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The Implementation of Curriculum Development in the Era of the Industrial Revolution 4.0

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Abstrak

Penelitian ini untuk memotret kondisi kurikulum di Prodi Manajemen Dakwah FIDKOM UIN Jakarta kemudian memberikan saran kurikulum yang bisa menyesuaikan dengan era revolusi industri 4.0. Berdasarkan hasil penelitian menunjukkan bahwa banyak komposisi mata kuliah yang tidak seimbang antara Mata Kuliah Universitas (MKU) dan Mata Kuliah Fakultas (MKF) menjadikan mahasiswa menjadi terlalu umum dan tidak fokus dengan keahliannya. Banyak mata kuliah yang seharusnya ada misalnya enterpreneship dan kegiatan perkuliahan praktikum yang harus lebih banyak dan disinergikan dengan era 4.0. penyusunan kurikulum Prodi Manajemen Dakwah baik itu berupa tujuan/capaian, isi/capaian, metode/proses dan evaluasi/penilaian pengembangan kurikulum program studi Mananjemen Dakwah belum sepenuhnya sesuai perkembangan revolusi industri 4.0., Penyusunan Rencana Pembelajaran Semester (RPS), silabus singkat dan rencana tugas mahasiswa masih banyak yang belum menyesuaikan dengan kondisi revolusi industri 4.0 sehingga masih banyak kekurangan dalam penyusunan RPS.

Kata kunci: Pengembangan kurikulum, revolusi industri 4.0, Rencana pembelajaran Semester (RPS)

Abstract

This research is to photograph the condition of the curriculum at the Da'wah Management Study Program, FIDKOM UIN Jakarta, and then provide curriculum suggestions that can adapt to the era of industrial revolution 4.0. Based on the results of the study, it was shown that the composition of many courses that were not balanced between University Courses (MKU) and Faculty Courses (MKF) made students too general and not focused on their expertise. Many courses should exist, for example, entrepreneurship and practicum lecture activities that must be more synergized with the 4.0 era. the preparation of the Da'wah Management Study Program curriculum in the form of goals/achievements, content/achievements, methods/processes, and evaluation/assessment of the curriculum development of the Da'wah Management study program is not fully in line with the development of the industrial revolution 4.0., Preparation of Semester Learning Plans (RPS), short syllabus and plans there are still many student assignments that have not adjusted to the conditions of the industrial revolution 4.0 so there are still many shortcomings in the preparation of the RPS.

Keywords: Curriculum development, industrial revolution 4.0, Semester lesson plan.

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INTRODUCTION

Curriculum change is one thing that every study program must do. These changes are made to answer every challenge of the times. Changes in the curriculum are an important part of education, without a curriculum, education is not regular. This will lead to changes in curriculum development, especially in Indonesia. The curriculum is one of the tools to achieve educational goals, and at the same time, it is used as a guide in the implementation of the teaching and learning process at various types and levels of schools. The curriculum becomes the basis and reflects the philosophy of a nation's view of life, it will be directed to where and how the shape of this nation's life in the future, all of which is determined and described in an educational curriculum. The curriculum must be dynamic and continue to develop to adapt to various developments that occur in the world community and must determine the results as expected (Baharun 2017).

Nasir (Nasir 2018) revealed that higher education policies must be adapted to the conditions of the industrial revolution 4.0. According to him, there have been changes in policies and programs related to science and technology resources, institutions, learning, and student affairs, as well as research and development as well as innovation. Universities in compiling or developing a curriculum must refer to the KKNI and the National Higher Education Standards. The challenge faced by universities in curriculum development in the era of the Industrial Revolution 4.0 is to produce graduates who have new literacy skills including data literacy, technological literacy, and human literacy with noble character based on understanding religious beliefs. Universities need to reorient curriculum development that can answer these challenges.

The higher education curriculum is a program to produce graduates, so the program should ensure that graduates have qualifications that are equivalent to the qualifications agreed in the IQF. The concept that has been developed by the Directorate General of Learning and Student Affairs so far, in compiling the curriculum begins with establishing a graduate profile which is translated into a formulation of graduate learning outcomes. The formulation of abilities in the KKNI descriptor is stated in terms of learning outcomes (translation of learning outcomes), where competence is included in it or is part of learning outcomes (CP). The use of the term competence used in higher education (DIKTI) is found in SN-Dikti in article 5, paragraph (1), which states that the Graduate Competency Standards (SKL) are the minimum criteria regarding the qualifications of graduates' abilities which include attitudes, knowledge, and skills stated in the formulation of Graduate Learning Outcomes (CPL). (Guidelines for Compiling the Higher Education Curriculum in the Industrial Era 4.0, 2018).

The description of learning outcomes in the IQF contains four elements, namely elements of attitudes and values, elements of workability, elements of scientific mastery, and elements of authority and responsibility. Meanwhile, in the National Higher Education Standards (SN-Dikti) the formulation of graduate learning outcomes is included in one of the standards, namely the Graduate Competency Standards (SKL). In the National Standard for Higher Education (SN-Dikti), learning outcomes consist of elements of attitude, general skills, special skills, and knowledge. Based on the formulation of graduate learning outcomes (CPL), the curriculum of a study program can be developed. Based on Law Number 12 of 2012 concerning Higher Education, it is stated that curriculum preparation is the right of universities, but then it is stated that it must refer to national standards (Article 35 paragraph (1)).

The KKNI curriculum with the Blended learning model has been implemented from elementary to tertiary levels (Eryani 2021). Curriculum development is currently experiencing rapid development, the government has issued a new curriculum, namely the independent learning curriculum (Kholik et al. 2022), this has become an integrated curriculum between the Independent Learning Curriculum and Independent Learning (Hadis 2010). The curriculum will be implemented without reducing the development of industrial revolution 4.0.

This research was submitted by (Malahayati and Zunaidah 2021) the need for teaching materials in the form of textbooks to support the lecture process. This research will reveal the curriculum needs that must be in learning.

Islamic universities must upgrade themselves to face the industrial revolution by making various efforts to improve the quality of education (Helaluddin 2018). And turning industry 4.0 challenges can be managed into opportunities (Ghufron 2018) Current curriculum development must complement students' abilities in academic dimensions, life skills, ability to live together and think critically and creatively (Lase 2019). The curriculum is not only the task of the government and officeholders (Syam 2019) but also educators in order to achieve changes in behavior and human behavior changes from time to time. This has also changed the development of the education system in the world and Indonesia in particular. Higher education faces the challenges of higher education in the era of the industrial revolution 4.0. Higher education should continue to innovate in various aspects (Mulyadi 2010), one of which is redesigning the current curriculum to integrate several skills that must be mastered by graduates in the era of the fourth industrial revolution. Some of the steps taken in redesigning the curriculum are reviewing graduate competencies and rationalizing courses, implementing a new literacy program in Education (Risdianto 2019).

Broadly speaking, the curriculum, as a design, consists of four elements, namely learning objectives/achievements, study content/materials, learning methods/processes to achieve, and evaluation/assessment. This research tries to create a curriculum that is suitable for the era of the industrial revolution 4.0.

METHOD

This study uses qualitative methods with data collection techniques, namely observation and interviews and data analysis techniques to analyze semester learning plan documents as the implementation of study program development. The sources of the library studies in this research are research journals, books, and the internet.

Data retrieval using the following steps:

1. Knowing and finding out the appropriate type of library
2. Read the appropriate type of library
3. Perform analysis
4. Displaying the results of the literature study

RESULT AND DISCUSSION

Curriculum

The term curriculum is often interpreted as a plan for learning (educational plan). As an educational plan, the curriculum provides guidelines and guidelines regarding the type, scope, sequence of content, and educational processes (Setiadi 2016). Historically, the term curriculum was first known in Webster's dictionary in 1856. At first, the term curriculum was used in the world of sports, which is a tool that takes people from start to finish. Then in 1955, the term curriculum was used in the field of education, with the meaning of several subjects in a college (Hamzah 2017).

Etymologically the word curriculum is taken from Greek, Curere means the distance that must be traveled by runners from start to finish. This understanding is then applied in the field of education. In Arabic, the curriculum is often referred to as al-manhaj, which means the clear path that humans take in their fields of life. So from this understanding, the curriculum if it is associated with education, according to Muhaimin, means a clear path that is traversed by educators or teachers with students to develop knowledge, skills, attitudes, and values (Muhaimim 2012).

In Webster's New International Dictionary that the word curriculum comes from the Greek curricular which originally meant a road for a cart or a race. This term is then used in the world of education as a way, effort, activity to achieve teaching goals. Then the term developed into several subjects (syllabus) given in an educational institution to obtain a certain diploma. In the dictionary curriculum can be interpreted into two kinds

as follows: 1. several subjects that must be taken or studied by students in schools or colleges to obtain a certain diploma; 2. several subjects offered by an educational institution or department.

Furthermore, in Arabic, the term curriculum can be interpreted as *manhaj*, which is a bright path, or a bright path that is traversed by humans in the field of life. In the context of education, curriculum means a clear path that must be passed by educators and students to develop knowledge, skills, attitudes, and values (Djamarah 2002).

The mandate of Law Number 12 of 2012 Article 35 paragraph 2 concerning the curriculum states that the higher education curriculum is developed by every tertiary institution regarding the National Higher Education Standards for each Study Program which includes intellectual intelligence, noble character, and skills.

The definition of curriculum put forward by experts seems to vary widely, but from that definition, a common thread can be drawn, that on the one hand there is an emphasis on the content of lessons or courses, and on the other hand more emphasis on the process of the learning experience. The old notion of curriculum emphasized more on the content of lessons or courses, in the sense of several subjects or courses at schools or colleges that must be taken to get a diploma or to increase the level; also the entire lesson presented by an educational institution (Nasution 2001).

Industrial Revolution 4.0

The history of the industrial revolution starts from industry 1.0, 2.0, 3.0, to industry 4.0. The industrial phase is a real change from existing changes. Industry 1.0 is characterized by the mechanization of production to support the effectiveness and efficiency of human activities, Industry 2.0 is characterized by mass production and quality standardization, Industry 3.0 is characterized by mass customization and flexibility of automation and robot-based manufacturing. Industry 4.0 then comes to replace industry 3.0 which is characterized by cyber-physical and manufacturing collaboration (Hermann, Pentek, and Otto 2016). The term Industry 4.0 comes from a project initiated by the German government to promote the computerization of manufacturing.

Lee et al (Lim, Lee, and Nam 2007) explained, industry 4.0 is characterized by an increase in manufacturing digitization driven by four factors: 1) an increase in data volume, computing power, and connectivity; 2) emergence of business analytics, capabilities, and intelligence; 3) the occurrence of new forms of interaction between humans and machines; and 4) improvement of digital transfer instructions to the physical world, such as robotics and 3D printing. Liffler and Tschienner (Cayeni 2019) add the basic principle of Industry 4.0 is the integration of machines, workflows, and systems, by implementing intelligent networks along the production chain and processes to control each other independently.

The industrialization of the world began in the late 18th century with the advent of steam power and the invention of the power loom, radically changing how goods were produced, this period is known as the 1.0 industrial revolution. A century later, electricity and assembly lines made mass production possible, otherwise known as the 2.0 industrial revolution. In the 1970s, the 3.0 industrial revolution began when advances in computer-powered automation allowed one to program machines and networks.

Today, the fourth industrial revolution (4.0) is changing economies, jobs, and even society itself. The essence of Industry 4.0, is the merging of physical and digital technology through analytics, artificial intelligence, cognitive technology, and the Internet of Things (IoT) to create a digital company that is interrelated and capable of producing more informed decisions.

Digital companies can communicate, analyze and use data to drive smart actions in the physical world. In short, this revolution is embedding intelligent and connected technology not only in companies but also in our daily lives. The World Economic Forum (WEF) calls the Industrial Revolution 4.0 a revolution based on the Cyber-Physical System which is broadly a combination of three domains, namely digital, physical, and biological. Characterized by the emergence of artificial intelligence functions, mobile supercomputing, intelligent robots, self-driving cars, neuro-technological brain enhancements, the era of big data that requires cybersecurity capabilities, the era of biotechnology development and genetic editing (gene manipulation).

The era of the industrial revolution 4.0 changed the concept of work, the structure of work, and the competencies needed by the world of work. A survey by international recruitment company, Robert Walters, titled Salary Survey 2018 said that the focus on business transformation to digital platforms has triggered the demand for human resources (HR) professionals who have far different competencies than before. The era of the industrial revolution 4.0 has also changed the perspective on education. The changes made are not just the way of teaching but are far more essential, namely changes in the perspective of the concept of education itself.

Education must at least be able to prepare its students to face three things: a) prepare children to be able to be workers whose jobs do not currently exist; b) preparing children to be able to solve problems whose problems have not yet arisen, and c) preparing children to be able to use technology whose technology has not yet been discovered. It's homework that is not easy for the world of education. To be able to face these challenges, an important requirement that must be met is how to prepare qualified teacher qualifications and competencies.

Vision, Mission, and Objectives of Study Program

1. Vision

The Da'wah Management Study Program will become a Study Program with Humane, Islamic, Indonesian-Indonesian Insights and excels in Da'wah Management Studies at the International level in 2045"

2. Mission

- a. Organizing Strata 1 education to create Muslim scholars who have advantages as managers in the fields of Da'wah Management, Administration, Leadership, and organizations that can compete with the global environment.
- b. Conducting research to develop Da'wah Scientific, Da'wah Leadership, Da'wah Activities, and Da'wah Institutions.
- c. Organizing cooperation with related institutions such as zakat management institutions, Islamic financial management institutions, Hajj, and Umrah travel management institutions.
- d. Organizing community services such as Social Service and Da'wah Safari.
- e. Organizing scientific activities: National seminars and workshops.

3. Purpose

- a. Producing professional and highly dedicated and competitive Da'wah Management scholars.
- b. Produce contemporary and applicable Da'wah Management science research products.
- c. Develop and disseminate Islamic da'wah to help resolve humanitarian and religious problems with the Da'wah Management approach.
- d. Prepare students to become community members who have academic abilities and can apply them to religious activities.

Graduate Profile (Main Competencies of Study Program)

The profile of graduates of the Management Study Program is religious, professional, and humanist.

- a. Religious. Have a good attitude (good attitude) that can implement religious orders correctly and exclusively (moderate)
- b. Professional. Has the ability and competent competence in his field, namely the field of Hajj and Umrah management, management of Islamic financial institutions, and management of zakat, infaq, alms, and waqf
- c. Humanist. Able to work individually or in groups, able to socialize and adapt well to diverse environments.

Study Program Learning Outcomes (Program Outcomes)

- a. Knowledge: Knowledge of theoretical concepts about Management in general as well as specific concepts in the branch of Da'wah Management

- b. Skills: The ability to apply expertise in the field of management by utilizing the development of science and technology in the field of da'wah
- c. Application: Ability to integrate management science and da'wah science
- d. Analysis: The ability to write, present, and make sound decisions based on information and data analysis, and take various alternative solutions independently and in groups using information technology to support lifelong learning
- e. Community Service: Ability to manage research and development in the field of management that is beneficial for Islamic da'wah and gains national and international recognition.

Course Learning Outcomes (Learning Outcome Program)

Learning outcomes consist of:

1. Attitude
 - a. Upholding spiritual values which include piety to God Almighty, respect for human values, internalization of values and norms
 - b. Upholding Indonesian and social values, including respect for diversity, nationalism and state responsibility, and improving social life, cooperation, concern for others, the nation, and the state based on Pancasila
 - c. Uphold the values of academic ethics, which include honesty, and academic freedom and academic autonomy.
2. Technical Knowledge and Competencies
 - a. Demonstrate knowledge of religion and Indonesia
 - b. Demonstrate knowledge of general and specific management theory for the benefit of da'wah
 - c. Demonstrate knowledge of the basics of management theory
 - d. Explain management theory and be able to apply it in da'wah pawns
 - e. Apply knowledge about da'wah management in the community
 - f. Apply knowledge about the integration of science, religion, and Indonesianness in the learning process
 - g. Analyzing the development of da'wah management knowledge in Indonesia
 - h. Analyzing the situation, conditions, and characteristics of the community to determine appropriate strategies, approaches, and learning methods to improve the quality of da'wah
 - i. Analyzing the integration of scientific values with Islam and Indonesianness
 - j. Able to give clear, concise, and quality presentations both in written and oral form
 - k. Able to process information in the form of data and facts scientifically
 - l. Able to carry out scientific arguments on the presentation of the data given
 - m. Able to develop arguments and think critically.
3. Practical Skills
 - a. Have the ability to preach about management learning
 - b. Have the ability to make a da'wah management learning assessment.
4. Transferable/Key Skills
 - a. Demonstrate clear and coherent da'wah skill
 - b. Demonstrate active participation in discussions both in class and in wider discussion forums (seminars and conferences)
 - c. Demonstrate the ability to write good and correct scientific papers following the applicable rules
 - d. Have the ability to use technology for da'wah purposes
 - e. Have the ability to work collaboratively in groups and appreciate the value of working with others
 - f. Have the ability to solve problems using primary and secondary sources of information
 - g. Have the ability to obtain, process, control, and analyze data for various purposes (presentations, research, etc.).

5. Skills For Lifelong Learning

- a. Demonstrate intellectual independence in research planning and problem-solving
- b. Have the ability to reflect on self-ability in learning and achievements for career development.

Needs Analysis

Analysis of needs in developing the curriculum is as follows:

1. Graduate profile

Profiles of alumni of the Da'wah Management Study Program are those who are Religious, Professional, and Humanist. Religious where alumni have a good attitude (good attitude) who can implement religious orders correctly and exclusively (moderate). Professionals where alumni have qualified abilities and competencies in their fields, namely the field of hajj and umrah management, management of Islamic financial institutions, and management of zakat, infaq, alms, and waqf. Humanistic where alumni can work individually or in groups, can socialize and adapt well to diverse environments.

2. Study material

Curriculum preparation in the 4.0 era where global demands are that the current era is in the industrial era. Where every alumnus must be able to adapt to all conditions, Da'wah Management must prepare alumni who are not only able to work according to their fields but they do not forget their morals and religion. This condition forces the study program to adapt so as not to be out of date.

Curriculum Development Design

Learning Outcomes of Graduates (CPL) Study Program

The CPL of the study program is as follows:

1. Knowledge: Knowledge of theoretical concepts about Management in general and also specific concepts in the branch of Da'wah Management
2. Skills: The ability to apply expertise in the field of management by utilizing the development of science and technology in the field of da'wah
3. Application: Ability to integrate management science and da'wah science
4. Analysis: Ability to write, present, and make appropriate decisions based on analysis of information and data, and take various alternative solutions independently and in groups using information technology to support lifelong learning
5. Community Service: Ability to manage research and development in the field of management that is beneficial for Islamic da'wah and gains national and international recognition. This study explains in detail what the demands of the industrial revolution 4.0 are, where students can carry out the tri dharma of higher education.

Subject

There are too many course compositions in University Courses (MKU) and Faculty Courses (MKF), so there needs to be a streamlining of composition. Almost all Indonesian universities have not included English courses as courses that have a credit load. Another subject that is not yet available is entrepreneurship, even though this course is very important to be given to students as preparation for independence in the real world.

CONCLUSION

Based on the results of the research and discussion, it can be concluded as follows in the preparation of the curriculum for the Da'wah Management Study Program in the form of goals/achievements, content/achievements, methods/processes and evaluation/assessment of the curriculum development of the Da'wah Management study program not fully in line with the development of the industrial revolution 4.0., Preparation Semester Learning Plans (RPS), short syllabus and student assignment plans are still many who

have not adjusted to the conditions of the industrial revolution 4.0 so there are still many shortcomings in the preparation of the RPS.

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