The Use of Web 2.0 in Islamic Religious Education Learning in Higher Education

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Abstract—**The development of information technology in the 21st century had a significant impact on the world of education. Learning in the industrialization which is oriented toward learning facts, concepts, rules and procedures through drills and practices, is transformed into learning in the real and authentic world trough problems and projects, inquiry, discovery, and invention in the practice of the knowledge age. This article aims to describe the use of Web 2.0 technology in learning Islamic Education (PAI) in Higher Education. This article uses a qualitative approach and an integrative literature review method. Based on the theory of Web 2.0 techno- logy, integration supported by qualitative approaches and survey methods, it can be concluded that the use of Web 2.0 technology in PAI learning in tertiary institutions can be applied through integration with project based learning, project oriented learning, problem based learning, and cooperative learning. The implication of findings of the study is to optimize the use of Web 2.0 technology in learning PAI, learning in Higher Education including being able to be done integrally with the use of project-based, project-oriented, problem-based, and cooperative learning models.**

Keywords—*learning Islamic religious education, technology of web 2.0, integrative learning*

I. INTRODUCTION

Advances in information and communication technology have encouraged changes in all fields, including in education and learning. Technological changes in the educational dimension motivate teachers to build awareness of the importance of learning by utilizing technology that can support their competence. The 2013 curriculum has expectations produce productive, creative, innovative, and effective Indonesians through the strengthening of integrated attitudes (know why), skills (know how), and knowledge (know what). Information, computing, automation, and communication are the four components as characteristics of 21st century education that cause a paradigm shift in learning. Among the advances in technology and information in the 21st century, the emergence of Web 2.0 technology. A number of experts offer this Web 2.0 technology to support learning activities, especially in universities [1-5]. According to Aithal's [6], research, the use of Web 2.0 technology can improve the

quality of learning. The same research was conducted by Gabriel, V. and Ricardo V. [7]. So far, research on the use of technology has only focused on the fields of communication, science and sociology subjects [8-13].

Web 2.0 technology has very good dynamics so that it becomes the basis for the development of learning models in the knowledge century (21st century), by providing facilities for users to be able to carry out the process of creation, collaboration, storage, extraction and sharing of knowledge online with fellow users around the world, so hopefully the barrier of science will disappear. The use of web 2.0 technology for the development of the world of knowledge and learning models in the 21st century is very broad, depending on the direction of development and the vision of education [14,15].

Islamic education curriculum (PAI) as can be seen in the competencies to be achieved; starting from graduate competency standards (SKL), basic competency (KD), and learning indicators (IP) can determine the type and quality of education and experience that can support graduates to have comprehensive and global insights. These advances in technology and information emphasize the urgency of technology integration in PAI [16]. Among the advancements that can be utilized in PAI learning activities, Web 2.0 technology. Writing Pulungan [17] and Nuryana [16] in general explain the use of Web 2.0 technology in Islamic Education learning. However, this paper has not shown the integration of Web 2.0 technology with learning models relevant to Islamic Education learning. There are at least four learning models that can be used in PAI learning in universities that can be integrated with Web 2.0 technology. For example, learning models, project-based learning (PBL), project-oriented learning (POL), problem-based learning (PBL), and cooperative learning (CL).

Based on this phenomenon, this research is focus- ed on the use of web 2.0 in Islamic education in higher education.

II. METHODS

This article uses a qualitative approach and an integrative literature review method. This method is based on empirical research and literature research on the use of the Web. 2.0 in learning, especially Islamic education through review and criticism of literature so as to produce new perspectives. Analysis of data used descriptive analysis.

III. RESULTS

A. PAI Learning Model in Higher Education

PAI courses are part of the national curriculum as mandated by the Law on the National Education System (UUSPN) No. 20 of 2003. The PAI curriculum includes graduate competency standards (SKL), core competencies (KI) and basic competencies (KD). These basic competencies are broken down into learning objectives and indicators. The realization and achievement of competencies and goals in the Islamic Education curriculum in higher education needs to be supported by a learning model. Among the learning models that can be developed in PAI learning in universities, project-based learning (PBL), project-oriented learning (POL), problem-based learning (PBL), and Cooperative Learning (CL).

1) Project-Based Learning: Project-based learning, project-based learning (PBL) is a learning model based on constructivist learning theory. Learning strategies that stand out in constructivist learning include collaborative learning strategies, prioritizing student activities over teaching activities, regarding laboratory activities, field expe- riences, case studies, problem solving, panel discussions, discussions, brainstorming, and simulations [18]. Students in project-based learning are more en- couraged in design activities: formulating jobs, designing (designing), calculating, carrying out work, and evalu- ating results. Project-based learning has the following characteristics: (1) learners make decisions, and make frameworks, (2) there are problems whose solutions are not predetermined, (3) learners design processes to achieve results, (4) learners are responsible for obtaining and managing information collected, (5) evaluating conti-nuously, (6) students regularly review what they are doing, (7) the final result is a product and evaluated for its quality, and (8) the class has an atmosphere that tolerates errors and changes.

Students in project-based learning work individu- ally and in groups. They carry out knowledge construction, and become collaborators in the understanding development process. Project-based learning provides an understanding of actual knowledge. Students do their own exploration, assessment, interpretation, and synthesis in understanding information. In project-based learning, the teacher or instructor is not more active and trains directly, but becomes a companion instructor, facilitator, and understands the thoughts of learners. The nature of project work is collaborative, so that the development of these skills takes place among learners, in the process of project work carried out in groups, individual strengths and learning styles that are referred to strengthen teamwork as a whole.

2) Project-oriented Learning (POL): Project-oriented learning involves learners in a project, for example the project is a product, but the main goal is not the result of the product itself, but rather emphasizes the process and impact of the learning. The main character of project-oriented learning is that the project is part of a research and development task where the process is limited by time, individual learners and groups are introduced to the subject, content and methodology, to work freely. Working on projects can increase motivation and have a positive impact on learning, projects can involve learners connecting with new and previous knowledge. Therefore, the project is an important component in a constructive approach. Projects involve learners to work with other people including teachers, and expert partners.

3) Problem-Based Learning (PBL): The problem-based learning approach is similar to the project-based learning approach. Basically, both models in practice emphasize active student learning environments, group work (collaborative), and authentic assessment techniques. The difference lies in the diffe- rence in objects. If in problem-based learning, students are more encouraged in activities that require problem formulation, data collection, and data analysis (related to the patient diagnosis process), then in project-based learning, as previously explained, students are more encouraged to design activities: formulating jobs, design- ing (designing), calculating, doing work, and evaluating results.

Characteristics of Problem-Based learning: (1) is contentext-based using "real-life" situations; (2) focuses on thinking skills (problem solving, analysis, decision making, critical thinking); (3) requires integration of interdisciplinary knowledge/skills/behaviors; (4) is self- directed develops life-long learning skills; (5) often requires substantive interaction with clients and other who are outside the student "team"; and (6) is shared in small groups.

4) Cooporative Learning: Cooperative learning model (cooperative learning) is a group learning model with a certain amount with the aim to motivate each other among fellow group members to get maximum learning results. According to Nurhadi [19], the cooperative learning model is a learning approach in the form of small groups of students with the aim of working together to maximize learning conditions in achieving learning goals.

The cooperative learning model is learning that consciously and systematically develops mutually honing, caring and nurturing interactions. In the cooperative learning method or model, the teacher's role is as a facilitator. The purpose of this model is to maximize learning outcomes to be achieved from

the learning objectives that have been previously set. Because members of this study group have different levels of knowledge from low, medium and high, it is in accordance with the rules of the learning model whose use has the aim of increasing the potential and abilities of students during the learning process. The different levels of this study group in the process are expected to have positive, constructive interactions. Cooperation built by group members with low, medium, and high abilities can complement each other's strengths and weaknesses.

The types of cooperative learning include: (1) Jigsaw developed by Elliot Aronson's; (2) NHT (Number Heads Together) developed by Spencer Kagen (1993); (3) STAD (Student Teams Achievement Divisions) developed by Slavin et al; (5) TAI (Team Assisted Individualization or Team Accelerated Instruction) developed by Slavin; (6) Think-Pair-Share; (7) Picture and Picture; (8) Problem Posing; (9) Problem Solving; (10) Team Games Tournament (TGT); (11) Cooperative Integrated Reading and Composition (CIRC); (12) Learning Cycle; and (13) Cooperative Script (CS).

B. Integration of PAI Learning Model with Web 2.0 Technology

The integration model designed in this article is the implementation process of using web 2.0 technology in the learning process including weblog, WordPress, wikis, google, Facebook, YouTube, RSS, podcasts, and others, which are used as media in the learning process.

Fig. 1. The web 2.0 collaboration model.

Based on the community of inquiry images, it appears that the relationship between the components is mutually supportive, achieving educational experience.

The working principle of web 2.0 technology, which has an unlimited interconnection concept, can be utilized in the collaborative process of Islamic Education learning in universities.
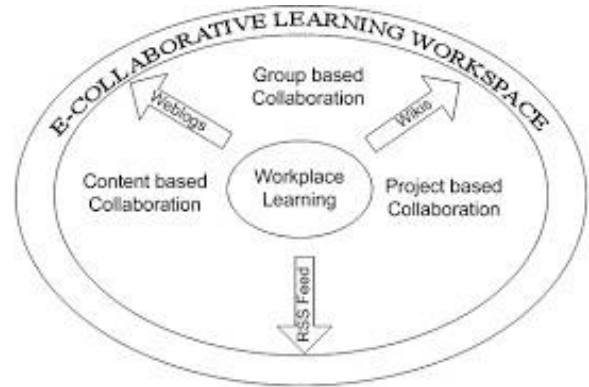

Fig. 2. Instructional thinking framework using web 2.0.

Web 2.0 technology in the web 2.0-based learning model, is used as a medium in integrating various existing learning models, interacting, and interacting with the advantages of existing web technologies; collabo- ration, sharing, exploration and exploitation of scientific information and knowledge, both new and old. The interaction between teachers and students, students with experts and between students can produce new knowledge that can enrich understanding and problem solving in the learning process.

The application of the PAI learning model integrated with web 2.0 technology can be explained below.

1) Integration of Project-based Learning with web 2.0 technology: In the process of implementing/implementing this model, teachers and students use information technology media to carry out the learning process, the difference is that learners or students are more active, either conducting experiments or exploring a project while the instructor or teacher acts as a facilitator or provides assistance through the use of information technology.

2) Project-oriented learning integration with web 2.0 technology: The essence of applying this model is the process and impact of applying the learning model, because the success or failure of a project that must be done is part of a research and development task where the process is limited by time. Individual and group learners are introduced to the subject, content and methodology to work freely. Students and teachers on the basis of a project assigned through the use of web 2.0 information technology media work together to complete researchassignments in accordance with the subject, methodology and predetermined time. At the end of the process, the output is measured and evaluated to determine the extent to which the learning method has been successful.

3) Integration of Problem-based learning with web 2.0 technology: The problem-based learning model is similar to the project-oriented learning model. Both emphasize an active student learning environment, group work (collaborative), and authentic assessment techniques. Theonly difference lies in the object. The difference is in problem-based learning, students

are more encouraged to do activities that require problem formulation, data collection, and data analysis; while in the project-based learning model, learners are more encouraged in design activities: formulating jobs, designing (designing), calculating, carrying out work, and evaluating results. The application of this model should be easier to implement by utilizing web 2.0 technology because both existing learning models and technologies are designed and prioritize collaborative work.

4) Integration of cooperative learning models with web 2.0 technology: The integration of the cooperative learning learning model with web 2.0 technology is very suitable to be applied to the learning process at various levels of education, including universities, because the learning model is very flexible. The media used are very diverse, such as smart phones, tablets, laptops, PCs, etc., which have been connected to the internet network.

IV. Discussion

The development of digital technology had a major impact on the world of education so that teachers are required to be literate in digital literacy and utilize digital technology in learning. The use of digital technology in the context of learning means a digital processing system that encourages active learning in constructing knowledge, inquiries, and exploration in students, and enables distance learning and data sharing between educators and/or students [20]. The use of digital technology is an extension of the information delivery system, clarifying its role and wider use in different classrooms.

Digital technology, including the Web. 2.0 requires new literacy, because digital competence has become a key concept in discussions about the types of skills and understanding that learners need in a knowledge society. This makes the coverage area of education change rapidly. Digital technology, including the Web. 2.0 has a multiplicative effect that allows the dissemination and generation of new technologies with educational, social and cultural consequences.

In the era of digital technology students in the educational landscape enter further and higher education without the skills they need to apply digital technology to education. The expansion and enhancement of digital competencies is an important component in the development of graduates who can be competitive in getting jobs. This is because jobs generally require excellent digital skills. Digital competencies include basic skills (related to knowledge), and soft skills (related to attitudes and skills). Digital competence supports and assists the social integration process [21].

Islamic Education Learning using Web 2.0 technology which is integrated with PAI learning models has fostered a creative and innovative learning climate for students. Learning Islamic education using learning models that are integrated with Web 2.0 technology oriented to learners (student oriented). The lecture in this learning are only facilitators. For

example, in implementation of integration of project-based learning with web 2.0 Technology, teachers and students use information technology media to carry out the learning process, the difference is that learners or students are more active, either conducting experiments or exploring a project while the instructor or teacher acts as a facilitator or provides assistance through the use of information technology. In implementation of project-oriented learning integration with web 2.0 Technology, students and teachers on the basis of a project assigned through the use of web 2.0 information technology media work together to complete research assignments in accordance with the subject, methodology and predetermined time. At the end of the process, the output is measured and evaluated to determine the extent to which the learning method has been successful.

It should be emphasized that learning Islamic education (PAI) through Web 2.0 can encourage dialogic, proactive, and emancipatory practices of students in learning activities. Learning through Web 2.0 enriches the learning experience; extended learning; empowering learning; learning theory develops; and community creation [22]. Dialogic practice refers to the learning process in which students are actively involved in intense learning, and empower students in dialogue. Emancipatory practice refers to the accommodation of individual students' ideas that go beyond the learning determined by the educator or syllabus when they make use of the knowledge acquired outside formal educational content to build their understanding. Learning using different technologies, such as the use of Web 2.0, can improve the quality of the learning process, because learning activities are carried out by adding and linking learning activities with learning activities in other classes or different environments.

Learning with Web 2.0 technology can attract students' learning interest and offer potentially more attractive alternatives. The reality of learning shows that some learners do not have confidence in learning with digital technology or use it excessively, so certain steps need to be taken to ensure equality of access.

The use of Web 2.0 technology in the learning process offers direct feedback for both students and educators. Feedback in the learning process is important for an educator to improve the quality of the direction of learning activities. Meanwhile, for students, feedback can mediate learning outcomes to improve learning styles, styles, and directions.

V. Conclusion

Learning based on constructivism theory by selecting four learning models, project-based learning (PBL), project-oriented learning (POL), problem-based learning (PBL), and cooperative learning (CL), can be integrated with web 2.0 technology. The development of information technology can make it easier for learners and learners to adapt information to enrich knowledge and knowledge in the learning process in the industrial era 4.0. The role of the teacher in the context of utilizing web 2.0 technology as a facilitator, while the role of

information technology in the knowledge management process is necessary, although not the main one.

The use of Web 2.0 technology in learning Islamic Religious Education (PAI) in Higher Education, it can facilitate the learning process and knowledge management. The principle of learning does not recognize distance, time, and place, so it is easy to realize. Learning based on web 2.0 can improve the quality of education.

The use of PAI learning models that are integrated with web 2.0 technology, because the media and sources of teaching materials are not limited, information filtering is needed. The study of the integration of learning models and web 2.0 technology in this paper is limited to literature studies, so empiric testing is needed for subsequent research.

REFERENCES

[1] H. Wijaya, D. Supriyanti, and A. Saefullah, "Penggunaan Teknologi Web 2.0 Dan Dampak Perubahannya Pada Aplikasi Website Berbasis Rich Internet Application (RIA)," Ultim. J. Tek. Inform., vol. 9, no. 2, pp. 72–81, 2017.

[2] H. Hendri, "PEMANFAATAN ELEARNING DENGAN APLIKASI WEB 2.0 SEBAGAI SARANA PEMBELAJARAN PADA PERGURUAN TINGGI DI INDONESIA," J. Process., vol. 9, no. 2, pp. 150–156, 2017.

[3] S. Berg, "Web 2.0 Technologies in Higher Education Teaching: A Practical Introduction," Kentucky J. Excell. Coll. Teach. Learn., vol. 8, no. 1, p. 2, 2011.

[4] K.A. Bingimlas, "Learning and Teaching with Web 2.0 Applications in Saudi K-12 Schools.," Turkish Online J. Educ. Technol., vol. 16, no. 3, pp. 100–115, 2017.

[5] V. Dagiene and E. Kurilovas, "Web 2.0 Technologies and Applications in the Best Practice Networks and Communities.," Informatics Educ., vol. 9, no. 2, pp. 185–197, 2010.

[6] S.C. Aithal, "Quality Teaching Using Web 2.0 Technology in Education."

[7] G. Valerio and R. Valenzuela, "Implications of Implementing Web 2.0 on Education.," Int. Assoc. Dev. Inf. Soc., 2013.

[8] M.L. Rethlefsen, M. Piorun, and J.D. Prince, "Teaching Web 2.0 Technologies Using Web 2.0 Technologies," J. Med. Libr. Assoc. JMLA, vol. 97, no. 4, p. 253, 2009.

[9] K. Nugultham, "Using Web 2.0 for Innovation and Information Technology in Education Course," Procedia-Social Behav. Sci., vol. 46, pp. 4607–4610, 2012.

[10] G. Grosseck, "To Use or Not to Use Web 2.0 in Higher Education?," Procedia-Social Behav. Sci., vol. 1, no. 1, pp. 478–482, 2009.

[11] R. Faizi, R. Chiheb, and A. El Afia, "Students' Perceptions Towards Using Web 2.0 Technologies in Education.," Int. J. Emerg. Technol. Learn., vol. 10, no. 6, 2015.

[12] A. Darwish and K.I. Lakhtaria, "The Impact of the New Web 2.0 Technologies in Communication, Development, and Revolutions of Societies," J. Adv. Inf. Technol., vol. 2, no. 4, pp. 204–216, 2011.

[13] C. Greenhow, B. Robelia, and J.E. Hughes, "Learning, Teaching, and Scholarship in a Digital Age: Web 2.0 and Classroom Research: What Path Should We Take Now?," Educ. Res., vol. 38, no. 4, pp. 246–259, 2009.

[14] F. Ataie and A. Shah, "A Web 2.0-Based Collaborative Learning to Promote The Practice of Islam as a Way of Life," in 2018 IEEE 5th International Conference on Engineering Technologies and Applied Sciences (ICETAS), 2018, pp. 1–5.

[15] N. Dabbagh and R. Reo, "Back to the Future: Tracing the Roots and Learning Affordances of Social Software," in Web 2.0-based e-learning: Applying social informatics for tertiary teaching, IGI Global, 2011, pp. 1–20.

[16] Z. Nuryana, "Pemanfaatan Teknologi Informasi Dalam Pendidikan Agama Islam," TAMADDUN J. Pendidik. dan Pemikir. Keagamaan, vol. 19, no. 1, pp. 75–86, 2019.

[17] S. Pulungan, "Pemanfaatan ICT Dalam Pembelajaran PAI," Query J. Inf. Syst., vol. 1, no. 01, 2017.

[18] D.A. Ajeyalemi, "Teacher Strategies Used by Exemplary Sts Teachers. What Research Says to the Science Teaching," Washingt. DC Natl. Sci. Teach. Assoc., 1993.

[19] S.A.G. Nurhadi and A.G. Senduk, "Pembelajaran Kontekstual," Malang Penerbit Univ. Negeri Malang, 2009.

[20] S. Woodward and R. Kimmons, "Religious Implications of Social Media in Education," Relig. Educ., vol. 46, no. 2, pp. 271–293, 2019.

[21] F. Cortoni, "What Is so Special about Female Sexual Offenders? Introduction to the Special Issue on Female Sexual Offenders." SAGE Publications Sage CA: Los Angeles, CA, 2015.

[22] F. Cornillie, G. Clarebout, and P. Desmet, "The Role of Feedback in Foreign Language Learning through Digital Role Playing Games," Procedia-Social Behav. Sci., vol. 34, pp. 49–53, 2012.