3
1. Communication	Questioning and answering; Using varieties words in explaining; Summarizing key issues;	Presenting material video; Using Different formats; Using varieties words in explaining; Questioning and answering; Summarizing key issues.	Presenting materials; Using Different formats; Using varieties words in explaining; Questioning and answering; Summarizing key issues; Communicating ideas writing a report;

**Table 4.** *Improvement of the practices... (Continued)*

2. IT Skills	Selecting relevant information; Presenting using some illustrations in PowerPoint; Sharing e-resources online. Developing the structure of the presentation;	Selecting relevant information; Using PPT and Video for presentation; Sharing e-resources online; Developing assignments in the form of text, image, chart, etc. Presenting using some illustrations in PowerPoint; Developing the structure of the presentation;	Selecting relevant information; Using PPT and Video for presentation; Sharing e-resources online; Developing assignments in the form of text, image, chart, etc.; Presenting using some illustrations in PowerPoint; Using Application, software or application features; Developing the structure of the presentation; Using simple math. Reading tables, charts, graphs, and numbers; Presenting based on points but calculable; Labeling tables, charts and graphs; Managing time for working on an assignment; Identifying the relevant information sources; Improving academic performance; Assessing the effectiveness and efficiency; Identifying factors impacted on learning outcomes; Setting realistic targets and plans; Learning independently and being responsible; Reviewing what and how to learn; Consulting with teachers; Comparing information from various resources;
3. Numeracy	Reading tables, charts, graphs, and numbers; Presenting based on points but calculable; Identifying the relevant information sources;	Reading tables, charts, graphs, and numbers; Presenting based on points but calculable; Labeling tables, charts and graphs; Identifying the relevant information sources;	
4. Learning Skills	Improving academic performance; Setting realistic targets and plans; Learning independently and being responsible; Consulting with teachers; Comparing information from various resources;	Improving academic performance; Assessing the effectiveness and efficiency; Setting realistic targets and plans; Learning independently and being responsible; Consulting with teachers; Comparing information from various resources;	

**Table 4.** *Improvement of the practices... (Continued)*

5. Problem Solving Skills	Identifying a problem; Accommodating diverse perspectives; Solving problems by resources provided;	Identifying a problem. Solving problems with several ways; Accommodating diverse perspectives; Solving problems by resources provided;	Identifying a problem. Solving problems with several ways; Accommodating diverse perspectives; Solving problems by resources provided; Presenting an approach to solve a problem;
6. Teamwork	Learning activities in a group; Having conversations with different races in learning; Working in a team. Keeping self and others motivated; Respecting diverse perspectives; Thinking and offering ideas to a group work;	Learning activities in a group; Having conversations with different races in learning; Working in a team; Giving feedback to improve teamwork; Keeping self and others motivated; Respecting diverse perspectives; Thinking and offering ideas to a group work;	Learning activities in a group; Having conversations with different races in learning. Working in a team; Giving feedback to improve teamwork; Keeping self and others motivated; Respecting diverse perspectives; Thinking and offering ideas to a group work;
Specific Knowledge of Subject	Discussing ideas specific knowledge of a topic; Connecting prior knowledge with the topic of discussion; Answering technical questions proposed;	Discussing ideas specific knowledge of a topic; Connecting prior knowledge with the topic of discussion; Answering technical questions proposed; Transferring knowledge to other people in oral and writing;	Demonstrating specific knowledge of a subject; Discussing ideas specific knowledge of a subject; Connecting prior knowledge with the topic of discussion; Transferring knowledge to other people in oral and writing; 5. Answering technical questions proposed.
Specific Skills of Subject	Interpreting subject content into technical practices; Transferring knowledge based on into practices;	Transferring knowledge based on into practices. Interpreting subject content into technical practices; Developing specific competence;	Enhancing technical skills; Transferring knowledge based on into practices; Interpreting subject-content into technical practices; Developing specific competence;

*Students' 21<sup>st</sup> century skills practices based on SCEL activities*

Table 5 displays soft skills were practiced by the students through SCEL activities. The result was taken from observation and agreement of judgment between teacher one and teacher two. Both teachers agreed that the students promoted communication and teamwork skills through group discussion activities. Furthermore, highly promoted IT and problem-solving skills were there while learning and numeracy skills were averagely promoted in group discussion activities. Looking at group project activities, students practiced teamwork and IT Skills at a highly promoted level, communication, and learning skills at highly promoted levels. However, numeracy skills and problem-solving were promoted at an average level. Unlike individual report activities, students' learning and problem-solving skills were highly promoted. Individual report activities promoted students' IT and numeracy skills at a high level, while communication and teamwork skills were also promoted averagely. Discussion activities highly promoted students' communication, learning, problem-solving, and IT skills. Unlikely, numeracy and teamwork skills were promoted averagely.

E-resources sharing promoted their communication and problem-solving skills at a very high level, IT and learning skills at a high level, while learning and numeracy skills at an average level. In group video presentation activities, IT and communication skills were promoted at a very high level, problem and teamwork skills at a high level while learning and numeracy skills at an average level. In conclusion, each SCEL activity promoted the 21<sup>st</sup>-century skills components differently.

**Table 5.** *Softs skills' indicators practiced by the students through SCEL activities*

SCEL Activities	Soft Skills Promoted Based on Its' Level		
	Very Highly Promoted	Highly Promoted	Average Promoted
Group Discussion	Communication skills	IT	Learning
	Teamwork	Prob. Solving	Numeracy
Group Project	Teamwork	Communication	Numeracy
	IT	Learning	Prob. Solving
Individual Report	Learning	IT	Communication
	Prob. Solving	Numeracy	Teamwork
Individual Discussion	Communication	Prob. Solving	Numeracy
	Learning	IT	Teamwork
E-resources sharing	communication	IT	Teamwork
	Prob. Solving	Learning	Numeracy
Group Video presentation	IT	Prob. Solving	Learning
	Communication	Teamwork	Numeracy

Table 5 shows that SCEL activities let the students practice hard skills of Research on ELT subject. Hard skills were separated into two skills; specific knowledge and skills of Research on ELT subject. Group discussion activities promoted three of five indicators of specific knowledge and one of five indicators of specific skills of Research on ELT subject. Students practiced four indicators of specific knowledge and two indicators of specific skills through group project activities. At the individual report activities, the students practiced all five

specific research knowledge and skills indicators. In contrast, in free discussion activities, students practiced three indicators of specific knowledge and two indicators of specific skills of Research on ELT subject. Students practiced three specific knowledge and two specific skills in e-resources sharing activities. Furthermore, students practiced all the indicators specific knowledge and skills of Research on ELT subject in group video presentation activities.

**Table 6.** *Students' hard skills indicators practiced through SCEL activities*

SCEL activities	Indicators of Hard Skills (Research on ELT) Promoted	
	Specific knowledge of the subject	Specific Skills of Subject
Group Discussion	Discussing ideas specific knowledge; Connecting prior knowledge with the topic of discussion;	Interpreting subject content into technical practices;
Group Project	Answering technical questions proposed; Discussing ideas specific knowledge; Connecting prior knowledge with topic of discussion; Transferring knowledge to other people in oral and writing;	Developing specific skills; Representing specific skills;
Individual Report	Discussing ideas specific knowledge; Connecting prior knowledge with the topic of discussion; Interpreting subject content into technical practices; Developing specific competence; Transferring knowledge to other people in oral and writing;	Developing specific skills; Enhancing technical skills; Representing specific skills; Interpreting subject content into technical practices; Practicing subject-content knowledge;
Free Discussion	Discussing ideas specific knowledge; Connecting prior knowledge with the topic of discussion; Answering technical questions proposed;	Developing specific skills; Representing specific skills;
E-Resources Sharing	Discussing ideas specific knowledge; Interpreting subject content into technical practices; Developing specific competence;	Representing specific skills. Interpreting subject-content into technical practices;
Group Video presentation	Demonstrating specific knowledge of a subject Discussing ideas specific knowledge of a subject; Connecting prior knowledge with the topic of discussion; Transferring knowledge to other people in oral and writing; Answering technical questions proposed;	Developing specific skills; Enhancing technical skills; Representing specific skills; Interpreting subject-content into technical practices; Practicing subject-content knowledge;

## Discussion

This study applied the SCL approach in e-learning activities called student-centered e-learning (SCEL). The teacher was able to implement and develop the students' 21st-century skills in the context of Research on ELT subjects through six SCEL activities; group discussions, group projects, individual reports, e-resources sharing, free discussion, and group video presentation. SCEL activities were designed, applied, and developed in three cycles or nine weeks. SCEL activities were experienced by the students dynamically and encouragingly. Teachers' reflections and previous evaluation cycles lead the students to be more active and engaged in learning activities. The practices of students their 21st-century skills are improving intensely from cycle to cycle. It is supported by the result of the assessment on students' 21st-century skills that shows there was an increase in students' scores toward their performance of 21st-century skills from cycle to cycle. This is also in line with the concept of SCL, and students have wide chances to interact, communicate, and discuss among them to acquire knowledge and skills (Fischer & Hanze, 2019). SCEL activities in this study had been designed and implemented to engage students in developing their 21st-century skills in the context of research on ELT subjects. As a result, the students performed 21st-century skills in each component of soft skills; communication, IT, numeracy, learning, problem-solving skills, and teamwork skills become better and better from cycle to cycle. In terms of hard skills, students also built and enhanced their specific knowledge and skills of Research on ELT subject. They could interpret and apply their knowledge and skills into small research and write into their report.

This study implicates that the students' 21st-century skills can be developed through classroom learning and SCEL activities. It depends on how the teacher learning designs are and how they implement in SCEL activities. The present study also implied that SCEL activities gave wide flexibility for the students to think critically, contribute, and share ideas on the subject topic of discussion. On the teachers' side, SCEL activities yielded wide possibilities for teachers to develop students' 21st-century skills, soft skills, and hard skills outside the isolated classroom (Hadiyanto, 2019; Singh & Singh, 2017). On the other hand, students engaged in SCEL activities encouraged their group members and developed their soft and hard skills. Moreover, e-learning can encourage more students to participate in learning activities. Senthil and Rajamanoharane (2016) argue that E-learning supplements and supports students in gaining more knowledge, soft skills, and developing their positive learning attitude. This result of the study became a scientific reason to conduct more research to search on the effectiveness of using SCEL compared SCL in teaching and learning English for education specifically.

This study was conducted in one class only, and it is incomparable with another class, such as in experimental research. This study also did not measure students' level of 21st skills through certain test. However, the students' 21st-century skills performance was assessed through SCEL activities, and it could not accurately measure specific levels of students' 21st-century skills. Moreover, the analysis of the study did not search inferential statistical impact of e-learning activities on students' skills achievement; as a result, the findings could not be claimed that all e-learning activities will give a similar result. However,

this limitation would inspire further researchers to seek the impact and the effectiveness of SCEL to develop students' knowledge and skills.

### Conclusion

The teacher had successfully engaged the students in e-learning activities in SCEL activities to improve students' 21<sup>st</sup>-century skill activities. Six activities were applied; group discussions, group projects, individual reports, e-resources sharing, free discussion, and group videos. These learning activities lead to students' 21<sup>st</sup>-century skills improvement. The use of e-learning to develop students' knowledge and skills is recommended as a space and place for effective and future learning. Other applications to support e-learning activities can be ebbed with the e-learning, depending on teacher imitative. Teachers should be more creative and innovative in planning and applying SCEL activities to develop 21<sup>st</sup>-century skills. All components of 21<sup>st</sup>-century skills investigated in the study were promoted through SCEL activities. Each SCEL activity promoted dominantly one or two components of soft and hard skills. SCEL activities designed and improved by the teachers provided lead students to practice and develop their soft skills and hard skills performance differently. Moreover, the study opens the door of new avenues for further research in this regard. For instance, future research is expected to explore the effect of SCEL activities on students' 21<sup>st</sup>-century skills through experimental research.

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