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A Development of E-Learning Contents on Entrepreneurship Subject Through Moodle

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A B S T R A C T

E-learning has become a crucial component of modern education, significantly enhancing personalized learning experiences. It offers the flexibility for learning to occur anytime and anywhere. This study aims to develop e-learning content for the entrepreneurship subject in the Lao language; this study also evaluates the feasibility standards of such materials. Five experts were purposefully selected to evaluate the e-learning content, and the study seeks to examine learner satisfaction associated with this material, utilizing the Moodle platform. Ninety undergraduate students currently in their second and third years from three public universities in Laos were randomly selected to participate in this study. A 5-point scale questionnaire was used to collect data, and data obtained were analyzed using frequencies, mean, and standard deviation. The findings of the study indicate that five chapters of e-learning content for the subject of entrepreneurship have been developed, the feasibility standards of this content were assessed to be at a high level, and student satisfaction with the e-learning materials was also rated as satisfied.

Keywords: e-learning, Moodle, e-learning content, social entrepreneurship

1. Introduction

In this day and age, ICT plays a significant role and is a powerful tool in education. ICT's potential will not only enhance our students' educational experiences but also have an impact on the communities in which they interact (Lim & Wang, 2016). E-learning is a technological advancement that is regarded as a significant transformation in the education industry. Brandon (2008) noted that e-learning is revolutionizing education by enhancing accessibility, flexibility, personalization, and sustainability. As technology continues to evolve, its significance will only increase, fundamentally shaping the future of learning for generations to come. Recently, the technology itself is becoming easier to use, so more people are now producing e-learning applications. E-learning is effective because it can offer a wide range of educational experiences (Allen, 2016). E-learning has long been touted as the brave new frontier of education, offering new challenges to teachers, students, and, indeed, the whole of the education system (Mason & Rennie, 2006). Furthermore, e-learning enables you to change your current learning processes to be more efficient and more effective (Brandon, 2008). Recently, many universities and colleges have started to invest heavily in online teaching (Appanna et al., 2008), with more than 80% of institutions offering at least several courses online and more than half offering a significant number of courses online (Bichsel, 2013). However, the development of robust e-learning content in higher education in Laos remains at an initial stage and a significant challenge due to infrastructure and human resources issues. A lesson learned during the COVID-19 outbreak has profoundly affected the education system; many universities were closed and transitioned to online learning. However, some lecturers were unable to transition to online formats due to lecturers lacking experience in online teaching. Additionally, certain subjects have been offered in e-learning formats in foreign languages, making it quite challenging for students to successfully complete them. For this reason, it impressed the author to develop e-learning content in the local language. The author selected the subject of entrepreneurship because it is prevalent across various business fields. We believe that this topic can serve as a viable alternative to traditional classroom instruction. In this study, we intend to:

- Develop e-learning content for the entrepreneurship subject in Lao language through Moodle platform;
- Evaluate the feasibility standards of e-learning content for the entrepreneurship subject by e-learning experts;
- Access learners' satisfaction after using e-learning content through Moodle platform.

2. Literature Review

2.1 E-learning

E-learning is defined as instruction that is provided on a digital device (such as a smartphone, tablet, laptop, or desktop computer) with the goal of promoting learning (Clark & Mayer, 2016) whereas e-learning is commonly taken to mean the use of computers and the internet for learning (Brescia, 2008). e-Learning has transformed from a fully-online course to using technology to deliver part or all of a course independent of permanent time and place (Oblinger and Hawkins,2005). For instance, Brandon (2008) noted that it most often referred to computer - based training delivered over intranets and the Internet. E-learning is the process of using computers and the networks to which they are connected to facilitate learning in some way (Hubbard, 2013). Besides, some researchers have been given the definitions of the term of e-learning such as Chourishi et al. (2011) describes e-learning is a process of education in electronic form through internet network or the Intranet with the use of management system for education. Bibi et al. (2024) defines e-learning is the use of telecommunication technology to deliver information for education and training and the use of information and communication technology to make online learning and teaching resources accessible is known as e-learning (Arkorful & Abaidoo, 2014). Several studies reveal the potential benefits of investing in e-learning system to improve education quality in higher education. E-Learning offers many opportunities for individuals and institutions all over the world (Demiray, 2010). The advantages of e-learning in education are increased access, improved quality of learning, better preparation of students for a knowledge-based society, “lifelong” learning opportunity, profit making, and many more (Appanna et al., 2008). E-learning can occur in two formats (Chourishi et al.,2011; Arshavskiy, 2018). Synchronous refer to the learner can take courses from anywhere in the globe as long as they have a computer, an internet connection, and access to audio or video conferencing, synchronous e-learning is comparable to traditional classroom instruction (Arshavskiy, 2018) and synchronous e-learning, commonly supported by media such as video conferencing and chat Chourishi et al. (2011). From above perspective, e-learning is a process of using computer or mobile devices and internet connection for learning which learning can happen anytime and anywhere without classroom limitation.

2.2 Moodle Platform

Moodle is one of the most popular open-source learning management systems (LMS) (Yildiz et al., 2018). Moodle (Modular Object-Oriented Dynamic Learning Environment) Moodle is a very flexible learning management system that is open source and used by millions of people around the world to host and offer online education and training programs. (Nash & Moore, 2014). Moodle is also known as a Course Management System (CMS), LMS, Virtual Learning comparison Environment (VLE), and OSS e-learning platform which provides educators tools to create a course web site (Muhsen et al., 2013). Moodle is becoming increasingly popular in schools worldwide due to its ease of use and flexibility (Stocker, 2011). Currently, Moodle is used by over 30,000 educational institutions worldwide to deliver online courses and is used as a supplement to face-to-face courses (Cole et al., 2008). Another researcher has been identifying advantage of using Moodle can be used in universities in various purposes, both in full-time and part-time learning, e-learning or blended learning, both in the initial and continuous formation (Oproiu, 2015) whereas Moodle provide several features to add for course materials such as a text page, a web page, a link to anything on the web, a view into one of the course's directories, a label that displays any text or image. Moodle also offers activities for students like chat, forum, glossary, wiki, and workshop each lesson consists of reading materials; activities such as quizzes, tests, surveys, and projects; and social elements that encourage interaction and group work among students (Rice, 2015). Moreover, Cole et al. (2008) have summarized five basic Moodle’s features are (i) uploading and sharing materials, (ii) forum and chat, (iii) quizzes, (iv) gathering and reviewing assignments and (v) recording grades and Gogan et al. (2015) indicates some functionalities of Moodle are (i) online self-learning and virtual classroom, (ii) online testing, (iii) communication and exchange, (iv) monitoring and control, and (v) administration and security. In conclusion, Moodle is freely to use as learning management system to facilitated educators to manage their course online and provide learning resources to students to access anywhere and anytime.

3. Methodology

The research and development approach were applied to this study, utilizing the Moodle platform to store and manage e-learning content. Four technical members were purposively selected to form a development team, consisting of an instructional designer, a subject matter expert, a multimedia developer, and a filmmaker. Likewise, ADDIE model was applied as an instructional model which comprises analysis, design, development, implementation, and evaluation. The ADDIE model is a framework that displays generic processes that instructional designers and training developers do (Morrison, Ross, & Kemp, 2010). Five chapters in entrepreneurship subjects have been selected to develop e-learning materials consist of (i) introduction to entrepreneurship, (ii) characteristic of entrepreneurship, (iii) creativity and business opportunity, (iv) create a business blueprint, and (v) business plan, the e-learning contents had been developed in Lao language Gagne’s Nine Events of Instruction have been adopted as a pedagogical framework, Moodle had been served as Learning Management System (LMS) and the process of e-learning development can be represented in the following cycle model. see Fig.1:

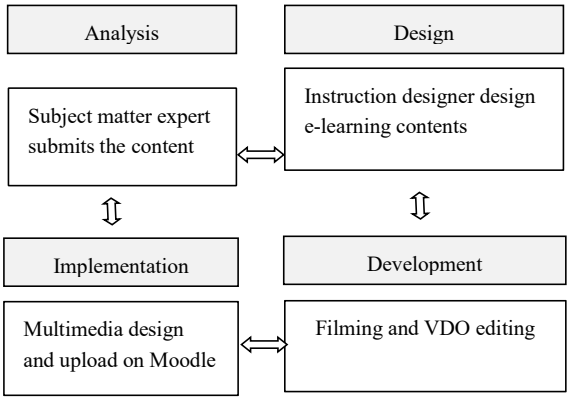

Fig. 1 - e-learning environment using ADDIE model

This research aims to evaluate the e-learning content, five e-learning experts were purposefully selected to involved this study. A five-point rating scale questionnaire was employed to collect data. The expert was asked to evaluate the feasibility of e-learning contents in three aspects such as the "e-learning contents", the "e-learning design", the "utilization of multimedia and filming techniques" aspects, data obtained were analysed using the computer application to established frequency, percentage, mean, and standard deviations. The respondents were asked to fill out the questionnaire according to determine the quality of e-learning lessons on a five item Likert scale format: (1) very poor, (2) poor, (3) acceptable, (4) good and (5) very good, to achieve the quality level the authors have divided the five-point scale into five levels according to (1) mean=1.00 - 1.49: very poor, (2) mean =1.50 - 2.49: poor, (3) mean=2.50 - 3.49: acceptable, (4) mean=3.50 - 4.49: good, and (5) mean=4.50 - 5.00: very good.

This study also intends to find out student's satisfaction on using e-learning contents through Moodle, the quantitative method encompassed the systematic processes of collecting, analyzing, interpreting, and illustrating the results of this study, 90 undergraduate students in their second and third years from three public universities in Laos such as Faculty of Economic and Business Management, National University of Laos, Faculty of Business Administration Savannakhet University and Faculty of Economic and Management Champasak University were randomly selected to participate in e-learning courses. A questionnaire was categorized into six main aspects, including the "access to Moodle platform", the contents, the "teaching and learning activities", the "multimedia utilization in teaching and learning, Presenter" and the "Measurement and Assessment" aspect. The quantitative data were analysed using the Statistical Package for Social Sciences (SPSS) to determine frequency, percentage, mean, and standard deviations. The respondents were asked to fill out the questionnaire to rate their level of satisfaction on a five item Likert scale format: (1) very dissatisfied, (2) dissatisfied, (3) neither satisfied or dissatisfied, (4) satisfied and (5) very satisfied. In order to determine the respondents' level of satisfaction of the respondents the authors have divided the five-point scale into five levels according to mean value such as mean range which illustrate on table 1.

no.	Mean range	Level of satisfaction
1.	1.00 - 1.49	Very dissatisfied
2	1.50 - 2.49	Dissatisfied
3	2.50 - 3.49	Neither satisfied or dissatisfied
4	3.50 - 4.49	Satisfied
5	4.50 - 5.00	Very satisfied

4. Result and Discussion

The finding of this study indicated total five chapters of the entrepreneurship subject consist of (i) introduction to entrepreneurship, (ii) characteristic of entrepreneurship, (iii) creativity and business opportunity, (iv) create a business blueprint, and (v) business plan was developed, each chapter incorporated the nine steps of Gagné's theory of instruction, including: (i) gain attention, (ii) inform learners of objectives, (iii) stimulate recall of prior learning, (iv) present the content, (v) provide learning guidance, (vi) elicit performance "practice", (vii) provide feedback, (viii) assess performance test, if the lesson has been learned, and (vix) enhance retention and transfer (Gagné, Wager, Golas, & Keller, 2005). Likewise, Gagné emphasized that the learner perceives a variety of stimuli, and through a series of information processing steps, subsequently formulates a conceptual understanding before responding (Gagné, 1985). The result of the e-learning content development illustrates as below see Fig. 2.

Fig. 2 - (a) Entrepreneurship e-learning cover page; (b) Entrepreneurship chapter 1 topic; (c) e-learning screen

In the meantime, Moodle is mainly used as learning management system in this study. Millions of people use Moodle, an open-source learning management system with a great deal of flexibility, to host and provide online training and education programs (Nash & Moore, 2014). Moodle system has been successfully installed, and the e-learning lesson on entrepreneurship has been uploaded following verification of the content by experts. The e-learning lesson contain chapter 1 introduction to entrepreneurship, chapter 2 characteristic of entrepreneurship, chapter 3 creativity and business opportunity, chapter 4 create a business blueprint, and chapter 5 business plan. See Fig.3

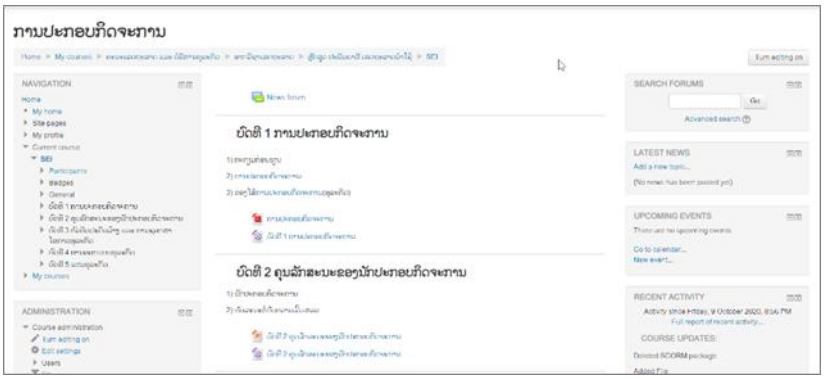

Fig. 3 - e-learning lessons on Moodle.

In this study, Moodle was utilized as a learning management system to create an integrated learning environment for students. It serves as a centralized repository for all educational materials, including learning resources, activities, and assessments likewise it's quite similar to previous studied done by Costa et al. (2012) mentions Moodle has a great potential, it is mainly used as a repository of materials; and students also recognize the importance of the use of other functionalities of this platform in order to promote the success of the teaching/learning process and Moodle for E-learning and Chourishi et al. (2011) studied concluded Moodle allows teachers and students to collaborate online and create and save instructional materials with ease, Moodle is an excellent tool for tutors.

To ensure that the e-learning contents we have developed are valuable to learners, we implemented feasibility standards to assess their quality. The total five e-learning experts were asked to evaluated e-learning content in three main aspects were (i) the e-learning contents, (ii) the e-learning design, and (iii) the utilization of multimedia and filming techniques are illustrated in table 1.

Table 1 - Level of e-learning content feasibility standards.

Aspect	**Level of feasibility standards**		**Quality**
	Mean	**S. D**	
e-learning contents	4.36	.25	Good
e-learning design	4.42	.31	Good
Utilization of multimedia and filming techniques	4.40	.30	Good
Total	**4.39**	**.29**	Good

Base on table 1. The evaluation result of e-learning contents indicates high standard across three aspects such as content, design and multimedia utilization. The overall mean score for all components combined is 4.39, categorizing the quality as "good" across the board. Similarly, the highest standard among three aspects was the "e-learning design" with the overall mean score for "e-learning design" is 4.42, the quality and effectiveness of e-learning are outcomes of its design (Allen, 2016), This aspect primarily refers to the design of user interfaces in e-learning. The appropriateness of the background, font style, and font size of e-learning content received a very good level, with a mean score of 4.67. Conversely, the lowest mean score

was attributed to the appropriateness of font color and graphics in relation to the content; however, these elements were still rated at a good level, with a mean score of 4.00. In terms of "utilization of multimedia and filming techniques," the overall mean score is 4.40, which is slightly lower than the score for the "e-learning design" aspect; however, it still maintains a high standard. The sound effect, graphic utilized and topic arrangement in the video were appropriate and easy to understand resulting in an average score of 4.67. The e-learning content may not be compatible with all types of devices; however, it has received an acceptable mean score of 3.00 whereas the lowest was the “e-learning contents” aspect itself revealed overall quality at a good standard with mean score is 4.36, the content in the e-learning materials was accurate with mean score is 5.00; the content was aligned with the learning objectives, and the language utilized was appropriate for the intended audience with mean score is 4.67. In the other hand, this e-learning contents were acceptable however, the contents may not appropriate for all group of people with mean score is 3.33. This finding on e-learning development is consistent with previous research on design and development of e-learning base on MOOC and has been validated by the experts with mean score is 3.46 with a high standard (Febrian et al., 2021).

The total of 90 undergraduate students from three public university in Laos such as National University of Laos, Savannakhet University and Faculty of and Champasak University. Demographic data indicates that 51 respondents were female students (56.7%) while 39 respondents were male students (43.3%). The data also indicates that most of respondents (68 respondent of 75.6%) are between 18-21 years old meanwhile 15 respondents are between 22-25 years old (16.7%) and only 7 respondents are more than 25 years old (7.8%) and 30 students from each university (33.3%) were in their 2nd and 3rd year. In order to determine the student’s satisfaction on e-learning contents after their study through Moodle are summarized in table 2.

Table 2 – Student’s satisfaction on e-learning contents

Aspects	**Satisfaction**		**Meaning**
	Mean	**S. D**	
Access to Moodle platform	4.37	.52	Satisfied
e-learning content	4.13	.54	Satisfied
Teaching and learning activities	4.10	.56	Satisfied
Teaching and learning material	4.07	.65	Satisfied
Presenter	4.09	.59	Satisfied
Measurement and Assessment	4.04	.56	Satisfied
Total	4.14	.45	Satisfied

According to data in table 2, it indicates that students are generally satisfied with all aspects of e-learning experience, the overall mean score for all aspect is 4.14. The aspect of “access to Moodle platform” received the highest mean score of 4.37 indicating students are highly satisfied with accessing to e-learning content in Moodle, appreciating the convenience of accessing their studies anytime and anywhere, evidenced by a mean score of 4.58 in the meantime student are consider Moodle does not offer variety features to use, however, the mean score of 4.10 reveals satisfied. The “e-learning content” aspects indicates satisfied with mean score is 4.13, the students express satisfaction with the lesson they have learned, as it can be applied in real-life business situations with mean score is 4.19 and the lesson are up to date with mean score is 4.18. Additionally, it indicates lowest mean score is 4.04 on the “measurement and assessment” aspect, however, the students still satisfied especially, the subject matter expert provides the appropriate assignments related to the lessons they have taught with highest mean score is 4.29 while the assessment tools had been used in Moodle are limited received the lowest mean score is 3.81 although the students are satisfied. The finding similar to Khantharee (2015) studied which reveals the student’s satisfaction for e-learning lesson at a high level with mean score is 4.34.

5. Conclusion

In conclusion, the findings of this study focus on the development of e-learning content for the Entrepreneurship subject using Moodle platform for undergraduate students in three public universities in Lao PDR. The feasibility standards assessed by experts indicate that the content, design, and multimedia utilization are of high quality, meeting the necessary educational requirements. Additionally, the student satisfaction survey reveals that learners are generally satisfied with the e-learning learning management system offered by Moodle platform, particularly appreciating the easy to access to platform, well-designed e-learning content and verities of teaching and learning activities.

6. Limitation and future work

The five lesson of e-learning content we have developed for the entrepreneurship subject in this study were used as additional learning material in Savannakhet and Champasak university due to the credit transfer constraint between university. For future work, an analysis of both pre-test and post-test results should be incorporated into the study.

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References

Allen, M. W. (2016). *Michael Allen's guide to e-Learning: Building Interactive, Fun, and Effective Learning Programs for Any Company*. John Wiley & Sons.

Appanna, S., Queensland University of Technology, & The University of the South Pacific, Fiji. (2008). A review of benefits and limitations of online learning in the context of the student, the instructor and the tenured faculty. In *International Jl. On E-Learning*.

Arshavskiy, M. (2018). *Instructional design for elearning: Essential Guide for Designing Successful Elearning Courses*. Createspace Independent Publishing Platform.

Bichsel, J. (2013). The State of E-Learning in Higher Education: An eye toward growth and Increased access. EDUCAUSE Center for Analysis and Research. https://www.researchgate.net/publication/281111361

Brandon, B. (2008). *Best of the eLearning Guild's learning solutions: Top Articles from the eMagazine's First Five Years*. John Wiley & Sons.

Brescia, W. (2008). Preparing for blended e-learning – By Littlejohn, Allison & Pegler, Chris. *British Journal of Educational Technology*, *39*(4), 754. https://doi.org/10.1111/j.1467-8535.2008.00870_8.x

Cole, J., Cole, J. R., & Foster, H. (2008). *Using Moodle*. "O'Reilly Media, Inc."

Costa, C., Alvelos, H., & Teixeira, L. (2012). The Use of Moodle e-learning Platform: A Study in a Portuguese University. *Procedia Technology*, *5*, 334–343. https://doi.org/10.1016/j.protcy.2012.09.037

Chourishi, D., Buttan, C. K., Chaurasia, A., & Anita Soni. (2011). Effective E-Learning through Moodle. *International Journal of Advance Technology & Engineering Research (IJATER)*, 34–35. https://www.researchgate.net/publication/265974790

Clark, R. C., & Mayer, R. E. (2016). *E-Learning and the science of instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning*. John Wiley & Sons.

Demiray, U. (2010). *Cases on challenges facing E-Learning and national development: Institutional Studies and Practices. E-Learning Practices*.

Febrian, A., Yennita, N., Ma'ruf, Z., & Zulirfan, N. (2021). Design and development of e-learning devices based on massive Open Online Course (MOOC) on static fluids material. *Journal of Physics Conference Series*, *2049*(1), 012059. https://doi.org/10.1088/1742-6596/2049/1/012059

Hubbard, R. (2013). *The really useful elearning instruction manual*. West Sussex:John Wiley & Sons Ltd.

Gogan, M. L., Sirbu, R., & Draghici, A. (2015). Aspects concerning the use of the Moodle Platform – case study. *Procedia Technology*, *19*, 1142–1148. https://doi.org/10.1016/j.protcy.2015.02.163

Khantharee, N. (2015). Development of E-learning lesson for under graduated students on learning management health education and physical education subject Ubon Ratchathani Rajabhat university. *Buabandit Journal Of Educational Adminisitration, 15, 291–298. https://www.tci-thaijo.org/index.php/buajead-ubru/article/view/62864/51667*

Lim, C. P., & Wang, L. (2016). Blended learning for Quality Higher Education: Selected case studies on implementation from Asia-Pacific. *Unesco*. http://repository.lib.ied.edu.hk/jspui/handle/2260.2/21948

Mason, R., & Rennie, F. (2006). *Elearning: the key concepts*. Routledge.

Muhsen, Z. F., Maaita, A., Odah, A., & Nsour, A. (2013b). Moodle and e-learning Tools. *International Journal of Modern Education and Computer Science*, *5*(6), 1–8. https://doi.org/10.5815/ijmecs.2013.06.01

Nash, S., & Moore, M. (2014). *Moodle course design best practices*. Birmingham: Packt Pub Limited.

Oblinger, D. G., & Hawkins, B. L. (2005). The myth about E-learning. *Educause review.*

Oproiu, G. C. (2015). A Study about Using E-learning Platform (Moodle) in University Teaching Process. *Procedia - Social and Behavioral Sciences*, *180*, 426–432. https://doi.org/10.1016/j.sbspro.2015.02.140

Gagné, R. M., Wager, W. W., Golas, K. C., & Kelle, J. M. (2005). *Principle of instructional design* (5th ed.). Belmont, CA: Thomson Learning Inc.

Gagné, R. M. (1985). *The conditions of learning and theory of instruction*. New York: Holt, Rinehart and Winston.

Morrison, G. R., Ross, S. M., & Kemp, J. E. (2010). *Designing effective instruction* (6th ed.). Hoboken, NJ: John Wiley & Sons.

Rice, W. (2006). *Moodle E-Learning course development*. Birmingham: Packt Pub Limited.

Yildiz, E. P., Tezer, M., & Uzunboylu, H. (2018). Student Opinion Scale related to Moodle LMS in an Online learning environment: Validity and Reliability study. *International Journal of Interactive Mobile Technologies (iJIM)*, *12*(4), 97. https://doi.org/10.3991/ijim.v12i4.9205