



## DEVELOPING E-LEARNING MEDIA FOR ESP LEARNING OF ENGLISH FOR NURSING STUDENTS

**Abdul Halim**

Universitas Muhammadiyah Kalimantan Timur, Samarinda, Indonesia

Email: [ah918@umkt.ac.id](mailto:ah918@umkt.ac.id)

**Asslia Johar Latipah**

Universitas Muhammadiyah Kalimantan Timur, Samarinda, Indonesia

Email: [ajl722@umkt.ac.id](mailto:ajl722@umkt.ac.id)

**Azhar Aziz Lubis**

Universitas Bengkulu, Indonesia

Email: [azharlubis@unib.ac.id](mailto:azharlubis@unib.ac.id)

**DOI: 10.35445/alishlah.v11i2.158**

Accepted: November 17<sup>th</sup>, 2019. Approved: December 28<sup>th</sup>, 2019. Published:  
December 30<sup>th</sup>, 2019

### **Abstract**

*The purpose of this research was to develop e-learning media for ESP learning of English for Nursing students. The development of English for specific needs has rapidly increased as the demand for tailor-made language learning raised. Following the current trend of industrial revolution 4.0, the need of ESP e-learning media is critically necessary. The study used Research & Development (R&D) model. There are some stages in R&D model namely (1) Research and Information Collecting, (2) Planning, (3) Developing Preliminary Form of Product, (4) Preliminary Field Testing, (5) Main Product Revision, (6) Main Field Testing, (7) Operational Product Revision, (8) Operational Field Testing, (9) Final Product Revision and (10) Dissemination and Implementation. However, due to the limitation of the study, only five stages were conducted. The results indicated that the product of e-learning media for ESP learning of English for Nursing Students was ready to use.*

**Keywords:** E-learning, ESP, English for Nurses, R&D

---

## DEVELOPING E-LEARNING MEDIA FOR ESP LEARNING OF ENGLISH FOR NURSING STUDENTS

### Abstrak

*Tujuan dari penelitian ini adalah untuk mengembangkan media e-learning untuk pembelajaran ESP Bahasa Inggris untuk mahasiswa keperawatan. Perkembangan bahasa Inggris untuk kebutuhan khusus telah meningkat pesat seiring meningkatnya permintaan akan pembelajaran bahasa yang disesuaikan dengan situasi kerja. Mengikuti tren revolusi industri 4.0 saat ini, kebutuhan media e-learning ESP sangat penting. Penelitian ini menggunakan model Research & Development (R&D). Ada beberapa tahapan dalam model R&D yaitu (1) Pengumpulan Penelitian dan Informasi, (2) Perencanaan, (3) Pengembangan Bentuk Awal Produk, (4) Uji Coba Lapangan Awal, (5) Revisi Produk Utama, (6) Uji Lapangan Utama, (7) Revisi Produk Operasional, (8) Uji Coba Lapangan Operasional, (9) Revisi Produk Akhir dan (10) Diseminasi dan Implementasi. Namun, karena keterbatasan penelitian, hanya lima tahap yang dilakukan. Hasil penelitian menunjukkan bahwa produk media e-learning untuk pembelajaran ESP Bahasa Inggris untuk mahasiswa keperawatan siap digunakan.*

**Keywords:** E-learning, ESP, English for Nurses, R&D

### INTRODUCTION

Industrial revolution 4.0 has been a current trend issue (Sung, 2018; Xu, Xu, & Li, 2018). The disruption era where many aspects of people's lives are affected by the technology is penetrating to education especially teaching practice. There are various aspects in education that is affected and or motivated by the technology development such as curriculum design, instructional design, classroom activities, learning media, learning approach, and assessment and evaluation. The presence of cutting-edge technology should be responded positively by all interested parties so that the educational purposes can be achieved in line with the world current progress.

The stakeholders in education should take this into account since the key point in education is the people namely the teachers and the students. Nowadays, people have been internet users for many years. In the early of the 21st century where the cellular phone has evolved into powerful smartphone, people have become active users of the internet and online based mobile application. The number of people having access to the internet in twenty four hours and seven days is keep increasing which means their lives have been disrupted with the development of the current technology. Educators have to take a look of this fact and should consider how to integrate the learning with the recent updates. There

are three components in the teaching and learning process, namely input, process, and output (Vanpatten & Williams, 2015). Teacher or researcher could select any components to develop based on the need of the current advance. Therefore the teacher and the students are well prepared to face rapid changes in real world. The changes that occurred in education, especially in English language teaching is also influenced by the demand from industry development (Mitch, 2018). As the industry in the world increased, the needs of the workers also increased. The industry in order to fulfill the needs of human resource started to seek for workers not only from their own country but also from other countries making high demand of international workers.

One problem that the stakeholders should prepare in facing this inevitable fact is that they should equip their workers with the skills needed in the industry and more importantly one of the crucial skill they need when working in the international atmosphere is the skill of English language as the most used international language (Elaish, Shuib, Ghani, & Yadegaridehkordi, 2019). Although there are some other languages recognized as an international language, English is at the moment still the main lingua-franca in many different parts of the world. In addition, in professional world most industries used English as the working language which then it makes sense when people who wants to prepare for works get ready leaning the language as one of the skills offered to the employers.

Considering the fact as elaborated above, the teaching of English for Specific Purposes is critically necessary to develop. English for specific purposes is the teaching model designed to teach English as it is to be used in a particular domain (Otilia, 2015). English language teaching with certain focus has achieved high demand from the industry. One of the industries that has highest demand in the world is the demand of health workers especially nurses (Dino & Ong, 2019). Japan, for instance, has offered people from other countries to work as a nurse in their country as they are lack of professional nurses working in their hospitals. Unfortunately, many professional health workers such as nurses in the country that has the many human resources like Indonesia are not able to demonstrate good ability in English language communication. These problems always hinder the potential workers from working as professionals in other countries. Hence, considering that there is high demand of professionals who could speak English as a communication skill and the development of rapid technology at the present time, the researcher was interested in developing the e-learning media for ESP learning of English for Nursing Students.

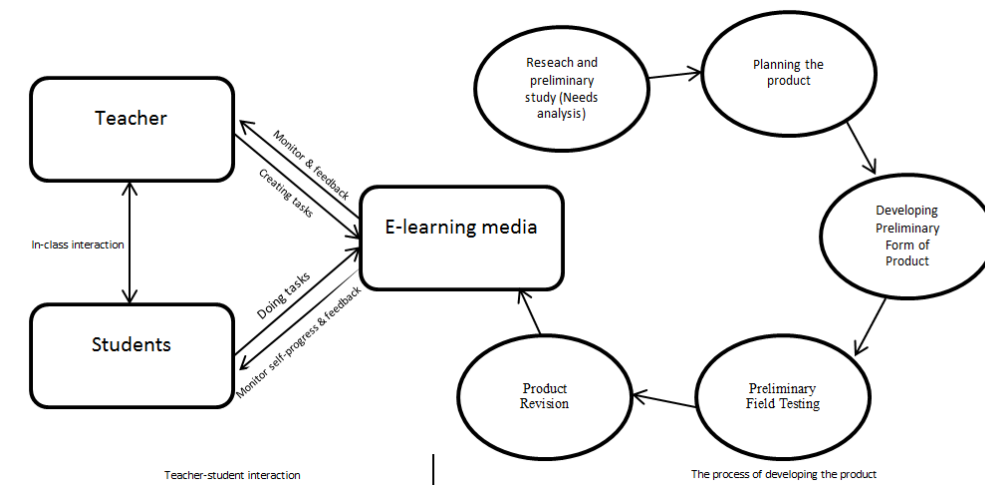
Numerous studies have been conducted in the field of ESP. First a study about methodological principles and approaches to the ESP materials development and a detailed exploration of ESP materials production (Klimova,

2015). In this study, the author emphasized there are some principles that a learning media developer should follow. First, ESP design should be in line with the discipline of the students. Second, in teaching ESP, authentic learning media should mostly be used. This is also in agreement with the study about authentic materials (Halim, Mukminatien, & Anugerahwati, 2018). Similarly, another study was also conducted on improving students' language skills with internet-based materials. The study found that the students of psychology improved their English language skills by learning authentic materials they found on the internet (Tarnopolsky, 2013). Third, the ESP learning plays important role in the students' study progress as they use more technical terms than students of English other than ESP. Another study on developing task-based learning media on ESP was conducted by Angelina (Angelina, 2019). Based on her study, the media with task-based approach was found to be beneficial for the students. She used Course Management System (CMS) with Moodle as the media. In the current study, the researcher also used CMS but with the system available on Wordpress.com. In addition, a study on developing instructional material was successfully conducted in 2017 but it was not a web-based. The study was in Indonesian context that the materials developed were in the form of audio/radio. The study found that the course developed by the researcher could be a practical solution for blended learning (Kristanto, Mustaji, & Mariono, 2017).

The purpose of the study was to develop a web-based learning material of English for specific purpose for Nursing Department at a private University in Central Indonesia. The studies as presented above have shown that the current trend set up the researchers to study the development of learning material with internet-based instruction. Furthermore, there is a need of online learning media for health students since there has been little research on this field. Hence, the study on developing e-learning media for English for nurses is significantly important since the current study would be the first for ESP learning with online support materials.

## **METHOD**

This study employed Research and Development (R&D) model (Borg & Gall, 2007). The purpose of the study was to develop E-learning media with content management system (CMS) (McKeever, 2003). The study was conducted following the procedure for R&D studies: (1) Research and Information Collecting, (2) Planning, (3) Developing Preliminary Form of Product, (4) Preliminary Field Testing, (5) Main Product Revision.



**Diagram 1 Teacher-student interaction and product development process**

The first procedure was research and information collecting. At this stage, the researcher conducted a needs analysis. This was important since the collected data was used for further step. The needs analysis results showed that the students of nursing need to have a comprehensive material of English for nurses but not in a complex grammar, for instance they did not need all types of English tenses since they only need some practical communication. The data, taken from student questionnaire, teacher interview, and document analysis, showed that the sphopmore students at the nursing department had low English proficiency. Their department also required that the students were able to explain the stages of medical care conducted by a nurse. Therefore, the materials and the system of the web was planned to be designed to fulfill this need.

The next step was planning. After collecting the data from needs analysis, the researchers cooperated with an Information and Technology (IT) expert. The expert was a lecturer from IT study program of a private university in Kalimantan Timor who is experienced in IT for over 7 years in web design. Together, the researcher set up the website as the media for e-learning. In developing an e-learning website, there are two main actors that should be considered: lecturer who is usually an administrator and students. The lecturer designed the lesson as well as the evaluation of the lesson and the students worked on the lesson and exam as part of the evaluation process. The lecturer then processed the data input from the works of the students and got the results.

After the plan was set, the researcher develops the product called the stage of developing preliminary form of product. This stage is followed by preliminary field testing. At that moment, the product was evaluated by two experts: the expert of IT and the expert of English language teaching.

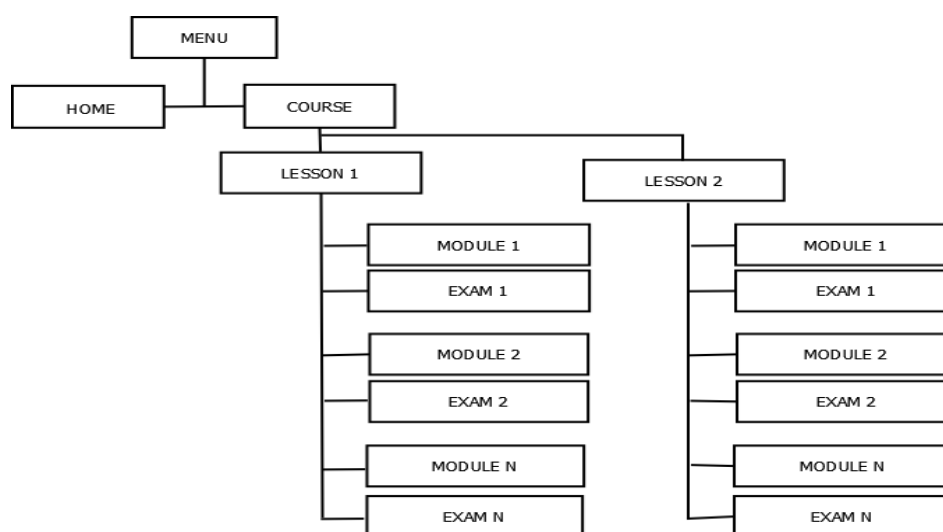
---

## FINDING AND DISCUSSION

The following is the description of the finding from the R&D stages that the researcher did in the development of the E-learning media. The researcher started the process with research and collecting information (needs analysis). At this stage it was found the importance of e-learning materials for the teaching of ESP for nursing students at the university. The initial study indicates that the teacher was in need of the learning media that supports the current development of students' behavior that depends on the internet. Previous studies also suggested that the use of IT-based language learning can be more fascinating and exciting for the students of the era besides the moment of industrial revolution also requires some adjustment in the learning especially the integration of IT and educational instruction.

The planning stage was done after collecting the data from needs analysis as the pilot study. The finding of the needs analysis advocates the needs of the students for English for nursing focusing on the medical care procedures and communicating the procedures to the patient. In addition, it also suggests that there students had low proficiency level of English language which help the researcher decide the appropriate language content materials for the design of the e-learning media.

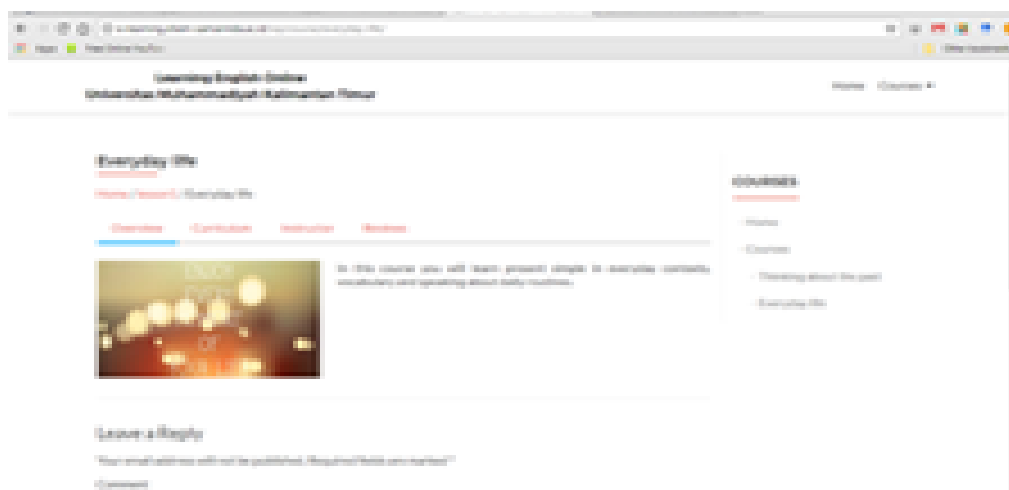
The researcher designed the website together with a help from an IT practitioner as part of developing preliminary form of product stage. The design was set with basic navigation. The following picture showed the framework of the website:



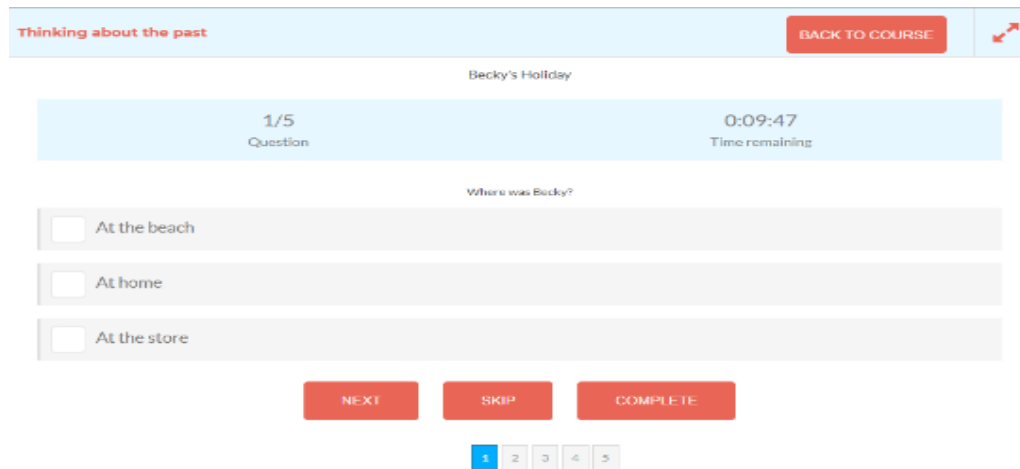
**Diagram 2 Web Design**

The website was set with two main navigations namely home and course. Home button functioned as the main navigation to get back to the main menu whereas the course button functioned as the menu to go to the course option where the students can go to the lesson they should learn. The course menu consisted of lessons with subsequence menu on modules and exams as the practice after learning each module. The website was developed as user-friendly as possible because the researcher wanted the website to be useful for learning process that helps the instruction. On the front page, the users (students) would find two main buttons serve as the main menu of the website. The 'home' button which functions as the back-to-front menu. Whenever the users want to get back to the front page, this button can be clicked and they will be navigated back to the front page.

The other button is 'course' menu. This menu provides the users the something like table of content that the students can choose what to learn. In such instance, there were two lessons set for product testing. Each lesson contains some modules. The modules elaborate learning materials based on the students' needs. One lesson consisted of study material for language skills namely listening, reading, and grammar lesson. Exam menu was provided on each module page. It serves as evaluation of the learning process.



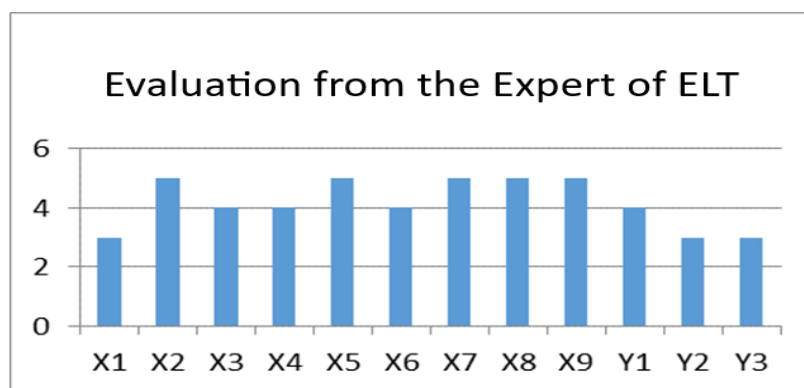
**Picture 1 Result of The Framework Design**



**Picture 2 Result of The Developed Assessment**

Once the web was ready, the researcher conducted preliminary field testing. The purpose of preliminary field testing stage was to investigate the readiness of the product. After the product was ready, the main actors were invited to evaluate the product. They were the ELT expert, IT expert, and of course the main users, the students.

First, below is the description of the results of the assessment from the ELT expert.



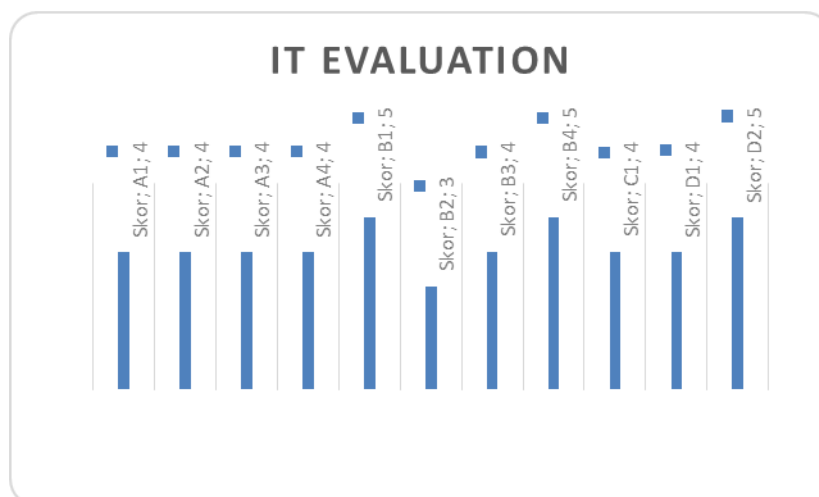
**Diagram 3 The Result Of Evaluation In ELT**

There were two aspects being evaluated. The first aspect (X1-X9) was the suitability of the materials from the perspective of instructional designs. The second aspect was from the perspective of usability as a user of ELT or how user friendly is the e-learning media. The results showed that the e-learning media was



mostly ready for classroom use since many items like curriculum (X4), adjustment the level of difficulty for the students' proficiency level (X3), and assessment and evaluation (X9) scored 5 from the scale of 1-5 with 1 mostly not suitable and 5 mostly suitable. The rest items, scored at average 4. This means that the product was ready from the perspective of instructional design. The second aspect was how good or user friendly is the media. The results (Y1-Y3) indicated that the media has friendly design. It was easy to use. Nonetheless, there were some aspects needed revisions. Especially on the font size as it was too small, making it a bit difficult to read in certain devices and the media also needs some artistic theme therefore the user would be more comfortable spending longer time on the learning media.

Second, below is the description of the result of the assessment from the IT expert.



**Diagram 4 The Result of Evaluation In IT**

All aspects from the items of evaluation had average score of 4 out of 5 likert scale point. This means from the perspective of IT, the e-learning media was fully functional. Three four components were assessed by the expert: navigation (A1-A3), readability (B1-B4), the accessibility (C1), and design (D1-D2) (Pribadi & Syarif, 2010; Kustandi, Cecep, & Sutjipto, 2011).

**Table 1 The Results of Students' Pilot Testing**

No	Aspects	Evaluation						
		SD	D	N	A	SA	Mean	SD
1	The web has readable font	0	0	1	36	13	4.24	0.476
2	The web presented suitable illustration	0	0	0	14	36	4.72	0.454
3	It is easy to access the web	0	1	2	27	20	4.32	0.653
4	The available menus were helpful	0	1	5	27	17	4.2	0.7
5	The web has systematic learning process	0	2	3	15	30	4.46	0.788
6	The design of the web was interesting	0	0	0	24	26	4.52	0.505
7	Leave a reply column was fully functional	0	0	1	0	49	4.96	0.283
8	Main navigation was easy to access	0	0	1	33	16	4.3	0.505
9	It was easy to access Navigation of sub menu	0	0	9	27	14	4.1	0.678
10	It was easy to access Materials	0	0	2	32	16	4.28	0.536
11	It was easy to access the quiz menu	0	0	2	30	18	4.32	0.551
12	It was easy to understand the language	0	1	7	22	20	4.22	0.764
13	The instructions were clear	0	0	3	13	34	4.62	0.602

37 students were invited to try out the e-learning media. They assessed the media from the design of the web and the navigation. The aim was to check how the media can be fully operational if accessed by a number of students simultaneously. The collected data showed that the mean score of each aspect scored more than 4 points of 5 liker scale (Brown, 2010) points meaning that the media was operational even though it was accessed by many students of a time.

The result from the previous stage has become a reference for the researcher to revise the product of the preliminary development. The only revision needed was from the expert of ELT about the readability of the font size and also the theme that needs improvement on the artistic design.

The study on developing e-learning materials for ESP learning of English for nurses have reached all stages of the R&D process: (1) Research and Information Collecting, (2) Planning, (3) Developing Preliminary Form of Product, (4) Preliminary Field Testing, (5) Main Product Revision (Borg & Gall, 2007). The researcher used Content Management System from WordPress as the 'house' for the media developed under the research scheme (McKeever, 2003). In the process of the development of the media, the researcher involved two experts of IT and ELT for validating the media. This stage is important to ensure the quality of the developed product (Kristanto et al., 2017). The researcher also invited 37 students of nursing department to try out the media online.

The finding showed satisfying results. Needs analysis which was conducted as the pilot study provided information appropriate for making the decision of the material developed in the current study (Otilia, 2015). The current R&D study has provided a product that was ready for use. In addition, the study also provided literature enrichment which fills the gap of the needs of ESP learning media which supposed to be an interactive learning resource, not merely a dead script followed by the students in the current trends of Industrial Revolution 4.0 (Dino & Ong, 2019; Klimova, 2015; Sung, 2018). Interaction should exist in the learning process as learning occurs when a learner notices the gap when he/she interact that direct the learner attention to new knowledge (Vanpatten & Williams, 2015). Therefore what the researcher did in the current study provided insights for future development of language learning materials. This correspond the current trend in the industrial revolution (Sung, 2018; Xu, Xu, & Li, 2018).

The production of e-learning media or materials in this study cannot neglect the language learning scheme. The input, process, and output were considered by the researcher so that the language learning process can be achieved (Vanpatten & Williams, 2015). This study was also in line with the demand of industry needs (Mitch, 2018). It provides language learning to the learners with specific needs. Instead of the materials that works fully online without monitor and feedback from the teacher (Kristanto, Mustaji, & Mariono, 2017), this study had found the media that can be used outside and in-class media so that the teacher could keep the track of students' progress.

## **CONCLUSION AND SUGGESTION**

The e-learning media developed for learning English for specific purposes have reached the final product which was fully function after preliminary field testing and product revision based on the feedback from the expert of English

language teaching and the expert of information and technology as well as preliminary test from the students as the users of the media. Therefore this study was successfully developed the product of e-learning media for nursing students. For future research, since this study was limited to the learning which was based on the internet and desktop friendly, there is a need of mobile/m-learning since the needs of this type of learning raised. A study on developing the media on mobile basis would be handfull for the users like students and teacher.

## REFERENCES

- Angelina, P. (2019). Developing Task-based Learning Model for Language Teaching Media Course in English Language Education Study Program. *Language and Language Teaching Journal*, 21(1), 46–57. Retrieved from <https://e-journal.usd.ac.id/index.php/LLT/article/view/936>
- Borg, W.R., & Gall, M.D. (2007). *Educational Research: An Introduction* (8th Edition). New Work: Longman Inc.
- Brown, S. (2010). *Likert scale examples*. Retrieved from <https://www.extension.iastate.edu/Documents/ANR/LikertScaleExamplesforSurveys.pdf>
- Dino, M. J. S., & Ong, I. L. (2019). Research, Technology, Education & Scholarship in the fourth Industrial Revolution [4IR]: Influences in Nursing and Health Sciences. *The Journal of Medical Investigation*, 66(1.2), 3–7.
- Elaish, M. M., Shuib, L., Ghani, N. A., & Yadegaridehkordi, E. (2019). Mobile English Language Learning (MELL): a literature review. *Educational Review*, 71(2), 257–276. <https://doi.org/10.1080/00131911.2017.1382445>
- Halim, A., Mukminatien, N., & Anugerahwati, M. (2018). The Students' Perceptions towards Authentic Materials for Reading and Listening Activities. *Getsempena English Education Journal (GEEJ)*, 5(2), 150–161. <https://doi.org/10.1360/N012018-00055>
- Klimova, B. F. (2015). Developing ESP study materials for engineering students. *IEEE Global Engineering Education Conference, EDUCON, 2015-April*(March), 52–57. <https://doi.org/10.1109/EDUCON.2015.7095950>
- Kristanto, A., Mustaji, M., & Mariono, A. (2017). The Development of Instructional Materials E-Learning Based On Blended Learning. *International Education Studies*, 10(7), 10.

<https://doi.org/10.5539/ies.v10n7p10>

Kustandi., Cecep., & Sutjipto, B. (2011). *Media Pembelajaran Manual dan Digital, Edisi Kedua*. Bogor: Penerbit Ghalia Indonesia.

McKeever, S. (2003). Understanding web content management systems: Evolution, lifecycle and market. *Industrial Management and Data Systems*, 103(8–9), 686–692. <https://doi.org/10.1108/02635570310506106>

Otilia, S. M. (2015). Needs Analysis in English for Specific Purposes. *Analele Universității Constantin Brâncuși Din Târgu Jiu : Seria Economie*, 2(1), 54–55.

Pribadi, B., & E. Sjarif. (2010). Pendekatan konstruktivistik dan pengembangan bahan ajar pada Sistem Pendidikan Jarak Jauh. *Jurnal Pendidikan Terbuka dan Jarak Jauh*, 11(2), 117-128

Sung, T. K. (2018). Industry 4.0: A Korea perspective. *Technological Forecasting and Social Change*, 132(October 2017), 40–45. <https://doi.org/10.1016/j.techfore.2017.11.005>

Tarnopolsky, O. (2013). Developing Esp Students English Speaking, Reading, Listening, and Writing Skills in Internet-Assisted Project Work. *Journal of Teaching English for Specific and Academic Purposes*, 1(1), 11–20.

Vanpatten, B., & Williams, J. (2015). *Theories in second language aquisition: An introduction* (Second). New York: Routledge.

Xu, L. Da, Xu, E. L., & Li, L. (2018). Industry 4.0: State of the art and future trends. *International Journal of Production Research*, 56(8), 2941–2962. <https://doi.org/10.1080/00207543.2018.1444806>