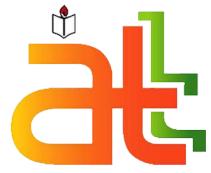


# Application of iLearning Education Application of iLearning Education in Learning Methods for Entrepreneurship and Elementary School Student Innovation



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## Abstract

Primary school is an early age in the introduction of information and communication technology, therefore it is necessary to be prepared abilities and skills in the use of technology. Learning about entrepreneurship at the elementary school level is generally still traditional, where valuable renewal results are created. However, in this 4.0 era, many elementary students still traditionally run entrepreneurship, this has not been a challenge in line with the Ministry of Education and Culture on an independent campus. In order to create the involvement of young people in the field of entrepreneurship, the right solution is how entrepreneurship learning in Learning can be applied from an early age, namely to elementary school students. SEP (School Enrichment Program) is an entrepreneurial learning application based on iLearning aimed at elementary school students to have a high quality of creativity and a willingness to innovate at an early age. Based on the observational test results the Ubiquitous Learning Method is significantly able to influence the motivation of elementary school students to be enthusiastic in terms of entrepreneurial learning from an early age, and to show the results that Cronbach's Alpha  $0.9 > 0.6$  ie the SEP is very accurate in its application especially can improve the results significant in influencing the formation of intentions in entrepreneurship even more starting to spread the trend of entrepreneurship which has now touched various circles, one of them among students.

**Keywords:** SEP (School Enrichment Program), Entrepreneurship, Innovation, iLearning.

## 1. Introduction

In today's world of education, of course, it cannot be separated from the use of computer technology as one of the many direct benefits provided [1]. Extraordinary developments demand extraordinary changes in the world of education, technology and digital learning systems included in the educational media are not merely to open access to wider

literacy but can be a key to the quality of commensurate education in Indonesia. Teaching and learning systems that run within an educational institution have an important role in the process of forming thought patterns and creativity in the student's personality, therefore our way of managing the world of education will also bring up technology that has evolved and encouraged the acceleration of educational transformation [2] [3]. Likewise with the existence of entrepreneurship education in elementary school students using e education learning can indicate student sensitivity and desire for entrepreneurship and how entrepreneurship education can be considered as one of the key instruments to foster competent attitudes, intentions and entrepreneurs [4] [5]. In today's modern era, entrepreneurship makes an important contribution to the life of the country, one of which is in the employment sector [6]. By doing so, it is expected that the application of non-traditional entrepreneurship learning can increase and encourage creativity and innovation for future graduates to be able to produce graduates who have the initiative to create their own business opportunities, so as to open job opportunities to reduce the number of unemployed people in Indonesia.

## 2. Research Method

### 2.1 Research Method

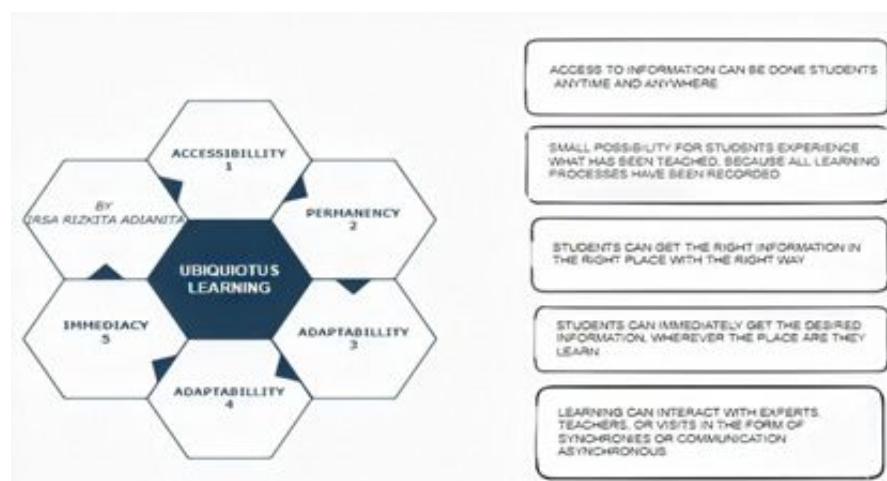


Figure 1. Ubiquitous Learning Method

SEP was created by researchers to produce a system that can support the learning process by applying various common elements with the Ubiquitous Learning method, the Ubiquitous Learning method is very adaptive and can support the concept of long life learning which is the main key that is believed to be able to encourage the desire to learn elementary school students in entrepreneurship. Following are the elements of Ubiquitous Learning. Starting with Permanency, elementary school students will never easily lose something they have learned. So students do not need to worry anymore because all learning processes will be recorded.

Accessibility provides easy access to information on entrepreneurship lessons by students anytime, anywhere. Unlike traditional methods, there are now no more restrictions or obstacles for students to access lesson information.

Immediacy is believed to be able to present information in real time to elementary school students about entrepreneurship and innovation lessons, so that getting information no longer requires a long time.

Interactive allows online interaction between elementary school students and entrepreneurship teachers to communicate, which can be done through face-to-face video meetings without meeting in person or through media such as e-mail. There is nothing to be

afraid of elementary school students about wrong information because adjustments can provide correct information with a place that suits students.

Therefore it is necessary to apply the Ubiquitous Learning method through a combination of science and technology in the hope of providing convenience for elementary school students so as to produce entrepreneurial innovation from an early age to forever.

## 2.2 Literature Review

Several previous studies have been conducted on topics related to entrepreneurship and e education in education. As for who gives the opinion that entrepreneurship is a human behavior that is more focused on economic opportunities and resources and there is a combination of risk, individual success, and also creativity about the economy [7]. The opinion continues that the e-learning learning system adaptively contains learning styles that refer to learning methods that are preferred by elementary school students and can play an important role. In its application the system can offer valuable advice and instruction to students and teachers to optimize student learning [8]. The first research, regarding the application of CRS technology on a mobile basis as a support for communication between participants with useful and effective content, and also expected that the presence of students can be increased by the acquisition of knowledge and also the encouragement of students so as to improve the ability of entrepreneurial behavior [9].

Subsequent research, identified the existence of some expertise of business actors needed to be able to successfully expose its business ventures and the skills of graduate students in the present can be improved in business and entrepreneurship programs [10]. Furthermore, there is also research on the application of the Potency and Entrepreneurship Program (PEP), which is an application that has the role of identifying the potential of high school students for entrepreneurship, including training on entrepreneurship, ways of finding entrepreneurial opportunities, and subsequently students are given direction for the development of entrepreneurial activities with a learning system that imaginative and innovative [11]. According to Pavone (2018), millennial thinking about entrepreneurship is that they assume that entrepreneurship cannot be reached even if they ultimately respect business people. To be able to convince students with their opposite thoughts and also prepare so that they will be successful by running their own business. Not only from academic graduates, but also communities and universities and even the government needs to become entrepreneurs. Where the university makes comparisons between traditional academic institutions that will prioritize economic improvement, creativity and new breakthroughs and also support by entrepreneurship, there are also academic research and teaching activities [12] [13] [14]. The State of Nigeria recognizes that this research is considered relevant, the basic curriculum incorporated into entrepreneurship is considered as Ameans in order to reduce the unemployment rate and the economic and social uplift that the community poses [15]. As well as showing that entrepreneurship education can improve the economy, and also with experience being a business actor and the benefits of macro-level entrepreneurship [16]. Other research proposed is about the methodology and digital models of entrepreneurship knowledge education in college students, where teaching applied in the classroom is increasingly influenced by digital education, but in e-education more is included on new design models for teaching and learning materials for students [17]. Next there is research aimed at popularizing entrepreneurship at the basic level, with a significant increase in administrative knowledge and expertise of business actors with the help of business value is the initial goal with the holding of the sub-program "My Fist Enterprise: Entrepreneurship by playing" from Mexico [18]. Recent research discusses that training becomes a major challenge for students and makes opportunities for developing skills and knowledge about commercial technology with evidence of learning that changes when students are able to apply entrepreneurial thinking designs in the real world [19]. From the several studies above, previously there has not been so much research on learning elementary school entrepreneurship by e-education or non-traditional methods.

This research provides a solution to the problems regarding the challenges faced by traditional business actors, that currently traditional entrepreneurship learning is not the right solution to be applied in elementary schools. But the need for a blend of technology with the Ubiquitous Learning method, one of the applications is iLearning [20]. SEP is a system that facilitates the Ubiquitous Learning method for elementary school students to learn entrepreneurship and breakthroughs created with iLearning. This has a significant impact on elementary school students by learning entrepreneurship and innovating with technology early on with the aim of getting Lifelong Learning. In addition, from the perspective of the teacher can also provide material in real-time and communicate with students without having to be fixated on school hours generally [21]. Not only in communication media, the process of interaction between teacher or lecturer and students or students is not only face to face but can also be done through the media with the term elearning because learning models that use communication and information technology media using the internet [22]. And the presence of gamification is a new breakthrough. The features implemented in the gamification learning method such as giving rewards and interactive quizzes to increase student enthusiasm and motivate students to improve student productivity certainly in terms of learning [23] [24].

### 3. Results and Discussion



Figure 2. Display Student Quest

In Figure 2, shows the tasks that must be done by elementary school students during entrepreneurship classes consisting of 8 questions, where each question has a different ECP (Enrichment Culmulative Point) points. If the question is successfully completed, then the student is entitled to get ECP points, then the points will be put together and calculated in order to determine the rankings and grades achieved by students in entrepreneurship lessons.

| Grade Map |         |
|-----------|---------|
| A +       | 450-500 |
| A         | 400-499 |
| A-        | 400-449 |
| B +       | 350-400 |
| B         | 300-349 |
| B-        | 250-299 |
| C +       | 200-250 |
| C         | 150-199 |
| C-        | 100-150 |
| Failed    | <100    |

Table 1. Grade SEP Map

All points in table 1 will then be combined and collected, then students who meet the SEP Grade Map requirements will get the grade. if it reaches the Grade Map Step requirements, for that students are authorized to obtain the grade. After that the grade will be submitted to the entrepreneurship teacher as the final grade.



Figure 3. Display of Student Ranking Viewboard

In Figure 3, the most points collected by students will be entered into the top 10 ranking system. Furthermore, to be able to improve the enthusiasm of learning of elementary school students to be more active in terms of learning and produce something new, a special

frame was made on the profile of students who were ranked 1.2 and 3 by using gramification on the SEP [25] [26].



Figure 4. Display of Teacher's Viewboard

Figure 4, Every activity carried out in the entrepreneurship class will be displayed on the viewboard. The information is in the form of total questions to be worked on, ranking achieved and also total points from students in the entrepreneurship class.

| Daily Quest Review |                            |                |                        |                            |      |  |
|--------------------|----------------------------|----------------|------------------------|----------------------------|------|--|
| No                 | Quest Name                 | User           | Submit Date            | Link                       | Like |  |
| 1                  | TEC entrepreneurial rules  | Dina Aditina   | Wed, 4 July 2020 09:30 | <a href="#">Click Here</a> | 0    |  |
| 2                  | Entrepreneurship practice  | Dina Aditina   | Wed, 4 July 2020 09:32 | <a href="#">Click Here</a> | 4    |  |
| 3                  | Online class attendance    | Dinda Mardia   | Wed, 4 July 2020 10:00 | <a href="#">Click Here</a> | 2    |  |
| 4                  | Making Craft               | Dinda Mardia   | Wed, 4 July 2020 10:02 | <a href="#">Click Here</a> | 0    |  |
| 5                  | Make entrepreneurial ideas | Riska Septiani | Wed, 4 July 2020 10:17 | <a href="#">Click Here</a> | 1    |  |
| 6                  | SBC entrepreneurship while | Riska Septiani | Wed, 4 July 2020 10:21 | <a href="#">Click Here</a> | 2    |  |
| 7                  | Entrepreneurship practice  | Yasir          | Wed, 4 July 2020 10:30 | <a href="#">Click Here</a> | 3    |  |
| 8                  | Complete Entrepreneurship  | Yasir          | Wed, 4 July 2020 10:43 | <a href="#">Click Here</a> | 6    |  |

Figure 5. Display of Daily Quest

Figure 5, This system will record day-to-day activities carried out by elementary school students in the entrepreneurship class and can then be shown and accessed by students and teachers wherever and whenever.

#### SEP System Reliability Level Analysis

The Likert scale used in the SEP Program is useful to determine the value obtained from the questionnaire statement of informants and reliability testing using Cronbach Alpha to determine the level of reliability, the value will be considered reliability if it is greater than 0.6 [27]. By utilizing students in entrepreneurship classes totaling 30 people, will be given a questionnaire containing 10 questions with 5 statements on each student in the following Likert scale.

| Likert Scale | Statement         |
|--------------|-------------------|
| 1.           | Disagree          |
| 2.           | Strongly Agree    |
| 3.           | Agree             |
| 4.           | Strongly Disagree |
| 5.           | Undecided         |

Tabel 2. Likert Scale

| Respon den | No Item |   |   |   |   |   |   |   |   |    | Total |
|------------|---------|---|---|---|---|---|---|---|---|----|-------|
|            | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |       |
| 1.         | 1       | 2 | 5 | 2 | 2 | 1 | 1 | 3 | 1 | 1  | 19    |
| 2.         | 5       | 3 | 2 | 4 | 1 | 2 | 3 | 1 | 2 | 2  | 25    |
| 3.         | 1       | 1 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 5  | 28    |
| 4.         | 3       | 1 | 2 | 2 | 3 | 1 | 3 | 3 | 2 | 2  | 22    |
| 5.         | 4       | 5 | 1 | 4 | 2 | 1 | 1 | 2 | 1 | 3  | 24    |
| 6.         | 5       | 4 | 2 | 4 | 5 | 2 | 5 | 5 | 5 | 2  | 39    |
| 7.         | 4       | 3 | 2 | 1 | 3 | 1 | 2 | 2 | 2 | 4  | 24    |
| 8.         | 2       | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 2 | 1  | 19    |

|     |   |   |   |   |   |   |   |   |   |   |    |
|-----|---|---|---|---|---|---|---|---|---|---|----|
| 9.  | 3 | 3 | 5 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 24 |
| 10. | 1 | 5 | 5 | 1 | 5 | 2 | 3 | 1 | 1 | 4 | 26 |
| 11. | 5 | 2 | 1 | 2 | 5 | 2 | 2 | 2 | 2 | 1 | 24 |
| 12. | 2 | 3 | 4 | 2 | 2 | 2 | 1 | 1 | 3 | 4 | 24 |
| 13. | 2 | 2 | 2 | 2 | 4 | 3 | 5 | 5 | 1 | 5 | 31 |
| 14. | 4 | 4 | 3 | 3 | 2 | 2 | 5 | 3 | 1 | 1 | 28 |
| 15. | 5 | 3 | 1 | 5 | 5 | 5 | 2 | 3 | 2 | 3 | 29 |
| 16. | 3 | 1 | 1 | 2 | 2 | 3 | 5 | 4 | 4 | 2 | 27 |
| 17. | 1 | 3 | 3 | 5 | 2 | 2 | 4 | 1 | 5 | 5 | 31 |
| 18. | 4 | 5 | 5 | 3 | 2 | 5 | 3 | 4 | 2 | 1 | 34 |
| 19. | 2 | 4 | 2 | 5 | 4 | 4 | 1 | 2 | 3 | 2 | 29 |
| 20. | 3 | 4 | 3 | 2 | 4 | 2 | 4 | 4 | 3 | 2 | 31 |
| 21. | 2 | 3 | 3 | 4 | 5 | 2 | 4 | 2 | 5 | 4 | 41 |
| 22. | 4 | 3 | 2 | 4 | 2 | 5 | 1 | 1 | 4 | 3 | 29 |
| 23. | 1 | 3 | 4 | 2 | 4 | 2 | 5 | 3 | 4 | 3 | 31 |
| 24  | 3 | 1 | 2 | 4 | 2 | 5 | 4 | 1 | 1 | 1 | 24 |
| 25. | 5 | 3 | 3 | 2 | 2 | 4 | 3 | 3 | 4 | 5 | 34 |
| 26. | 2 | 4 | 3 | 5 | 4 | 2 | 4 | 2 | 3 | 2 | 31 |

|     |   |   |   |   |   |   |   |   |   |   |    |
|-----|---|---|---|---|---|---|---|---|---|---|----|
| 27. | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 2 | 19 |
| 28. | 1 | 3 | 2 | 4 | 2 | 5 | 1 | 4 | 3 | 2 | 27 |
| 29. | 3 | 5 | 5 | 5 | 4 | 2 | 4 | 4 | 3 | 3 | 38 |
| 30. | 5 | 1 | 2 | 4 | 2 | 2 | 3 | 3 | 3 | 5 | 30 |

Tabel 3. Result of Likert Scale

Table 3 contains the results obtained from the questionnaire 30 sources, then to find the value of reliability begins by calculating the variance of each item in the SEP program using the following formula.

$$\frac{\sum (x - \bar{x})^2}{(n-1)}$$

After item variants from numbers 1-10 are calculated, the results are obtained:

|         |         |     |     |     |     |     |     |     |     |     |
|---------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Variant | 2.<br>4 | 1.2 | 2.0 | 0.9 | 2.3 | 0.9 | 2.2 | 3.0 | 1.3 | 2.6 |
| Items   | 55      | 14  | 06  | 89  | 97  | 99  | 76  | 99  | 61  | 68  |

Table 4. Result of Variants from items 1 to 10

To determine the results of Total Variant Items 1-10, that is by recalculating the variant.

|                                     |               |
|-------------------------------------|---------------|
| <b>Total Resource Variants 1-30</b> | <b>20.351</b> |
| <b>Total Variant Items 1-10</b>     | <b>72.518</b> |
| <b>Reliability</b>                  | <b>0.923</b>  |

Tabel 5. Result of Alpha Cronbach

Based on the use of Cronbach's alpha on the SEP Program reliability test results, a result of  $0.804 > 0.6$  will be obtained. That is, the system can be categorized as Reliability if the Alpha

value > 0.6. The application of the SEP program to entrepreneurship lessons has a positive impact on school students as evidenced by the questionnaire that has been given.

#### **4. Conclusion And Advanced Research**

SEP is a non-traditional learning method with a Lifelong Learning touch on basic entrepreneurship. The SEP program used in entrepreneurship learning at the elementary school level is the initial stage of research to show evidence of significant results by collecting data. In this study Ubiquitous Learning is also applied as a solution to the readiness of non-traditional entrepreneurial learning models or learning. The next step taken is the Likert scale which is used for testing the reliability system by using a sample data of 30 elementary school students. And the existence of gamification of entrepreneurship in order to increase the enthusiasm of learning of elementary school students to continue to innovate and succeed in entrepreneurship learning. So that the Cronbach's Alpha number shown is  $0.8 > 0.6$  proving that the SEP system is reliable (Table 5). The combination of Ubiquitous Learning and entrepreneurship shows the significant beneficial effects of elementary school students with the application of digital entrepreneurship and digital innovation early on. From this research proves that the importance of e education for elementary school students is to be trained early to know technology and distance learning. Even more so with the spread of the Covid-19 pandemic throughout the world, forcing schools to implement School From Home (SFH). Then the SEP system applied is the right solution because it can be done anywhere and anytime. So that teachers and elementary school students can feel significant benefits.

In a study there are certainly objectives to be achieved. The purpose of this study is to see how much influence the application of the Ubiquitous Learning method and the gamification method on entrepreneurial learning media to increase student activity and motivate student interest in learning, because traditional learning methods applied previously are felt to be less effective in increasing student interest in learning. Of course from the research that has been discussed, in the future the author wants to develop e education learning systems into a more sophisticated data distribution technology, namely the blockchain. And also the authors hope that this system and research can be useful and develop universally.

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#### **References**

- [1] U. Rahardja, D. Andayani, N. C. Aristo, and Z. A. Hasibuan, "Application Of Trial Finalization System As Determinants Of Final Thesis Session Results," IAIC Transactions on Sustainable Digital Innovation (ITSDI), vol. 1, no. 1. pp. 1–7, 2019, doi: 10.34306/itsdi.v1i1.4.
- [2] 67–79. Sunarya, P. A., Rahardja, U., Aini, Q., & Khoirunisa, A. (2019). Implementasi Gamifikasi Sebagai Manajemen Pendidikan Untuk Motivasi Pembelajaran. EDUTECH, 18(1), "Implementasi Gamifikasi."
- [3] U. Rahardja, I. Handayani, N. Lutfiani, and F. P. Oganda, "An Interactive Content Media on Information System iLearning+," IJCCS (Indonesian Journal of Computing and Cybernetics Systems), vol. 14, no. 1. p. 57, 2020, doi: 10.22146/ijccs.51157.
- [4] emadwiandr, "済無No Title No Title," J. Chem. Inf. Model., vol. 53, no. 9, pp. 1689–1699, 2013, doi: 10.1017/CBO9781107415324.004.
- [5] K. Walton, "The impact.," Iowa medicine : journal of the Iowa Medical Society, vol. 103, no. 3. p. 8, 2013.
- [6] J. Mbetwa, "the Effect of Entrepreneurship Education on." p. 86, 2017.
- [7] J. H. B, "Sistematizando experiencias educativas," La Piragua, vol. 16. pp. 61–68, 1999, [Online]. Available: <http://www.ceaal.org/v2/archivos/publicaciones/piragua/Docto14.pdf>.

- [8] W. Sumenep, P. Utara, and K. Sumenep, "Penerapan E-Learning untuk Meningkatkan Inovasi Creativepreneur Mahasiswa," pp. 35–40, 2003.
- [9] Y. C. J. Wu, T. Wu, and Y. Li, "Impact of using classroom response systems on students' entrepreneurship learning experience," *Computers in Human Behavior*, vol. 92, pp. 634–645, 2019, doi: 10.1016/j.chb.2017.08.013.
- [10] A. Bauman and C. Lucy, "Enhancing entrepreneurial education: Developing competencies for success," *International Journal of Management Education*. 2019, doi: 10.1016/j.ijme.2019.03.005.
- [11] C. Hadi, I. S. Wekke, and A. Cahaya, "Entrepreneurship and Education: Creating Business Awareness for Students in East Java Indonesia," *Procedia - Soc. Behav. Sci.*, vol. 177, no. July 2014, pp. 459–463, 2015, doi: 10.1016/j.sbspro.2015.02.396.
- [12] M. L. Walshok and J. D. Shapiro, "Beyond tech transfer: A more comprehensive approach to measuring the entrepreneurial university," *Adv. Entrep. Firm Emerg. Growth*, vol. 16, pp. 1–36, 2014, doi: 10.1108/S1074-754020140000016001.
- [13] J. W. Holford and W. J. Caelli, "The role," *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, vol. 4058 LNCS. pp. 183–194, 2006, doi: 10.1007/11780656\_16.
- [14] R. Stagen, "New guard," *T and D*, vol. 59, no. 10. p. 104, 2005.
- [15] 746-751 Adegun, O. A. (2013). Entrepreneurship education and youth empowerment in contemporary Nigeria. *Journal of Emerging Trends in Educational Research and Policy Studies*, 4(5), "education." [Online]. Available: [https://journals.co.za/content/sl\\_jeteraps/4/5/EJC145165](https://journals.co.za/content/sl_jeteraps/4/5/EJC145165).
- [16] 100295. Iwu, C. G., Opute, P. A., Nchu, R., Eresia-Eke, C., Tengeh, R. K., Jaiyeoba, O., & Aliyu, O. A. (2019). Entrepreneurship education, curriculum and lecturer-competency as antecedents of student entrepreneurial intention. *The International Journal of Manage*, "Entrepreneurship education, curriculum and lecturer-competency as antecedents of student entrepreneurial intention."
- [17] 119689 Lynch, M., Kamovich, U., Longva, K. K., & Steinert, M. (2019). Combining technology and entrepreneurial education through design thinking: Students' reflections on the learning process. *Technological Forecasting and Social Change*, "Combining technology."
- [18] E. (2017). D. entrepreneurship in primary schools. T. M. experience of "My first enterprise: E. by playing". T. and T. E. Cárcamo-Solís, M. D. L., Arroyo-López, M. D. P., Alvarez-Castañón, L. D. C., & García-López, "Developing entrepreneurship."
- [19] H. Teja, U. S. Hidayatullah, and U. A. Purwokerto, "of Advanced Trends in Computer Science and Exploring the Moderating Effect of Technology Readiness of User Intention in the Context of Mobile Payment Service," vol. 8, no. 1, 2019.
- [20] 0–7. <https://doi.org/10.1088/1742-6596/1179/1/012111>. Sudaryono, Rahardja, U., & Harahap, E. P. (2019). Implementation of Information Planning and Strategies Industrial Technology 4.0 to Improve Business Intelligence Performance on Official Site APTISI. *Journal of Physics: Conference Series*, 1179(1), "implementation."
- [21] L. C. Standards, T. Education, and F. Standards, "LEADERSHIP , COMPETENCY , WORKING MOTIVATION AND PERFORMANCE OF HIGH PRIVATE EDUCATION LECTURER WITH INSTITUTION ACCREDITATION B : AREA KOPERTIS IV BANTEN PROVINCE," vol. 97, no. 24, pp. 179–192.
- [22] U. Rahardja, N. Lutfiani, E. P. Harahap, and L. Wijayanti, "iLearning: Metode Pembelajaran Inovatif di Era Education 4.0," *Technomedia J.*, vol. 4, no. 2, pp. 261–276, 2019, doi: 10.33050/tmj.v4i2.1010.
- [23] U. M. Pembelajaran, "Implementasi gamifikasi sebagai manajemen pendidikan untuk motivasi pembelajaran," vol. 18, no. 1, pp. 67–79, 2019.
- [24] 269–274. <https://doi.org/10.30534/ijatcse/2019/4781.52019> Aini, Q., Hariguna, T., Putra, P. O. H., & Rahardja, U. (2019). Understanding how gamification influences behaviour in education. *International Journal of Advanced Trends in Computer Science and Engineering*, 8(1.5 Special Issue), "behavior."

- [25] 14(2). Aini, Q., Rahardja, U., & Khoirunisa, A. Blockchain Technology into Gamification on Education. IJCCS (Indonesian Journal of Computing and Cybernetics Systems), “blockchain.” .
- [26] 0–13. <https://doi.org/10.1088/1742-6596/1364/1/012035> Rahardja, U., Aini, Q., Graha, Y. I., & Tangkaw, M. R. (2019). Gamification Framework Design of Management Education and Development in Industrial Revolution 4.0. Journal of Physics: Conference Series, 1364(1), “revolution.” .
- [27] K. S. Taber, “The Use of Cronbach ’ s Alpha When Developing and Reporting Research Instruments in Science Education,” pp. 1273–1296, 2018, doi: 10.1007/s11165-016-9602-2.
- [28] Hariguna, Taqwa, Muhamad Yusup, and Agung Priyadi. 2019. “The Transaction Optimization Of Color Print Sales Through E-Commerce Website Based On Yii Framework On Higher Education.” Aptisi Transactions On Technopreneurship (ATT) 1(1): 1–10.
- [29] Santoso, Sugeng, Josch Kauf, and Nabila Cynthia Aristo. 2019. “The Information System of Name Card Sales Based on Digital Marketing to Improve Creativepreneur on College E-Commerce Website.” Aptisi Transactions On Technopreneurship (ATT) 1(1): 64–72.
- [30] Sunarya, Po Abas, Doucette David Bernard, and Dian Maharani Damanik. 2019. “Viewboard Implementation Based on Javascript Charts as a Media for Submitting Sales Information on a Green E-Commerce Website Light Cafe.” Aptisi Transactions On Technopreneurship (ATT) 1(1): 11–19.
- [31] Zarlis, Muhammad, Eka Purnama Harahap, and Lina Naelal Husna. 2019. “Test Appraisal System Application Based on YII Framework as Media Input Student Value Final Project and Thesis Session at Higher Education.” Aptisi Transactions On Technopreneurship (ATT) 1(1): 73–81.