PAPER NAME

18.pdf

WORD COUNT

4341 Words

CHARACTER COUNT

25704 Characters

PAGE COUNT

11 Pages

FILE SIZE

393.8KB

SUBMISSION DATE

Jan 17, 2023 11:46 AM GMT+7

REPORT DATE

Jan 17, 2023 11:48 AM GMT+7

77% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

- 77% Internet database
- 5% Publications database
- Crossref database
- Crossref Posted Content database
- 10% Submitted Works database

Excluded from Similarity Report

- Bibliographic material
- Quoted material
- Cited material
- Small Matches (Less then 10 words)

International Journal of Civil Engineering and Technology (IJCIET)
Volume 10, Issue 03, March 2019, pp. 2220-2230. Article ID: IJCIET_10_03_222
Available online at http://www.iaeme.com/ijciet/issues.asp?JType=IJCIET&VType=10&IType=03
ISSN Print: 0976-6308 and ISSN Online: 0976-6316

UBIQUITOUS LEARNING AN ALTERNATIVE ASSESSMENT IN LEARNING TEST PROFICIENCY FOR INCREASING HUMAN RESOURCES FIELD OF INFORMATICS

Rangga Firdaus
Education Technology Studies Program State University of Jakarta. Jl. Rawamangun Muka, Rawamangun, East Jakarta, Jakarta Raya

Basuki Wibawa
Professor of Educational Technology State University of Jakarta. Jl. Rawamangun Muka, Rawamangun, East Jakarta, Jakarta Raya

Khaerudin
Educational Technology Department, State University of Jakarta. Jl. Rawamangun Muka, Rawamangun, East Jakarta, Jakarta Raya

ABSTRACT

The development of Information and Communication Technology in all fields has an influence in improving the quality of Human Resources (HR). Along with the development it has an impact on the increasingly widespread growth of tertiary institutions in Indonesia, there are 746 undergraduate programs in Informatics. while the number of lecturers from PTN is: 2,504 people and PTS as many as 12,661 and the impact of variations in the curriculum, because every campus has full authority in preparing the curriculum based on the rules set by the Kemenristek Dikti. As a result of curriculum variations, the graduate competencies of each campus are different, even though they come from the same field of study, and finally the competencies needed by graduates (industry) are less relevant to graduate competencies. Utilization of Ubiquitous Learning with a Research and Development Approach, both conceptually, procedurally and physically, has been interconnected with all involved components, including from the side of Industry, Organizations to students and instructors who are the subjects of this Research.

Ubiquitous learning in this case utilizes 2 learning development models, namely Borg & Gall and Hanafin & Peck models, and combined with a system development model, Waterfall Model Lifecycle. Where in the final process will be able to analyze the population and existing samples as well as the system of applying care or assistance systems (nurturing system) will get a container of applied product

technology that can be used as a platform or an alternative learning and bridging human resource capabilities and knowledge in the field of Informatics in Indonesia, especially in the Competency Test of Information Technology in Indonesia,

Keywords: Alternative Learning, Proficiency Test, Ubiquitous Learning, Open Source, Informatics, Diffusion of Innovations.

Cite this Article: Rangga Firdaus, Basuki Wibawa and Khaerudin, Ubiquitous Learning an Alternative Assessment in Learning Test Proficiency for Increasing Human Resources Field of Informatics, *International Journal of Civil Engineering and Technology*, 10(3), 2019, pp. 2220-2230.

http://www.iaeme.com/IJCIET/issues.asp?JType=IJCIET&VType=10&IType=03

1. THE BACKGROUND

The background of Information and Communication Technology (ICT) is currently highly developed in society and continues to increase along with increasing human needs. The development of ICT is now entering all lines of life. The fault is the internet and application applications that support human activities until all information is connected in one hand. The progress of this technology can be in the form of *Software, Hardware* and *Brainware*. The progress of *Sotftware* and *Brainware* also supports the desires of universities to open education and training institutions. Indirectly or directly resulting in many people competing to establish, organize education in the field of Informatics, especially the family of informatics and computer science. The growing development of information technology, resulting in higher human resource needs. This encourages educational institutions to participate by opening informatics study programs. From Aptikom 2015 data, more than 170 Informatics Study Programs under the auspices of 111 Universities in Indonesia with Polytechnic Status, 226 Informatics Study Programs under the auspices of 120 Academies, 639 Informatics Study Programs under the auspices of 246 Colleges, 84 Study Programs below shade of the Institute as well as 693 Informatics Study Programs under the auspices of 318 Universities. Data from the Undergraduate (S1) study program as of June 2017 in BAN PT shows the following results: there are 440 Informatics Engineering study programs, 279 Information Systems study programs, 1 Informatics Management study program, so there are 746 undergraduate programs in Informatics study program. The number of existing students, as well as the number of lecturers in Informatics and Computers in the very large State and Private Universities (PTS), namely students from PTN as many as 41,790 people and PTS as many as 347,302 people, while the number of lecturers from PTN amounted to: 2,504 people and PTS as many as 12,661. According to Gregor 2008, United Nations divides informatics Human Resources (HR) into two types, namely: *IT Workers* and *IT-Enabled Workers*. *IT Workers* (ITW) are those who have special competencies and expertise to give birth to creative works of innovation in the field of informatics, such as: Programs, applications, algorithms, hardware, methodologies, implementation approaches, and so forth. While *IT-Enabled Workers* (IEW) are those who have the skills to use or utilize (*utilization*) information technology to help and support their daily activities. ITW is an HR produced by higher education institutions, so every related higher education institution needs to know in detail the characteristics of the types of ITW needed by the outside world.

Practitioner experience with several generations of technologies that are related to the introduction of new technologies in teaching and learning in post-compulsory education are fairly well understood. The starting point for participants would be the identification of their own personal or professional development needs (Hulme ett all, 2008). Technological change

requires resources, and its proponents have to compete for resources from the same pool as others; therefore, there is a trade-off involved that makes many stakeholders wary of change (Evan, 2008). Understanding how to connect learning resources that are important for learning because they are important than what we know today (Tu, 2008).A very big problem is that currently there are a growing number of learning curricula in the campus of the various informatics fields. At the same time, many complaints from the world of work, that the competence of graduates, especially in the field of informatics is inadequate, and not relevant to the needs of the workforce. Many graduates are not ready to use, not ready to work, as desired by the world of work. This is because the contents of the learning outcomes of the curriculum made are not synchronous between the world of education and the industrial world. As stated by Suparman, that there is no concept link and match or the relevance of graduates' competencies to the needs of graduates (work world) as a result of an in-depth study of the competency needs of graduate users at the time of compiling the curriculum (Supratman, 2014) Study of Competence Basic Education graduates needed by the business world have been implemented in 2012 and 2015. This is done in the context of developing a competency-based curriculum with assistance carried out by the datateam of the sharing Directorate General of Higher Education. The results of the study of 30 samples college data in the Kalimantan region, more than 90% of Universities compiled a learning curriculum not based on the analysis of the basic competencies needed by graduate users. Higher education sets basic competencies in compiling learning curricula only referring to curricula from other universities. The absence of a measuring mechanism while ensuring the level of knowledge of lecturers and students is updated so that it is always relevant to the dynamics of rapid industrial change Likewise for students and lecturers who want to apply synergy and collaboration between the associations and the world of industry, there is still a lack of open material online in the field of informatics that is in line with the application of the Indonesian National Performance Competency Standards - Indonesian National Qualification Framework (SKKNI-KKNI). Competence is needed in predicting and defining both the expressive qualities and the performance of a candidate material (Pedgley, Owain, et All, 2016). Competence is needed in predicting and determining the required quality and material from the performance of prospective workers.

There is a gap in the ability of graduates in tertiary institutions in Indonesia to those needed by the industrial world or the world of work as shown in figure 1 below:

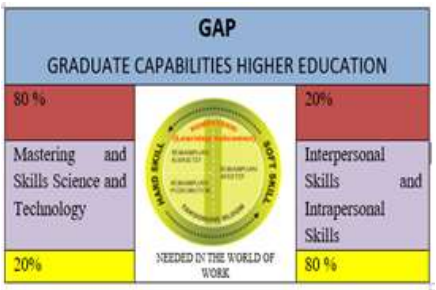

Figure 1 Graduates' Ability Gaps

(Source: Dikti Belmawa, 2012)

Several things obtained in the field both technically and non technical, among others: (1) Still at least and tend to have no information from the campus which states that graduates from the informational field study program or each of them have value or are competent in their respective fields, both in terms of lecturers and students. (2) Very limited information on cooperation between the world of campus and the published industrial fields in the media, if

there is still within the scope of accreditation forms and internal campus only. (3) There is still not much collaboration between professional associations and industry associations in implementing *link and match* especially in curriculum development. (4) The cost is quite large in participating in the professional certification test in the field of informatics for participants both students and lecturers ranging from two million rupiah to tens of millions of rupiah for each test in the informatics field certification profession. (5) There is no visible system that acts as an *aggregator*, namely a system that bridges between industrial fields and campus fields, especially in the field of Certification Test in the field of Informatics. (6) There is still very limited test information on industrial knowledge provided by industry associations or professional associations in the field of informatics given to students and lecturers on each campus. (7) The absence of a data that brings together all certification test participants or industry knowledge tests (*Proficiency*) both those who have followed and have successfully passed the proficiency test. The problem of *link and match*, and the relevance of education graduates including training with the world of work still continues to be a national issue, because of the problem of lack of *employability* in the world of work. This causes the industry to develop educational and training institutions such as *training centers, corporate universities* and even higher education, even though they have recruited prospective employees from vocational education. Statistical data shows this description as in Table 1, where the national average skills mismatch based on the type of work and education that was highest reached 56%, even in the agricultural sector reaching 88.9%. (ILO, 2015)

Table 1 Skill mismatch based on the type of work and highest education attained (percent)

No	Jobs'	Not eligible (%)	Very Suitable (%)	Beyond the norm (%)
1	Legislator Senior Employee and manager	49.0	51.0	NA
2	Power Professional	22.7	77.3	NA
3	Technicians and Professional Personnel	52.5	47.6	NA
4	Office Administration	6.5	54.3	39.1
5	Support Service Providers and markets and salespeople	58.7	35.7	5.5
6	Farmers and skilled fisheries	88.9	10.3	0.8
7	Artisans and Trade Personnel	72.4	25.9	1.6
8	Operators Plant and machines and Fabricator	55.0	42.0	2.5
9	The Basic Work	NA	78.0	22.0
	Total	56.0	37.0	7.0

To improve the competence of human resources, especially students in the field of informatics and computers, the following points are needed: The

1. establishment of a *platform* digital learning from a standard certification program national and international based on Professions and Competencies provided by industry and associations, to bridge the industrial and campus world.
2. Mobile Application For Practice Questions based on Android - IOS systems.
3. An open web of informatics in accordance with the Indonesian Online Learning System (SPADA).
4. Some Problem Instruments for the Field of Informatics based on the Indonesian National Performance Competency Standards - Indonesian National Qualifications Framework (SKKNI-KKNI).
5. An-based Industry Knowledge Test Web Portal *Online* or *Web Base.*
6. *Self-assessment* of the level of knowledge and insight in the Informatics Sector.
7. Mapping of results from Industry Knowledge and Association Tests.

8. Provision of E-certification that is used for a Certificate of Companion Diploma (SKPI).

2. THEORETICAL STUDY

2.1. The Concept of Model Development Model Developed Model

The design of this study consists of three models, namely the conceptual model that embodies the theory and principles related to the development of the Assistance system for-based Informatics Certification Test *Ubiquitous Learning*, a procedural model that forms the stages from the establishment of an Assistance system for-based Informatics Certification Tests *Ubiquitous Learning*, and physical models to obtain evidence obtained from empirical data about the results obtained from the development of the Assistance System for-based Informatics Certification Tests *Ubiquitous Learning.*

2.1.1. Conceptual

Model The conceptual model is an analytical model that explains the product components that will be developed and relates to the components. This model shows inter-conceptual relationships and does not show sequences in stages. The order can be started anywhere. The conceptual model in this study is designed with functional process features that can be used by users to run the Assistance System for-based Informatics Certification Test *Ubiquitous Learning* adapted from the 3P model (Users, Processes and Products.

2.1.2. Procedural Procedural

Models Models are descriptive models that describe the flow or procedural steps that must be followed to produce a particular product.The concept of the model developed in this study is Hannafin and Peek's model Hannafin and Peck stated: *combining these activities into four phases: needs assessment, design, development and implementation, and evaluation and revision* (Hannafin, 1988)

The learning design adopted was developing the CAI (*Computer Assisted Instruction)*media, according to Russell in Rusman, saying that the CAI media is a computer system that can deliver learning individually and directly to students by means of intellection with subjects that are programmed into the computer system of

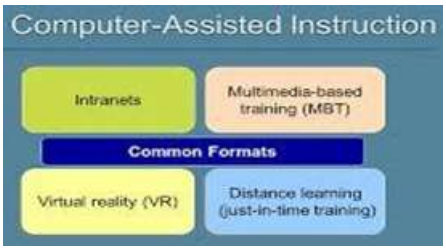

Figure 2 Computer assited Instruction CAI

2.1.3. Physical model

Afterprogram mentoring system development for Information Technology Certification Test Field-based *Ubiquitous Learning* finishes were evaluated, the system mentoring test Mentoring For Certification Test Informatics Sector-based *Ubiquitous Learning* called models physical. The physical model is the implementation phase of the model. The model implementation is carried out after being declared effective and efficient.

3. THEORETICAL FRAMEWORK FOR PROFESSIONAL CERTIFICATION COMPETENCY IN THE FIELD OF INFORMATICS

3.1. National Professional Certification System in

Accordance with BNSP Regulation 01/2015. The National Professional Competency Certification System is the order of the relationship between professional competency certification components that include the establishment of certification institutions, certification agency licenses, certification implementation, certification harmonization, development of competency certification systems and synergistic and harmonious quality control certification in order to achieve the objectives of national work competency certification , as illustrated in Figure 2.15. In accordance with PERPRES 8/2012, work competency certification is the process of providing competency certificates carried out systematically and objectively through competency tests in accordance with Indonesian National Work Competency Standards, International Standards, and / or Special Standards. So that this certification system has the flexibility to harmonize with various national and international systems.

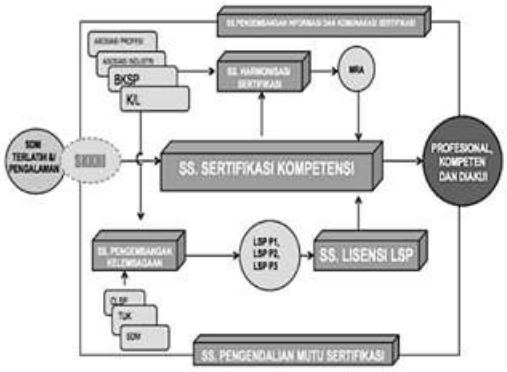

Figure 3 National Professional Certification System System

Source: BNSP Regulation 01/2015

4. MANAGEMENT OF MODERN HIGHER EDUCATION MANAGEMENT

According to Indrajit and Djokopranoto, The term higher education and tertiary institutions are often exchanged with assumptions that have the same meaning, while actually having different meanings. Higher education is education in the school education pathway at a higher level than secondary education in the school education pathway. While higher education is an education unit that organizes higher education (Indrajit, 2006). It can be interpreted, that high education is the level of education after secondary education which includes diploma programs, bachelor, master, doctoral programs, professional programs and specialist programs organized by universities based on the culture of the Indonesian nation.

5. NURTURING / NURTURING SYSTEMS

Several studies related to Nurturing or Assistance Systems that utilize computer and internet technology, ranging from software and hardware, provide many offers and choices for the world of education to support the learning process of students (Lee, 2016), (Xie, 2014), (Serdyukov, 2006). The advantages offered not only lie in the speed factor for getting

information, but also for multimedia facilities that can make learning more interesting through interactive visuals. In line with the development of internet technology, many learning activities can be done by utilizing this technology *Cyber* or *electronic learning (E-Learning*) is essentially learning, or learning through the use of computer or internet technology.

6. UBIQUITOUS LEARNING

Indrajit said that basically, *Ubiquitous Learning* (*U-Learning*) is a continuation of the evolution of *electronic learning* (*e-learning*) and *mobile learning* (*m-learning*) which shifts the learning paradigm from a closed system to an open one (Indrajit, 2016). Whereas Bomsdorf said that *U-Learning* works based on the principle of ease of learning from anywhere, anytime, and in what ways has produced various approaches to innovative learning processes (Bomsdorf, 2005), such as *collaborative learning, authentic learning, and context-aware learning* Chen said, 2009. The technological developments that gave birth to products such as mobile phones, electronic devices (gadgets), cloud computing, wireless networks, etc. became promoters as well as the main accelerators of the application of the concept *U-Learning* (Vladoiu, 2012). Even Ogata emphasized that the latest technologies such as RFID (*Radio Frequency IDentification*) and *Augmented Reality* were the main triggers for the development of the concept *u-learning* in the world of Education. The concept of *U-Learning* which is strongly influenced by the flow of psychology of humanism, cybernetism, and connectivity has the characteristics of the learning process through two main approaches, namely: (i) through independent individual exploration of various learning resources available in an unlimited environment; and (ii) through social interaction with various parties that have direct or indirect relevance to the knowledge learned (Ogata, 2008).

According to Yang, Okamoto & Tseng identified eight characteristics of the environment *U-Learning*, namely: (i) mobility; (ii) location awareness; (iii) interoperability ((iv) seamlessness; (v); situation awareness); (vi) social awareness; (vii) adaptability; and (viii) pervasiveness (which, 2008). In essence, the implementation of *U-Learning* is a sign of the transformation of education in universities that implement it (Cope, 2009). While Tan characterizes *U-Learning* as a system that has characteristics: *permanency, accessibility, immediacy, interactivity, situation, calmness, adaptability, seamlessness,* and *immersion (*Tan, 2012*)*. In other words, an explanation of *U-Learning* works on three main resources, namely: learning *collaborators, learning contents, and learning services* (Chang, 2012*)*.

This research refers to the steps taken by Borg & Gall which were later modified into preliminary studies which are divided into field studies and literature studies, system analysis, system design, system development, system testing, system verification and validation, revisions and system reviews, system testing, and results analysis.

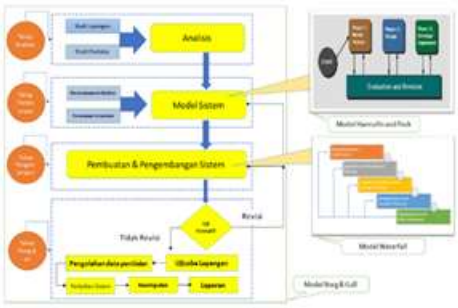

Figure 4 Ubiquitous Learning Scheme in an Learning Alternative

Ubiquitous Learning Application as an alternative learning in improving human resources in the field of informatics The

use of various kinds of media and can be done anytime, but still refers to the existing learning rules, can be seen in the following picture :

Figure 5 Beginning Menu of Proficiency Test

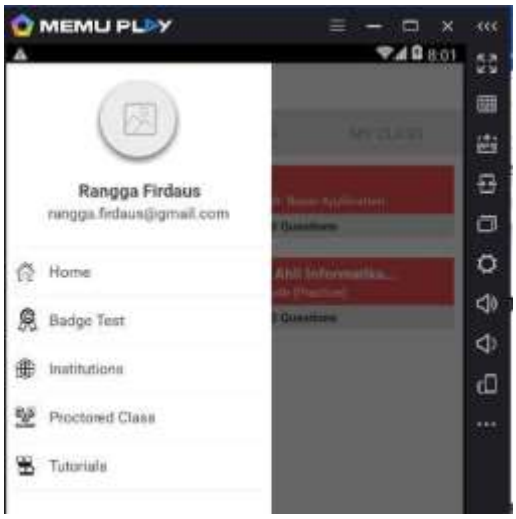

Figure 6 Menu of Ubiguitous Learning Application

Figure 7 Selection Menu Test Material

Figure 8 Menu of Proficiency Test in Informatics Field

7. CONCLUSION

Ubiquitous Learning can provide an alternative learning to improve the ability of the informatics field so that it can indirectly improve resource capabilities humans, especially students and lecturers in the field of informatics.

8. SUGGESTION

The ability to use learning by using ubiquitous learning can be followed up by using or optimizing and synchronizing with various other learning applications and application systems that are integrated in the world of education, especially to produce a business opportunity that can be found in ubiquitous learning based systems.

REFERENCES

[1] Gregor, S. et al. The ICT Profession and the ICT Body of Knowledge (Vers. 5.0), Australian Computer Society, Sydney, Australia.2008.p. 23

[2] Hulme, Agnes Kukulska. Pettit, John. Semi-formal Learning Communities for Professional Development in Mobile Learning. Comput High Educ Journal (2008) 20: 35–47. DOI 10.1007 / s12528-008-9006-zp38

[3] Evans, Michael A. Johri, Aditya. Mobile Facilitating Guided Participation Through Mobile: Designing Creative Learning Environments for Self and Others. Comput High Educ Journal (2008) 20: 92–105. DOI 10.1007 / s12528-008-9004-1.p.94

[4] Tu, Chih-Hsiung, et all. The Integration of Personal Learning Environment and Open Network Learning Environments. TechTrends • May / June 2012. Volume 56, Number 3. p.15

[5] Atwi Suparman, Educational Technology in Distance Education. (Jakarta: Open University, 2014), p.74.

[6] Pedgley, Owain. Et all. Materials Experience as a Foundation for Materials and Design Education. International Journal Technology Des Education (2016) 26: 613-630. DOI 10.1007 / s10798-015-9327-y. P.614

[7] ILO. Labor and Social Trends in Indonesia 2014-2015: Strengthening competitiveness and productivity through decent work. ILO Office for Indonesia, 2015

[8] Benny A. Personal, Learning System Design Model (Jakarta: Dian Rakyat, 2010), p.86.

[9] Sagala, Syaiful. Concepts and Meanings of Learning to Help Solve Problems with Learning and Teaching. (Bandung: CV Alfabeta, 2005), p.16.

[10] Badiou, Alain. The Concept of Model: An Introduction to The Materialist Epistemology of Mathematic. (Melbourne: re.press, 2015), h. 16.

[11] Bruce Joyce. Et all. Models of Teaching. Theory of Teaching Models. Translation. Rachmat Fawair (Yogyakarta: Student Library, 2011), p.6.

[12] Yonny Chyung, Foundation of Instructional and Performance Technology (Amherst: HRD Press Inc., 2008), p. 55.

[13] Sivasailam Thiagarajan, Instructional Development for Teachers of Exceptional Children A Sourcebook Training, The Center for Innovation in Teaching the Handicapped (CITH), (Indiana University, 1974), p. 5.

[14] Hannafin, MJ & Peck, KL The design, development, and evaluation of Instructional software. (New York: Macmillan Publishing Company, 1988). P.42

[15] Hannafin J. Michael., Peek L. Kyle. The Design, Development. and Evaluation of Instructional Software (New York: Macmillan Publishing Company, 1988). P.27

[16] Kemp E. Jerrold, Smellie C. Don. Planning, Producing, and Using Instructional Media. (New York: Harper & Row, 1989), p.60.

[17] Rusman. K, Deni. R, Cepi. Information and Communication Technology Based Learning: developing teacher professionalism (Jakarta: Raja Grafindo Persada, 2012). 18.1

[18] Ibid, h.97.

[19] Arsyad, Azhar. Learning Media (Jakarta: Raja Grafindo Persada, 2011), p.97.

[20] emp E. Jerrold, Smellie C. Don. Planning, Producing, and Using Instructional Media. (New York: Harper & Row, 1989). P.89

[21] Sutopo, Ariesto Hadi. Information and Communication Technology in Education (Yogyakarta: Graha Ilmu, 2012), p.18.

[22] Indrajit, R. Eko and Djokopranoto. Management of Modern Higher Education (Yogyakarta: CV Andi Offset, 2006). 12

[23] E. Lee and MJ Hannafin, "A design framework for enhancing engagement in student-centered learning: own it, learn it, and share it," Educ. Technol. Res. Dev., Vol. 64, no. 4, pp. 707–734, 2016.p.717

[24] P. Serdyukov and N. Serdyukova, "Adult learners in online college Class: Combining Efficiency and Convenience of E-learning," IFIP Int. The Fed. Inf. Process., Vol. 210, pp. 205-214, 2006.p.210

[25] Y. Xie and D. Reider, "Integration of Innovative Technologies for Enhancing Students' Motivation for Science Learning and Career," J. Sci. Educ. Technol., Vol. 23, no. 3, pp. 370–380, 2014.p.335

[26] Indrajit, Eko, Building a Ubiquitous Learning Ecosystem in Indonesia, A Proposed Strategic Framework, Strategic Framework for Governance Ecosystems for Ubiquitous Learning-Based Online Lectures in Indonesia, Articles, Jakarta State University, 2016.

[27] Bomsdorf, B Adaptation of Learning Spaces: Supporting Ubiquitous Learning in Higher Distance Education. Dagstuhl Seminar Proceedings 05181 - Mobile Computing and Ambient Intelligence: The Challenge of Multimedia. 2005.

[28] Chen, T. et al. Context-Aware Writing in Ubiquitous Learning Environments. Research and Practice in Technology Enhanced Learning Vol. 4, No. 1 (2009) 61–82. World Scientific Publishing Company & Asia-Pacific Society for Computers in Education, 2009.p.67

[29] Vladoiu, M. Towards Instructional Design of Ubiquitous Learning Environments. Department of Computer Science, PG University of Ploiesti, (Romania, 2012). P.74

[30] Ogata, H. et al. A Framework for Capturing, Sharing, and Comparing Learning Experiences in a Ubiquitous Learning Environment. Research and Practice in Technology

Enhanced Learning Vol. 3, No. 3, 297–312. World Scientific Publishing Company & Asia-Pacific Society for Computers in Education, 2008.p.297

[31] Yang, SJH, Okamoto, T. Ve Tseng, SS, Context-Aware and Ubiquitous Learning. (Guest Editorial). Technology & Society, 11 (2), 1-2, 2008.p.9

[32] Cope, B. & Kalantzis, M. Ubiquitous Learning: An Agenda for Educational Transformation. Proceedings of the 6th International Conference on Networked Learning, 2009.p.8

[33] Tan, T. et. al. Educational Affordances of a Ubiquitous Learning Environment in a Natural Science Course, 2012.

[34] Chang, CY & Sheu, JP Design and Implementation of Ad-Hoc Classroom and e-School Systems for Ubiquitous Learning. Paper presented at the IEEE International Workshop on Wireless and Mobile Technologies in Education, August 29-30, Sweden, 2002.p.12

[35] Sugiyono. Research Methodology (Bandung: Alfabets, 2011). h.: 97

[36] Gay RL Educational Research: Competencies for Analysis and Application (United States of America: Prentice Hall, 1996). 12

[37] Akker den Van Jan, Branch Maribe Robert, Gustafson Kent, Nieveen Nienke, Plomp Tjeerd (eds). Design Approaches and Tools in Education and Training 1st ed. (Netherlands: Springer, 1999). P.67

[38] Borg R. Walter, Gall D. Meredith. Educational Research; an introduction (New York: Longman, 1983). p.73

[39] Borg & Gall. Ibid. p. 626

[40] Pressman, Roger S. Software Engineering - Book One, Practical Approach (Issue 7). (Yogyakarta: Andi.2012). H.12

[41] Heni Jusuf, Ariana Azimah, Rangga Firdaus, E-learning for facilitating learning, INSPEC Accession Number: 16836057, DOI: 10.1109 / IAC.2016.7905695, Publisher: IEEE, Conference Location: Mataram, Indonesia, 2016 - https://ieeexplore.ieee.org/document/7905695/

[42] Amanto, Rangga Firdaus, Machudor Yusman, OCW in the implementation of CMA with private cloud computing to help informatics students to obtain professional certification in Indonesia, INSPEC Accession Number: 17615873, DOI: 10.1109 / CED.2017.8308108, Publisher: IEEE, Conference Location: Kuala Lumpur, Malaysia, 2017 - https://ieeexplore.ieee.org/document/8308108/

77% Overall Similarity

Top sources found in the following databases:

- 77% Internet database
- Crossref database
- 10% Submitted Works database
- 5% Publications database
- Crossref Posted Content database

TOP SOURCES

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	**repository.lppm.unila.ac.id** Internet	75%
2	**eprints.undip.ac.id** Internet	2%