PalArch's Journal of Archaeology of Egypt / Egyptology

MODEL OF OBE (OUTCOME-BASED EDUCATION) CURRICULUM AND SYLLABUS INFORMATION SYSTEM TO SUPPORT AN INDEPENDENT CAMPUS IN INDONESIA

Aditya Muhammad Noor Sehabudin[1], Dwika Anggraeni[2], Eri Mahliyadin[3], Rika Rizkia[4], Sri Lestari[5]

E-mail: [1]aditya.sehabudin@widyatama.ac.id, [2]dwika.angraeni@widyatama.ac.id,
[3]eri.mahliyadin@widyatama.ac.id, [4]rika.rizkia@widyatama.ac.id,
[5]sri.lestari@widyatama.ac.id

Aditya Muhammad Noor Sehabudin, DwikaAnggraeni, EriMahliyadin, Rika Rizkia, Sri Lestari. Model Of Obe (Outcome-Based Education) Curriculum And Syllabus Information System To Support An Independent Campus In Indonesia-- Palarch's Journal Of Archaeology Of Egypt/Egyptology 17(5), 414-428. Issn 1567-214x

Keywords: Independent Campus, Obe (Outcome-Based Education), Curriculum, Syllabus

ABSTRACT

Currently universities in accordance with instructions from the Indonesian Ministry of Education and Culture must implement the concept of an independent campus. This study aims to design an OBE curriculum and syllabus information system (Outcome-based Education)to support the concept of an independent campus in Indonesia. The study was conducted using qualitative methods. This research provides benefits for tertiary institutions to implement an independent campus policy in higher education that encourages an increasingly autonomous and flexible learning process so as to encourage the creation of an innovative, non-restraining, and learning culture that is in line with the needs of each tertiary institution.

INTRODUCTION

Outcome-Based Education (OBE) is a learning method that provides a foundation for what students should do [1]. At OBE, learning outcomes or outcomes are identified first then planning learning methods and assessments are adjusted to outcomes [2]. Planning, teaching and evaluating in OBE are guided by four simple questions namely: What do we want students to learn? Why do we want students to learn that? What is the best way to help students learn about it? And how do we know students have learned that? [4].

Learning applied in most universities in Indonesia generally uses the Teacher-centered (input-oriented) method. This learning method puts pressure on the teaching and learning process. If the educator (lecturer) has delivered the course well then it is considered sufficient. Output depends on the results of the teaching and learning process. This learning model is relatively dependent on teaching staff. Student achievement is measured after the teaching and learning process is complete. Good or not, the results achieved by students depend on the teaching and learning process carried out. One weakness of this method is that learning outcomes that have been determined in the course cannot be fully achieved.

The world of higher education in Indonesia has recently been enlivened by the emergence of a new slogan "Kampus Merdeka", Minister of Education and Culture NadiemMakarim explained that the Campus Merdeka policy package is the first step in a series of policies for tertiary institutions.

Merdeka Campus carries four policies within the tertiary institution, namely:

1. Higher education accreditation system
2. Three-semester learning rights outside the study program
3. Opening of new study programs
4. Ease of becoming PTN-BH (Legal Entity PTN)

Of the four points, especially the second point explains how the Independent Campus grants rights to students to take courses outside the study program and make changes to the definition of SatuanKredit Semester (SKS). In other words, students are given the right to take or not SKS off campus for two semesters, students can also take SKS for other study programs on campus one semester of the total semester to be taken. Furthermore, the Minister of Education and Culture explained that there was a change in understanding about SKS, where SKS was defined as 'hours of activity' rather than 'hours of study'. Kegitana here means learning in the classroom, internships or work practices in industry or organizations, student exchanges, community service, entrepreneurship, research, independent studies, and teaching activities in remote areas. Later, each activity chosen by students must be guided by a lecturer determined by the campus, while the list of activities that can be taken by students can be selected from programs determined by the government or programs approved by the campus rector.

From the explanation above, the researcher wants to design an OBE-based curriculum and syllabus information system that aims to support the Independent Campus in Indonesia.

LITERATURE REVIEW

OBE is an approach that emphasizes the sustainability of the learning process in an innovative, interactive, and effective manner [6]. OBE means to focus and organize everything in the education system about what is important for all students to be able to succeed at the end of their learning experience [7].

OBE influences the entire educational process from curriculum design; formulation of objectives and learning outcomes; education strategy; learning method design; assessment procedure; and educational environment [8].

The quality of the education system can be assessed from three points of view namely input to the system, what happens in the system and the output of the system. Input focuses on finance, resources, infrastructure, etc. Those who are interested in what happens in the system will focus their attention primarily on the processes used to regulate, control and provide education and training. Whereas those who are interested in outcomes will focus their attention on the products or results of the educational process. There are two types of results from the education system, the first including performance indicators such as test results, completion rates, etc. The second type is usually stated in what is known and able to do [4].

The Faculty of Health Sciences at KPJ Healthcare University College (KPUJC) has implemented OBE since 2014 and the learning outcomes show positive results. This research focuses on students' perceptions of OBE and their academic achievement. This research uses descriptive method where quantitative data are collected using questionnaires. The results of this study indicate that respondents have a good perception of the OBE system, and these findings can help the system to develop and become a stepping stone for a better education system in the future. Respondents also reported that with this system, communication skills with the community and professional level developed thanks to simulation sessions and training during study time [5].

Of the various problems and challenges that accompany it, both conceptually and operationally the implementation of themodel OBE-based curriculum and syllabus-based information system designcan support for the educational process in Indonesia whether PTN or PTS become the concept of an independent campus, as said by the Minister of Education and Culture NadiemMakarim to link primary and secondary education policies with higher education. The concept of "Free Learning" which was previously aimed at primary and secondary education is now substituted to the level above it with the concept of "Independent Campus". It seems that Nadiem's policies tend to be pragmatic, in contrast to Mohammad Nasir who is more concerned with achievements that tend to be academic. Although there are different pressure points, both policies have a disruptive effect on universities that are not serious in managing education [10].

Institutions of higher education have an obligation to plan and design the best methods for students to follow and understand what is taught. Sometimes, a skilled professor may be able to deliver material that is quickly understood by students. However, it is not uncommon for many lecturers to experience difficulties in conveying what is easily understood by students due to various conditions, such as limited time, class atmosphere, and various conveniences that often go up in the classroom. Appropriate solution to this problem is implementing e-learning in supporting the learning process. In its concept, e-learning will help transfer knowledge from teacher to student. Unfortunately,

many schools involved in building e-learning systems do not see a significant increase in knowledge transfer, as explained in various existing e-learning concepts [11].

The learning process through the concept of merdeka learning focuses on the concept of deeper learning in a more tangible community environment that is very closely related to the performance of teaching staff, lecturers or instructors. An understanding of the nature of the teaching workforce is very important as a foundation in the training program and developing teaching staff. Thus the concept of an independent campus is very supportive for readiness to face the challenges of education in the industrial revolution era 4.0.

METHODS

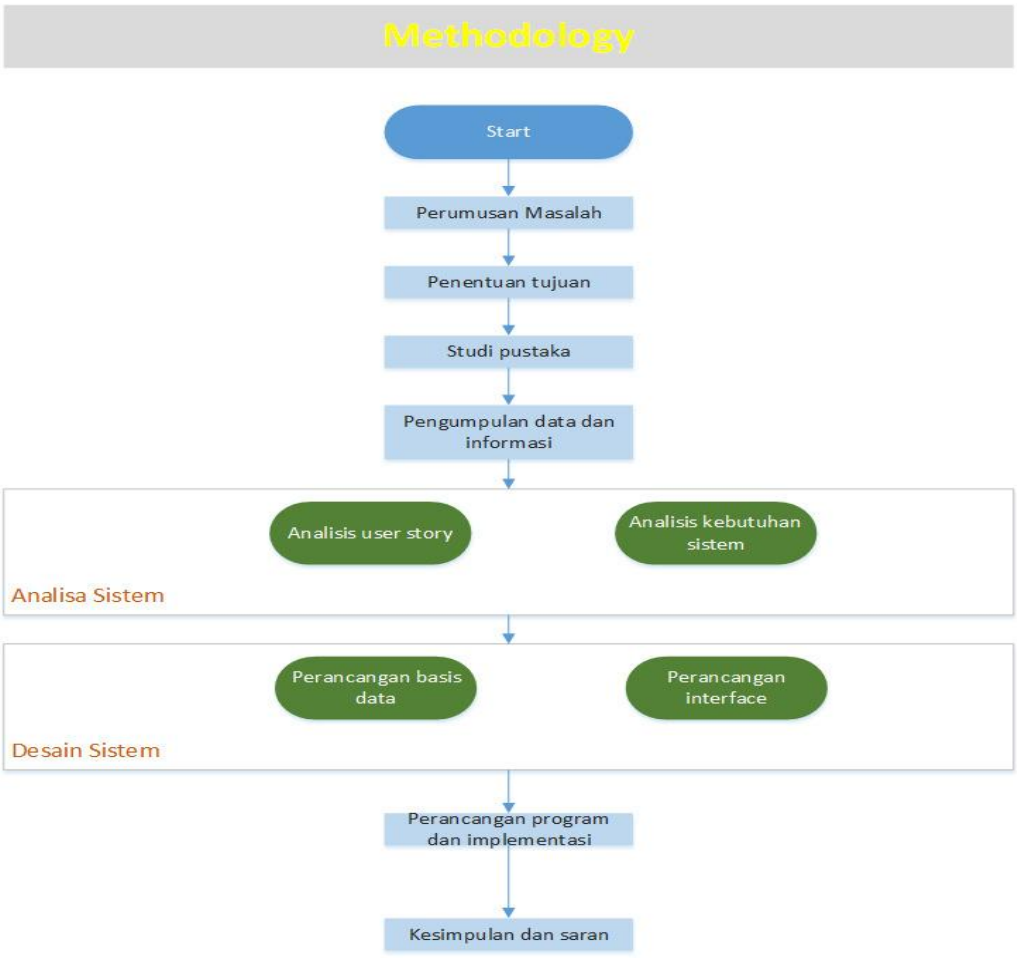


Figure 1. Research Methodology

FINDINGS

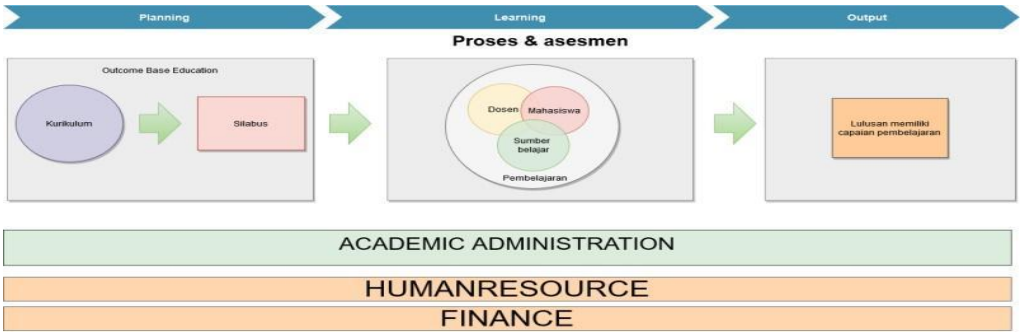


Figure 2. Overview of Academic Process

Thepicture above is a general description of the academic system in universities in Indonesia, where in the picture above is divided into the support layer, master layer and core layer, the following is an explanation for each layer:

1. Support layer

at the support layer there are Human Resources and Finance as supporting the existing process above (Academic).

2. The

Academic administration master layer becomes the master layer, because all necessary data such as lecturer data, academic calendars, teaching schedules are handled at this layer.

3. Core layer.

a. Planning

There are two activities carried out namely curriculum and syllabus and good preparation and provide a measurement of student success towards learning. The expected outcome at this stage is in the form of a RPS (Semester Teaching Plan) which lists the activities of each course per week and the formulation of its achievements.

b. Learning

There are activities of lecturers, students, and learning resources where all three activities are wrapped in learning activities. .

c. Output

Contains the achievements of each student in the form of SKPI which contains CPMK (Course Achievements).

Analysis of functional needs

Analysis of functional needs as follows:

The

1. System can manage subjects (Manage Subject).
2. The system can perform equivalence both in different curriculums and in one curriculum (Equivalence Subject).
3. The system can manage syllabus (Syllabuses (OBE and RPS)).
4. The system can manage CPL-P (Manage CPL-P).

5. The system can manage the list of achievements that must be fulfilled by students to the courses they administer (Manage CPMK).
6. The system can accommodate various types of assessments for each course. (Manage Assessment Tools).
7. The system can manage questions or statements in each assessment (Manage Question).
8. The system can manage teaching references for each week (Manage Reference).
9. The system can manage learning media that will be implemented every week (Manage Teaching Media).
10. The system is able to manage semester teaching plans (Manage (SAP / RPS)).

Analysis of non-functional needs

1. Analysis of software requirements

To support this designed system, supporting software is needed including:

a. Apache.
b. Programming languages (CI, Laravel, Angular etc.).
c. Code editor (Netbeans, visual studio, Notepad ++).
d. OS (Windows 10, Mac OS etc.).

2. Analysis ofhardware requirements

a. Intel Core i5 PC / Laptop.
b. 8GB RAM.
c. 1 TB Hard Disk.
d. Monitor and VGA resolution of 1024x768 (minimum).
e. Internet connection.

Design flow system using the curriculum and syllabus flow map

CurriculumFlow folder

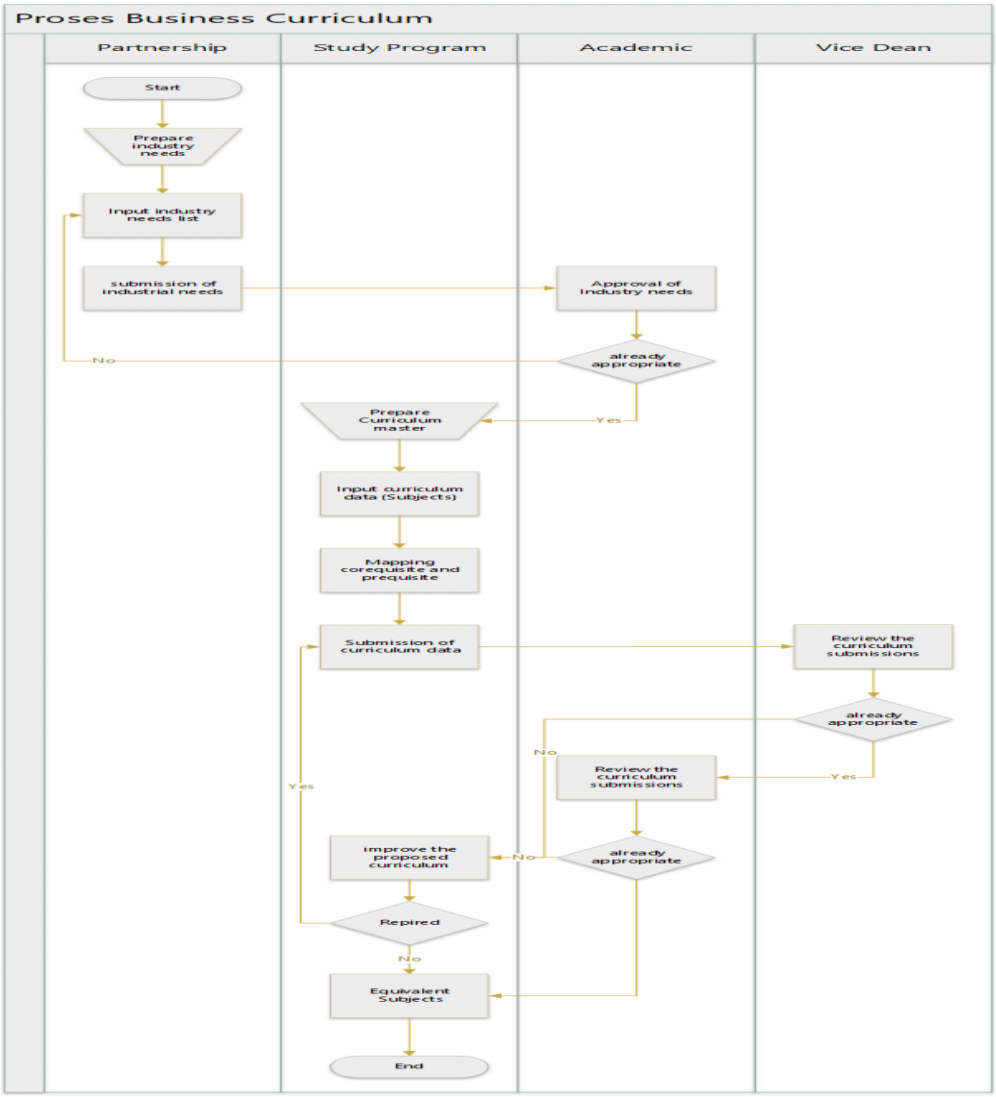
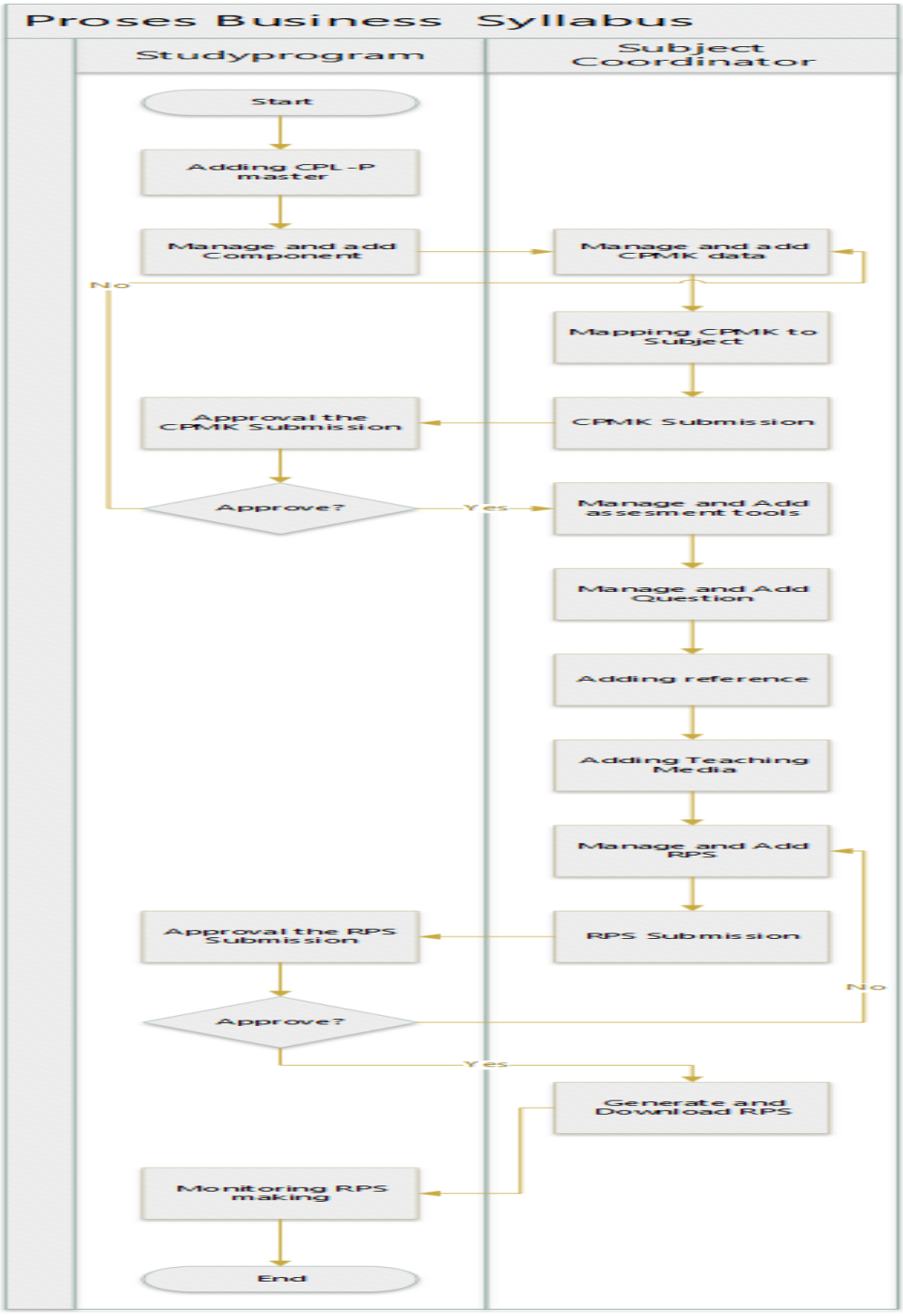


Figure 3.Flowmap curriculum

Flow folders syllabus



Syllabus Flowmap**Figure 4.**

Use case

Here is a draft usecasenya

Figure5. Use Case

Descriptions actor

Table1. Description Actor

Actor	Description
StudyProgram	Studyis the program that is responsible for making the new curriculum, making CPL-P, making components, and approval of CPMK and RPS.
Academic	Academic is the person responsible for overseeing curriculum development, approval of the proposed curriculum, active management of the curriculum year, and approval of industry needs as material for curriculum development.
Vice Dean	Vice Dean is the person responsible for the approval of the industry requirements in making the curriculum, as well as the curriculum submission approval.
The Subject Coordinator The	Subject coordinator is responsible for making CPMK, assessment, questioning, and making RPS.
Partnership	Partnership is a person who is responsible for providing a list of industry needs which will later be taken into consideration in the preparation of a new curriculum by the study program.

Table 2. Use Case Description

Use Case	Description
Manage Subject	Study programs can manage courses, which have been prepared for the relevant curriculum.
Curriculum Submission	Study program can submit for each course that is ready to be approved by the academic and vice dean.
The Equivalent Subjects	Study program can conduct equivalent courses both with different curriculums and with courses in the same curriculum, as a treatment if there is a student exchange whose subjects need to be recognized at the relevant university.
Manage Curriculum Year	Academic manages active and non-active curriculum years.
Manage industry profile	Industry fills in its profile data as biodata at the university.
Manage industry requirements	Industry formulates the needs that are needed in the future, so that later it will be able to be studied by the curriculum team of the study program.
industry requirement	Academic and Vice Deancan approve industrial needs that have been submitted.

s	
Curriculum Approval	Academicand Vice Dean can approve courses in related curricula that have been submitted by the study program.
Manage CPL-P	Study program can manage the achievements of study program graduates for the need for syllabus input later, as well as being the basis for student assessment later.
The Manage Component	Study program can manage the components that will be used by the subject coordinator in preparing assessment tools that will be carried out in related subjects.
Manage CPMK	Subject Coordinator can manage course performance (CPMK), where this CPMK will later be used as an achievement generated in a lecturer and student teaching.
Approval CPMK	Study program conducts CPMK approval submitted by the subject coordinator.
Manage Assessment	Subject coordinators can develop assessment tools that will be carried out during teaching later.
Manage questions	Subject coordinators can compile questions or statements that will be accommodated in the associated Assessment tools.
Manage reference	Subject Coordinator can add references as learning references that will be used in the preparation of RPS.
Manage teaching media	Subject Coordinator can add teaching media to support teaching implementation.
Manage RPS The	Subject Coordinator can prepare semester teaching plans per week.
Approval RPS	Study program can conduct RPS approval that has been submitted by the Subject Coordinator.

Table3. Curriculum management scenario

Scenarios for Designing OBE (Outcome-based Education) Curriculum and Syllabus Information System for Supporting Independent Campuses in Indonesia	
Description	Actor'sActors Perform curriculum management starting from adding courses, setting active curricula, and equivalent courses.
Actor	Study program, Academic, and Vice Dean.
Initial Conditions A	New curriculum has not been created; a new curriculum has not been compiled, and has not yet carried out equivalents for each course.
Final Conditions	New curriculum has been created; a new curriculum has been compiled, and has carried out equivalents for each course.
TheScenario	
ActionActor Action	System
1. Academicadds an active curriculum year.	2. Store the latest curriculum year data with active status.

3. Study program prepares course data to be compiled in the relevant curriculum.	
4. Study programs input curriculum data (list of courses) that are ready.	5. Save course data into a database with a status not yet submitted.
6. Study programs submit curriculum (course data) that has been made.	7. Changed the course status that was not originally submitted to submit.
8. Academic and Vice Dean approve the submission of new curriculum (course data).	9. Change the status of the course that was originally submitted to approved or disapproved.
10. Study programs conduct equivalent courses from the previous curriculum or can be from the same curriculum.	11. Storing equivalent group data into a database.

Table4. Syllabus management scenario

Scenarios for Designing OBE (Outcome-based Education) Curriculum and Syllabus Information Systems for Supporting Independent Campuses in Indonesia	
Description of	OBE Actor Manages , teaching material, teaching media, student experience, and teaching methods)
Actor	Study program, Subject Coordinator.
Initial Conditions	New syllabus has not been made, new syllabus has not been compiled, and the RPS has not been compiled.
Final Conditions A	new syllabus has not been made, a new syllabus has not been compiled, and an RPS has not been compiled.
Scenarios	
Actionfor Actors in	TheSystem Reaction
1. Studyprogram inputting CPL-P data (Study	2. Storing CPL-P data into a database.

Program Outcomes).	
3. Study programs manage and input component data.	4. Store Component data into a database.
5. The Subject Coordinator inputs CPMK data and maps it to the course.	6. Store CPMK data and CPMK mappingand it into the database.
7. The subject coordinator submits the CPMK when it's ready to use.	8. Changed the status of the CPMK data to be submitted.
9. Study programs approve or disapprove the submission of CPMK.	10. Change the CPMK status that was originally submitted to approved or disapproved.
11. The Subject Coordinator inputs and manages assessment tools per subject.	12. Save the Assessment tool data into a database.
13. The Subject Coordinator inputs question data while mapping CPL-P and CPMK.	14. Storing question data into the database
15. Subject Coordinator inputs RPS data (References, teaching materials, teaching media, student experience, and teaching methods) that will be used during teaching.	16. Save RPS data (References, teaching materials, teaching media, student experience, and teaching methods) into a database.
17. The Subject Coordinator submits the submission for the RPS that was made	18. Changed RPS status to submitted.

19. Study programs approve and disapprove the proposed RPS.	20. Change the status of the RPS that was originally submitted to approved or disapproved.
21. Study programs and Subject coordinators can generate RPS.	22. Generating RPS and will generate pdf in accordance with the format that has been adjusted.

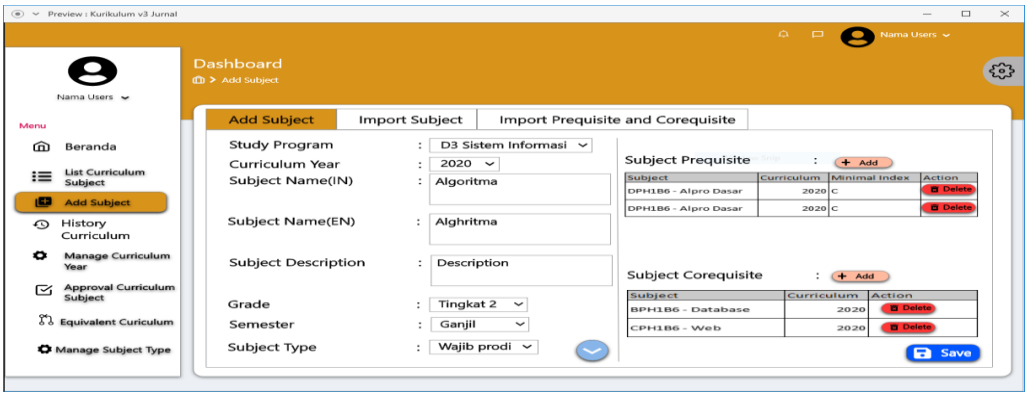


Figure 06. Form added courses

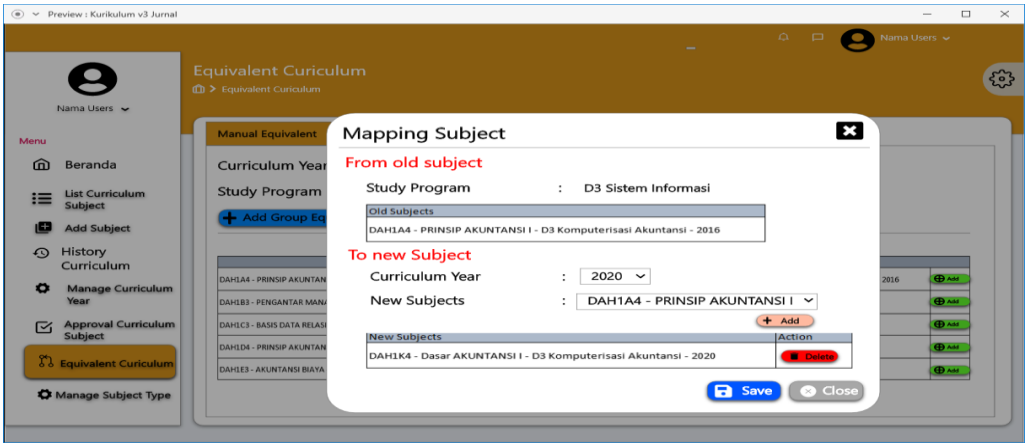


Figure7. Equivalent form of

CONCLUSIONS

Outcome-Based Education course is a learning method that emphasizes the learning process in an innovative, interactive and effective manner, where the main goal is student achievement at the end of the learning period. The use of OBE is expected to support the concept of an independent campus that was coined by the Indonesian Minister of Education and Culture NadiemMakarim. In this design, OBE-based curriculum and syllabus information systems have been created to support the Merdeka Campus. By using this system, actors can manage courses, manage industry profiles and their needs, prepare assessment tools, and add learning media, to making semester teaching plans. It is expected that in the future the OBE-based curriculum and syllabus information

system can be applied in tertiary institutions that implement an independent campus learning system.

REFERENCES

HarisWahyudi, Ignatius AgungWibowo. 2018.Innovation and Implementation of Outcome Based Education (OBE) and the Washington Accord in the MercuBuana University Mechanical Engineering Study Program Journal of mechanical engineering. 07 (2): 2549 - 2888.

Davis, MG (2003). Outcome-Based Education and Educational Strategies. Journal of Veterinary Medical Education, 30 (3).

[Dikti] Directorate General of Learning and Student Affairs. 2018. Guide to the Preparation of Higher Education Curriculum in the Industrial Age 4.0. Jakarta (ID): Directorate General of Learning and Student Affairs, Ministry of Research, Technology and Higher Education.

Killen, R. (2000). Outcomes-based education: Principles and possibilities. unpublished manuscript, university of new castle faculty of education.

Zain, NM, Hadi, AA, & Hamid, KA (2016). Outcome based education: a perception from private health sciences graduating scholars in Malaysia European Journal of Education Studies.

Harden RM, 2007, Outcome-Based Education: the future is today, Med Teach. 29 (7): 625–629, doi: 10.1080 / 01421590701729930.

Spady, WG, 1994. Outcome-Based Education: Critical Issues and Answers. American Association of School Administrators, 1801 North Moore Street, Arlington, VA 22209

Harden RM, 1999, AMEE Guide No. 14: Outcome-based education: Part 1-An introduction to outcome-based education, Med Teach, 21 (1): 7–14, doi: 10.1080 / 01421599979969

Hasanah, Alfiah. 2008. Exam as The Evaluation of Learning Objectives; Alternatives Forms of Assessments Techniques in The Study of Economics. Journal of Business, Management & Economics, Widyatama University, Volume 9 Number 4, 2008-05

SyamsulArifin. 2020. Disruptive Policy of Higher Education at https://www.jawapos.com (access 17 March 2020)

Istanbul, Muhammad Rozahi. 2012. Optimizing the Implementation of E-Learning Strategies in Higher Education. International Journal of e-education, e-business, e-management and e-leraning, 2012-04.