The EFL Students' 21st Century Skill Practices through E-Learning Activities

HADIYANTO[1]

Abstract

This study aimed to investigate students' perception on 21st century skill practices through e-learning activities. The 21st century skills consist of two main components; soft skill and hard skills. Self-assessment questionnaires were distributed to 33 students to assess their practice level of their own 21st century skills in e-learning activities of TESOL Curriculum Design course. Students' E-learning activities were designed and directed by a teacher in order to allow students practice the 21st century skills. The findings showed that the overall 21st century skills practiced by the students were at a high level. Looking at both components of 21st century skills, both soft skills and hard skills were practiced by students at a high level. All sub components of soft skill; communication skills, IT Skills, numeracy skills, problem solving skills and team work skills were practiced at a high level. However, IT skills were the highest among others skills practiced by the students in e-learning activities. Hard skills and their components; specific knowledge and specific skills of TESOL curriculum design were also practiced at a high level. The students attempted to gain their hard skills through practicing of soft skills in e-learning activities. In conclusion, the students were able to practice and enhance their 21st century skills through eLearning activities.

Keywords

Hard skills, e-learning, learning activities, 21st century skills, learning strategies, soft skills, TESOL

1   Faculty member, Universitas Jambi, Jambi, Indonesia; hadiyanto@unja.ac.id

Introduction

The teaching and learning process today is inseparable from the role of ICT (Information Technology and Communication). The ICT has inspired the birth of new concepts of learning through computer that is better known as e-learning. E-Learning is a learning system which is implemented online by utilizing internet technology. The growing e-learning usage has impacted on the improvement of facilities and features inside e-learning in order to optimize e-learning usage in many ways. For instance, the current Edmodo template of e-learning allows teachers to group students, post video, create assignments, make quizzes, exercises and survey, and also link to other resources and online multi-media. Moreover e-learning can provide more flexibility for student learning beyond classroom border and anticipate constrains such as time, facilities, learning resources, and classroom. However, the effectiveness and varieties of e-learning usage depend on teachers' competencies (Hadiyanto, 2019).

The 21st Century Skills in this current study are defined as skills developed during teaching and learning process at university in order to provide students with soft skills and hard skills (DIkti, 2011). Hadiyanto (2010) states that the term of soft skills is an interchangeable term with generic skills, key skills or transferable skills that the government and industry consider essential for successful work. The current popular term that is used to describe soft skills and hard skills is much similarly defined as the 21st century skills. The definition of soft skills then is defined as the ability of generating communication skills, IT Skills, numeracy skills, learning how to learn skills, problem-solving skills, and working with others in completing task and work. Each component of soft skill in this study is (1) *communication skill* is defined as the ability to express and exchange ideas through oral and written communication as well as present information through audio and visual (Hadiyanto et al., 2013; Washer, 2007), (2) *IT Skills* are the ability of installing, applying digital application to support learning and working such as using Microsoft office and its features, internet, website, email, messenger, online conference, others necessary tool (Hadiyanto et al., 2018; Washer, 2007), (3) *numeracy skills* refer to the ability of using simple statistics or calculation with number, understanding and creating graphs for presentation (Washer, 2007), (4) *learning skills* are defined as the ability of applying varied learning methods and techniques to achieve the goal of learning including, doing self-evaluation for the aim of improvement (Hadiyanto, 2019; Jones, 2009), (5) *problem solving skills* are the ability to identify and solve problems appropriately in learning activities and make sure the same problems not happen again (Bialik et al., 2015; Senthil & Rajamanoharane, 2016), and (6) *working with others* refers to the ability to get in touch, get along, interact and work with other people both on a one to one basis and in a team (Washer, 2007).

Hard skills relate to the competencies of course knowledge; it consists of specific, technical knowledge and skills of a course. *Specific knowledge* is a theoretical, factual, and actual matter that is possessed by someone on her/his major of knowledge. *Specific technical*

skills are dealing with   someone's ability and capacity to apply his/her major specific knowledge into real context of working (Babic & Slavkovic, 2011; Dikti, 2011; Hadiyanto et al., 2018). Ristekdikti (2015) suggests applying student-centered learning (SCL) inside classroom and outside classroom learning to let students practice and acquire soft skills and hard skills.   The use of e-learning and its features is expected to enhance students' softs skills and hard skills that in the current study we call as 21st century skills. E-learning features allow   students to discuss, present, download and upload files, submit assignments, chats, links to other resources, video presentation, work in group and others encouraging learning activities. As revealed by Hadiyanto,(2019) and Senthil and Rajamanoharane (2016), the varied activities are able to enhance students' hard skills and soft skills such as communication skills, IT skills, numeracy skills, team work skills, problem solving skills, and learning skills. The current study was investigating students' practice of 21st century skills through learning activities of Edmodo usage. This study presented students' perception on their 21 century skill practices through e-learning activities of TESOL curriculum design.

Literature Review

Concept of e-learning activities

E-learning is a process of learning that involves the use of electronic equipment in creating, fostering, delivering, assessing, and facilitating a teaching and learning process with students as the center which is done interactively whenever and wherever. E-learning is defined as the use of internet technology to convey learning. The basic criteria for e-learning are: network (network), delivery of course matter to users via computer and mobile with standard internet technology, and focus on broad learning (Rosenberg & Foshay, 2007). E-learning allows students to develop their knowledge and skills by appropriate learning activities.

The e-learning requires a media to be able to display course materials and questions and also requires communication facilities to be able to exchange information between participants and instructors. E-learning itself is one form of the concept of distance learning. The form of e-learning itself is quite extensive, a portal that contains scientific information can already be said to be an e-learning site. E-learning or Internet enabled learning combines teaching methods and technology as a means of learning. E-learning is an effective learning process that is produced by combining the delivery of digital material consisting of support and services in learning (Schober et al., 2008).

There are three functions of e-leaning towards learning activities, namely: (1) in addition, which is optional for participants to use e-learning (2) complement; e-learning material is used as an enrichment or remedial material for learning participants, and (3) substitute (substitution); e-learning totally functions as an alternative delivery of learning (Kara, 2016; Rosenberg & Foshay, 2007).

Elements and characteristics of e-learning activities

Conventional teaching methods are still less effective when compared to modern teaching methods. The e-learning system is expected not only to replace but also to be able to convey active classrooms which emphasize on student-centered learning. Materials, students grouping, learning module, video, books, scoring system, and all features in conventional classroom should be available in e-learning features as well. Previous literature such as Kara (2016), Rosenberg and Foshay (2007), Senthil and Rajamanoharane (2016), Shulamit and Yossi (2017) and Witherspoon (2011) has indicated that the elements and characteristics of e-learning are different things as described in the following.

Among elements of e-learning discussed by literature mentioned above are: (1) questions: material can be provided in the form of modules, the questions are provided and the results of the work can be displayed. These results can be used as benchmarks and students get what is needed. (2) Community: students can develop online communities to gain support and share information that is mutually beneficial. (3) Online learning: teachers are always online to facilitate students in learning activities. (4) Opportunity to work together: There is application that can arrange online meetings so learning can be done simultaneously or in real time without distance constraints. (5) Multimedia: the use of audio and video technology in the delivery of material so as to attract interest in learning. The characteristics of e-learning in the learning process are (1) utilizing electronic technology services. Teachers and students, students and fellow students or teachers and fellow teachers can communicate relatively easily without being limited by things that are protocoled, (2) utilizing the advantages of computers (digital media and computer networks), (3) using self-learning materials stored in computers so that they can be accessed by teachers and students anytime and anywhere if they need them, (4) utilizing learning schedules, curriculum, learning progress results and matters relating to education administration can be seen at any time on the computer, and (5) materials designed and fostered by professional material development forces.

One social network that has enough features to support e-learning learning is Edmodo. Edmodo accounts can be obtained without paying with the website address www.edmodo.com. On the main page of Edmodo, it appears that users of Edmodo are limited, namely teachers, students, parents and schools. Edmodo has Learning Management System (LMS) features to support e-learning such as a folder for placing course matter, posting messages for mutual questions and answers between fellow group members, assignments, quizzes and polls. In addition, there are facilities to enable small groups for cooperative learning.

Methodology

The design of the study was a classroom survey which aimed at enhancing students' 21st century skills through e-learning activities. Data were collected from 32 students who

pursued e-learning activities in TESOL curriculum design course. Self-report questionnaires were adapted from Hadiyanto (2017).   The 5-point Likert scales (never, rarely, sometimes, often, and very often) were used for the students to measure their practice on 21st century skills through e-learning activities. Reliability and validity had been analyzed and resulted cronbach alpha coefficient .72 and Corrected item-total correlation at 0.30 and above. In conclusion, the instruments were reliable and valid to be used for measuring the students' 21st century skills practices through e-learning activities. The students' respond with the numbers of 1- 5 were descriptively calculated and interpreted in five levels of 21st century practices as shown in Table 1.

Table 1. *Interpretations of mean scores*

Mean Score	Interpretation
1.00 to 1.80	Very Low
1.81 to 2.60	Low
2.61 to 3.40	Medium
3.41 to 4.20	High
4.21 to 5.00	Very High

Table 1 illustrates that a mean score between 1.00 and 1.80 indicates a very low level of practices of 21st century skills. A mean score between 1.81 and 2.60 a low level, a mean score between 2.61 and 3.40 a medium level, a means score between 3.41 and 5.00 a high level of mean score.20, 4.21 and 5.00 a very high level (Hadiyanto et al., 2017). Six major learning activities were implemented in e-learning, group discussion, video presentation, group assignment, individual assignment, and individual discussion, and finding and sharing resources.

   Group discussion activities were started by a topic discussion. Students discussed among their group member to gather a summary and conclusion of the topic. Through the discussion in e-learning group, the students practiced communication, team work, problem solving, learning skills, and IT skills. Next, *video presentation,* teacher pointed out a topic for each group of the students to be presented through e-learning. Students worked in group to develop a video presentation on their topic given. Every group posted the video presentation on edmodo, and most of the class members followed and learned from the video presentation. Questions, comments, and suggestions were addressed to a group and responded by members of intended group. The learning activities continued until the next topic. The practices of students 21st skills were observed.   Also, *group Assignment* was designed by the teacher and posted to each student group. The group leader led the discussion online, managed, and divided task to each group member.   Some groups managed and completed their assignment by collaborating online, while other groups managed their time to work on face to face meeting and offline discussion at a place and

reported or posted to their group assignment online. Online group assignment let the students practice their 21st century skills online and offline.

Individual Assignment, firstly, teacher gave topics and described an assignment to be conducted by the students, and submission deadline was set up. Students worked online and offline to complete the assignment. Students were asking their classmate online and discussion also occurred. Few students also sent massages to the teacher asking more details about assignments. Resources of the assignment were mentioned and written in their writing reports. Indicators of 21st century skills components were practiced. Students submitted their assignment individually. *Finding and sharing resources,* finding and sharing was an independent e-learning activity. Teacher shared some topics and sub-topics for online activities. Each student freely selected a topic to be learned. Then, students individually searched and found relevance resources to learn and share to other members. After reading and learning from the resources, some students shared and convinced interesting issues that they have had to post on e-learning walls and got responses from others. *Individual Discussion* was begun by giving a topic, and each group member was allowed to start first. In these e-learning activities, students had experienced questioning, answering, and responding. At most group, the students who were starting the discussion became a main presenter. At the end of discussion, each individual was coming with his/her own conclusion; however, the agreement of content from individual to individual was obtained.

Findings

This study aimed to investigate students' perception on 21st century skill practices through e-learning activities. The 21st century skills consist of two main components; soft skill and hard skills. Table 2 displays the overall result of a mean score of students' practices on the 21st century skills through e-learning activities. Table 2 reveals that the overall 21st century skills practiced by the students were at a high level (mean 3.71). Looking at the 21st century skills practices in terms of softs skills and hard skills found that both were practiced by students at a high level. Also, all sub components of soft skills communication skills, IT Skills, numeracy skills, problem solving skills, and team work skills were practiced at a high level. However, the practices of IT skills were the highest among other skills practices. Components of hard skills; specific knowledge of TESOL curriculum design and specific skills of TESOL curriculum design were also practiced at a high level.

Table 2. *Level of student' 21st century skills practice in e-learning activities*

Soft Skills	Mean	Std.	Level
Communication	3,60	,314	High
IT Skills	4,04	,236	High
Numeracy	3,63	,341	High

Table 2. *Continued…*

Learning Skills	3,71	,325	High
Problem Solving Skills	3,69	,435	High
Team Work	3,71	,452	High
Overall soft skills	3,72	,293	High
Specific Knowledge of TESOL Curriculum Design	3,76	,492	High
Specific Skills of TESOL Curriculum Design	3,79	,447	High
Hard Skills (TESOL Curriculum Design)	3,77	,431	High
21st Century Skills in Overall	3,71	,310	High

Soft skills

The findings of students' soft skills practices consist of communication skills, IT Skills, numeracy skills, problem solving skills and team work skills. Table 3 reveals that in general, students practiced communication skills at a high level (mean score 3.62). Varied mean scores of students' communication skills were found between indicators, however, all indicators of communication skills were at a high level (mean 3.41 to 4.20) except the indicator of A1 (doing presentation) that was at a medium level. This means that presentation through e-learning was not very highly practiced.

Table 3. *Level of student' communication skill development in e-learning activities*

Communication Skills	Mean	S.D	Level
Doing presentation	3,16	,503	Medium
Using Different formats	3,50	,510	High
Using Vocabularies, Expressions and body language	3,70	,690	High
Integrating ideas or information	3,45	,508	High
Summarizing key issues	3,79	,721	High
Giving feedback	3,58	,583	High
Communicating some ideas in writing	3,75	,607	High
Writing a report	3,62	,571	High
Summarizing key issues (written)	3,57	,492	High
Overall	3,62	,314	High

As displayed in Table 3, students practiced IT Skills at a high level of 4.05. Furthermore, three of six indicators yielded a mean score at a very high level (mean 4.21 – 5.00), they were indicators B1, B2, and B5. This means that the students practiced IT skills at a very high level in terms of statements or indicators; Selecting relevant information from IT sources using software or application features, sharing references and resources using IT and

applications. On the other hand, indicators of the number B3, B4 and B6 were practiced at a high level of mean score.

Table 4. *Level of students' IT skills practice in e-learning activities*

IT Skills	Mean	S.D	Level
Selecting relevant information from IT sources	4,37	,646	V.High
Sharing references and resources using IT and applications	4,45	,508	V.High
Developing assignments in the form of text, image, chart, etc.	3,62	,575	High
Presenting using some illustrations in power point	4,00	,722	High
Using software or application features	4,25	,607	V.High
Developing the structure of presentation	3,54	,588	High
Overall	**4,04**	**,236**	High

Table 4 shows that the overall mean score of the numeracy skills practices was at a high level (mean score 3.63). All indicators were practiced at a high level. And there were no indicators of numeracy skills practiced at a very high level. Compared with others soft skills, numeracy skills were the second lowest after communication skills practiced by the student through e-learning activities.

Table 5. *Level of students' numeracy skills practice in e-learning activities*

Numeracy Skills	Mean	S.D	Level
Reading tables, charts, graphs and numbers	3,62	,494	High
Measuring learning activities and outcome	3,58	,717	High
Using effective and efficient ways	3,50	,589	High
Presenting based on points but calculable	3,91	,583	High
Labelling tables, charts and graphs	3,70	,624	High
Managing time for working on assignment	3,62	,646	High
Improving on use of numeracy to support learning	3,50	,589	High
Identifying the relevant information sources	3,62	,575	High
Overall	**3,63**	**,341**	**High**

Students' practices of learning skills through e-learning activities were at a high level (mean score 3.71). The findings also showed that all indicators were practiced at a high level by the students in e-learning activities of TESOL curriculum design.

Table 6. *Level of students' learning how to learn skills practice in e-learning activities*

Learning skills	Mean	S.D	Level
Improving academic performance	3,50	,589	High
Assessing the effectiveness and efficiency	3,66	,701	High
Identifying factors impacted on learning outcomes	3,79	,508	High
Setting realistic targets and plan	3,66	,761	High
Learning independently and be responsible	3,66	,701	High
Identifying ways my work best	3,70	,624	High
Putting together ideas or concepts	3,75	,607	High
Reviewing what and how to learn	3,75	,607	High
Consulting with lecturers	3,75	,675	High
Adapting learning strategy	3,91	,829	High
Comparing information from various resources.	3,51	,579	High
Overall	**3,71**	**,325**	**High**

Table 6 reveals that the students practiced problem solving skills through e-learning activities was a a high level (3.69). All indicators of problems solving skills were also practiced at a high level. In brief, problem solving skills could be practiced by students through e-learning activities in Edmodo.

Table 6. *Level of students' problem solving skill practice in e-learning activities*

Problem Solving	Mean	S.D	Level
Identifying a problem	3,87	,679	High
Solving problems with several ways	3,83	,816	High
Using different methods to analyses a problem	3,62	,646	High
Accommodating diverse perspectives	3,66	,761	High
Solving problems by resources provided	3,65	,637	High
Presenting an approach to solve a problem	3,50	,589	High
Overall	3,69	,435	High

As displayed in Table 7, students rated their practices of working with other skills at a high level (mean score 3.71). All indicators were also rated at a high level; however, there was no indicator that was rated at a mean score of 4.20 and above. These findings indicated that e-learning activities could enhance students' working with other skills.

Table 7. *Level of working with other development in e-learning activities*

Working with Others	Mean	S.D	Level
Learning activities in a group	3,75	,607	High
Having conversations with different races in learning	3,58	,717	High
Working in team	3,58	,583	High
Resolving conflicts in team work	3,66	,637	High
Giving feedback to improve team work	3,70	,806	High
Keeping yourself and others motivated	3,83	,637	High
Respecting diverse perspectives	3,91	,775	High
Thinking and offering ideas to a group work	3,66	,816	High
Overall	3,71	,452	High

Hard skills

The students revealed that their practices of hard skills for both course knowledge and course skills were at a high level. All indicators of course knowledge and skills were also at a high level. This means that e-learning activities can facilitate students to acquire hard skills at a high level.

Table 8. *Level of students' hard skills practices in e-learning activities*

Course Knowledge	Mean	S.D	Level
Presenting course content specifically both oral and writing	3,83	,701	High
Discussing specific course content with your colleaque	3,75	,737	High
Connecting course content across topics	3,66	,701	High
Answering questions, giving specific and practical explanations	3,79	,658	High
Contributing specific ideas of course content in group work	3,79	,779	High
Overall	3,76	,492	High
Course Skills	Mean	S.D	Level
Practicing the course content knowledge	3,75	,737	High
Applying what has been studied	3,58	,717	High
Applying course skills in practical assignment	3,79	,721	High
Giving an example of the course content practices	3,91	,503	High
Improving and updating course skills	3,91	,583	High
Overall	3,79	,447	High

Discussion

This study searched on the students' practices of the 21 century skills through learning activities of TESOL curriculum design course by using e-learning classroom. Group discussion, video presentation, group assignment, individual assignment, and individual discussion were main methods and activities applied in the e-learning classroom. In general, the findings revealed that the students' practices of the 21st century skills through e-learning activities were at high level. These findings indicated that e-learning activities can be used as a tool to enhance students' 21st century skills through e-learning. Students were also frequently practiced soft skills and hard skills as two main components of the 21st century skills in their e-learning activities. It was observed and controlled by the teachers that the content of practicing soft skills in e-learning activities was specific knowledge and skills of TESOL curriculum design that is called as hard skills. Soft skills were as a vehicle to obtain hard skills while teachers were the men who took a control in order that vehicle went to the right way until the goal of learning obtained. A unique different focus with other related studies was the current study investigating the practices of the 21 century skills by the students through e-learning or virtual classroom activities, while related studies were conducted in conventional classroom.

Further findings of sub-components of soft skills implied that the students generated intensely communication skills, IT Skills, numeracy skills, problem solving skills, and team work as a vehicle to gain hard skills. However, none of the skills was applied at a very high level of a mean score. This becomes an important note for the further researchers to seek more effective ways of embedding the 21st century skills into a virtual classroom such as e-learning and mobile learning. The students' practices of IT skills were the highest among other skills. This could be understood because e-learning is used as a place of learning activities so that the students unconsciously practiced indicators of IT skills more intense rather than other soft skills' components.

Looking at the findings of the hard skills practices, specific knowledge and specific skills of TESOL Curriculum Design were also practiced at the high level by the students. The findings were in line with teachers' observation during the e-learning activities that the intensity of students' practices of soft skills improved students' hard skills practice as well (Babić & Slavković, 2011; Hadiyanto, 2019; Schober at al., 2008). Though none of 21st century skills were practiced at the very high level, the value of the findings is important as a starting point for the practices of 21st century skills in e-leaning, mobile learning, and other virtual learning activities. Furthermore teachers should be more critical to seek on every space of e-learning features and improve online teaching method and technique in order to optimize students' 21st century skills so that they obtain the top level of mean score practices. Teachers are also suggested to seek on other application to be integrated in to e-learning usage in order to optimize the practices of the students' 21st century skills through e-learning activities.

Conclusion

Six e-learning activities including group discussion, group assignment, individual assignment, and individual discussion, findings and sharing resources were applied by the teachers in generating their e-learning teaching activities. The study revealed that the students were able to identify their level of 21st century skills practices in e-learning activities of TESOL Curriculum Design course. The practices of 21st skills were performed at high level by the students. Looking at separated components of soft skills, IT skills were accomplished at the highest level of mean score rather than other components of soft skills, while learning skills and team work skills were practiced at the second highest mean score, followed by problems solving, numeracy and communication skills. In terms of hard skills components, specific skills were practiced by the students higher than specific knowledge of TESOL Curriculum design. In conclusion, the students 21st century skills can be developed not only in classroom but also through e-learning class activities in more effective ways. The results of the study open the door of new avenues for further research in this regard. For instance, the future research in the area is suggested to search on the effect of e-learning strategies, method and activities on students' 21st century skills through experimental design research.

References

Babić, V., & Slavković, M. (2011). *Soft and hard skills development: A current situation in* serbian companies. University of Kragujevac, Serbia University of Kragujevac, Serbia.

Bialik, M., Bogan. M., Fadel. C., & Horyathova. M. (2015). *Character education for the 21st century: What should students learn? center for curriculum redesign.* Boston, Massachusetts. Retrieved from: http://curriculumredesign.org/wp-content/uploads/CCR CharacterEducation_FINAL_27Feb2015.pdf

Direktorat Jendral Pendidikan Tinggi. (2011). *Kerangka kualifikasi nasional Indonesia. kajian tentang implikasi dan startegi implimentasi KKNI.* http://penyelarasan.kemdiknas.go.id/uploads/file/Buku%20Qualification%20Fram ework%20DIKTI.pdf

Hadiyanto. (2010). The development of core competencies at higher education: A suggestion model for universities in Indonesia. *Educare, 3*(1), 11-22.

Hadiyanto, Makmur, Mukminin, A., Hidayat, M., & Failasofah. (2013).Teaching in a digital era: English lecturers' readiness toward the internet use in teaching and learning at selected higher education institutions in Indonesia. *Asia-Pacific Collaborative Education Journal, 9*(2), 113-124.

Hadiyanto (2019). Enhancing students' core competencies by applying blended cooperative e-learning (BCeL) in teaching and learning process. *Advances in Social Science, Education and Humanities Research, 253*, 69-173.

Hadiyanto, Fajaryani, N., & Masbirorotni (2018). Constructing the measurement of efl students' core competencies practices in learning activities. *TOJET, 17*(3),16-25.

Jones, A. (2009). Redisciplining generic attributes: The disciplinary context in focus. *J Stud High Educ, 34*(1),85-100.

Kara, S. (2016). How and Why? Edmodo as a blended learning tool: A brief overview of usage and research. *Proceedings of ISERD International Conference, Bali, Indonesia, 9th May*. https://pdfs.semanticscholar.org/108a/18e5955cf52e4d4d9ab8c0bf7973627a09ed.pdf

Ristekdikti (2015). *Standar nasional pendidikan tinggi direktorat penjaminan mutu*. [Online]. Retrieved from: http://bpm.umsida.ac.id/wp-content/uploads/2017/08/3.-Standar-Nasional-Pendidikan-Tinggi-SN-Dikti.pdf.

Ristekdikti (2016). Panduan penyusuanan kurrikulum pendidikan. http://bpa.uad.ac.id/wp-content/uploads/2015/05/Panduan-Penyusunan-Kurikulum-PT-Tahun-20161.pdf.

Rosenberg, M. J, & Foshay. R. (2007). E-*learning: strategies for delivering knowledge in the digital age*. New York: McGraw-Hi.

Schober, B., Wagner, P., Reimann, R. & Spiel, C. (2008). Vienna e-Lecturing (VEL): Learning how to learn self-regulated in an internet-based blended learning setting. *International Journal on E-Learning, 7*(4), 703-723.

Senthil, K. N., & Rajamanoharane, S. W. (2016). Enhancement of skills through e-learning: prospects and problems. *The Online Journal of Distance Education and E-learning, 4*(3),24 -32. NC USA: Association for the Advancement of Computing in Education (AACE).

Shulamit, K., & Yossi, E. (2017). Development of E-Learning environments combining learning skills and science and technology content for junior high school. *Procedia Social and Behavioral Sciences*, *11*, 175-179.

Witherspoon, A. (2011). Edmodo...a learning management system. Available: http://www.plugintotechnology.com/2011/01/edmodoa-learning-management system.html

Washer, P. (2007). Revisiting key skills: a practical framework for higher education. *Journal of Quality in Higher Education, 13*(1),57-67.

Biographical notes

HADIYANTO is a faculty member at Universitas Jambi, Indonesia. He holds an M.Ed. in TESL and a PhD in adult and professional development education from the National University of Malaysia. He is currently vice dean for academic affairs at Faculty of Humanities, Universitas Jambi.