

Maps Dynamic Collaborative Learning In Indonesia Integrated and Open Online Learning (PDITT)

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Abstract

The development of the education system in Indonesia is one of the significant priorities because there is still a gap between the level of community participation and the opportunity to acquire learning resources and integrated easily. Indonesia government has implemented Integrated and Open Online Learning (PDITT), which would bring fresh air to the wider community, not just for colleges and universities, but also citizens are able to participate actively in this policy. In practice, PDITT still need an outstanding development of the methodology as well as architecture. Dynamic Collaborative Learning is one of the workflow execution can promise PDITT will able to run better and qualified above average compared to other learning systems architecture model. The study produced a map that can be used as a reference for developing business processes PDITT system.

Keywords: Dynamic Collaborative Learning, Online Learning, Workflow

1 Introduction

In the National Medium Term Development Plan (RPJMN) 2010-2014, the Government of the Republic of Indonesia has set the development of education became a national priority. In the Strategic Plan, it is stated that education is important and urgent instrument in economic and social development. Education is expected to support efforts to alleviate poverty, improve gender equity and equality, and strengthening cultural values.

Based on the data of the working population in 2001, which is nearly 100 million, more than 60 percent of educational background in elementary school (SD) or did not complete primary school. In fact, nearly ten years later in 2010 the Indonesian labor is still dominated by graduates from high school (SMA) and Vocational School (SMK) as much as 50%.

This condition is not without reason, because one of the major problems faced by this nation is because only a small fraction of them are able to continue their education to the college level. In addition to funding constraints, the limited capacity of the college is also a

strategic issue for secondary education graduates to achieve the dream as a scholar. The total number of students from public and private universities, as well as including the Open University students (UT) in 2010 alone was approximately 5.2 million. While the number of Indonesian population aged 19 to 25 years (the age of the potential for learning in college) to 21,184 million, meaning there are about 16 million people in Indonesia have not been able to get an education in college [1].

In 2009, the number of registered universities within the Directorate General of Higher Education is composed of as many as 3,016 83 State Universities (PTN) and the 2933 Private Higher Education (PTS). The existence of such colleges spread across the major cities, provinces, and parts of Indonesia. However, the distribution of colleges in each city, region, or the region where there is uneven or the city very much and college populations elsewhere are very limited and may not even exist.

In line with the distribution of colleges based Kopertis/PTN, and regional as described above, where the college has spread throughout the province. That is, in every province in Indonesia has established a college of varying amounts.

Table 1. The number of colleges in the Higher Education environment based on the province where the organization of educational activities

	NAMA PROVINSI	JUMLAH		NAMA PROVINSI	JUMLAH
01	DKI JAKARTA	323	18	SULAWESI TENGAH	29
02	JAWA BARAT	381	19	SULAWESI SELATAN	203
03	JAWA TENGAH	242	20	SULAWESI TENGGARA	35
04	D I YOGYAKARTA	124	21	MALUKU	22
05	JAWA TIMUR	327	22	BALI	52
06	NANGROE ACEH DARUSSALAM	95	23	NUSA TENGGARA BARAT	45
07	SUMATERA UTARA	239	24	NUSA TENGGARA TIMUR	36
08	SUMATERA BARAT	107	25	PAPUA	39
09	RIAU	69	26	BENGKULU	17
10	JAMBI	37	27	BANTEN	102
11	SUMATERA SELATAN	106	28	MALUKU UTARA	15
12	LAMPUNG	72	29	KEPULAUAN BANGKA BELITUNG	14
13	KALIMANTAN BARAT	40	30	GORONTALO	11
14	KALIMANTAN TENGAH	22	31	IRIAN JAYA BARAT	17
15	KALIMANTAN SELATAN	40	32	KEPULAUAN RIAU	27
16	KALIMANTAN TIMUR	62	33	SULAWESI BARAT	17
17	SULAWESI UTARA	49		Grand Total	3.016

Moreover, the existence of the college has spread in 300 cities / districts across Indonesia. These data show that when the number of cities / districts across Indonesia as much as 471 cities (Ministry of Home Affairs in the National Conference III APEKSI in Solo, 2008), then 64% have had college. However, college is not spread evenly and not even proportional to the number of existing students.

Advancement of information and communication technology currently carries a variety of changes in human life. Role of Information and Communication Technology (ICT) is increasingly felt in various sectors, particularly in education. The role of ICT in education is expected to improve the quality of education as one of the pillars of nation building. Improving the quality of education to be a priority with the realization that success in the future of a nation depends on the quality of education. Therefore, the Ministry of Education and Culture was seriously put the pillars of education through the mission, known as 6 K, for instance: Availability, Affordability, Quality, Relevance and Culture, Equity and Certainty [3].

Learning resources is one of the aspects of education that must be available, affordable, high quality, relevant to the needs of society, and are accessible to all, with no discrimination based on sex, age, religion, race, and is guaranteed certainty in accessibilities. Currently the achievement of these goals can be accomplished with a single word that is "technology". The development of information and communication technology has been so rapid, those has an impact on the ease of social networking, and have access to information, as well as interacting directly with no limits of space and time.

In order to carry out its mission to achieve the vision of the Ministry of Education and Culture has attempted to open up access using network technology and communication technology. The presence of Electronic School Books, and Home Learning is a powerful tool for students to learn without knowing their existence and time. Learning is very efficient, because the same learning resources that can be used by thousands of people at the same time.

Learning will appeal particularly to students, if the information is presented in easy to understand these facilities, please, make the participants learn more and more curious to know, and cheap. Content that is complete, clear, growing interest in learning, will be favored to the growing community of intelligent, knowledge-rich, even capable of developing science through experiments, research, studies that will ultimately empowered with the development of competence.

Achievement of the above mission, especially at the college level has not been encouraging with the

facts that: the limited capacity of the college; PT is low affordability due to the uneven distribution thereby increasing the cost of tuition and accommodation; most PT yet have adequate resources and quality education, quality PT more concentrated on the island of Java; Have not been able to achieve higher education and equal quality; Have not been able to guarantee the fulfillment of the needs and demands of higher education quality. Therefore, special strategies are needed to be able to provide high-quality education that is affordable for the whole Indonesian nation in a short time and low cost.

Through Online Learning program Indonesia Open and Integrated (PDITT), Directorate General of Higher Education (Higher Education) with several participating universities to organize lectures online as real action to resolve these issues over the long term. In the short term we strive to improve the quality of lectures at universities is carried out through a network to be realized as an online college. Improving the quality of lectures in the network is achieved through the application of process standards and content standards in the development of courses held in PDITT platform. Content standards and process standards is based on national standards of education and ISO 19796 and ISO 29163 [3].

2 Literature Review

2.1 Collaborative Learning

Collaborative Learning method refers to a method of learning that focuses on the success of the process. Unlike the cooperative learning methods, which focus on results. In language both mean the same work. Collaboration comes from the Latin, while the cooperative from English (United States). Collaboration refers to the philosophy of interaction and personal lifestyle, whereas a more cooperative interaction illustrates a structure designed to facilitate the achievement of a particular outcome or goal. The importance of collaborative learning methods assumes cooperative collaboration, working together in the community. In one community or group competition does not occur, but rather to work together to achieve a common goal. In the classroom, when a teacher does this, it is called collaborative learning [4].

2.2 Learning Architecture

Another approach to instructional models adjusted based learning architecture. Learning can be modeled into four different learning architectures, which is presented in Table 2.

Table 2. Instructional Architecture Model

Learning Model	Description
Receptive	This model puts students in a passive role as listener or observer. The presentation in the form of a long exposure without questioning or row of the display on the screen without interactivity. In this model the student is completely passive and not able to determine the sequence and duration of events.
Directive	This model puts students on a more active role. Learning directive presents the material in the form of small sections were immediately followed by an opportunity to interact and exercises to apply the knowledge that is being studied. Although the students more active role, but they are not in control of the sequence and duration of learning.
Guided discovery	Guided discovery learning models, its main base is problem solving. Ideally, the problem given to students is a replica of the type of problems to be faced in the world of work. Learners also receive support materials in the form of techniques, methods or ways can be used to solve these problems.
Exploratory	Exploration model study provides a collection of materials in bulk and complex for students to learn something new. In this model, learning is not guided or directed in a way. Learners are free to choose from the many learning experiences provided for the control of a new knowledge.

3 Collaborative Learning Maps

3.1 PDITT Reference Framework

The embodiment of the design principles mentioned above as well as how to answer these questions pursued through the development process KDITT based on ISO 19 796: Part 1, which includes the process of developing learning systems, education & training. Stages or steps recommended development are illustrated in Figure 1 [4].

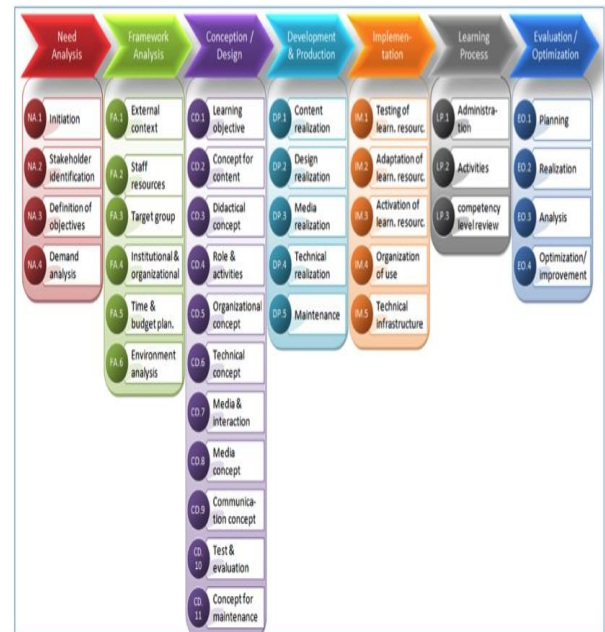


Figure 1. Reference Framework for Description of Quality

3.2 Maps Dynamic Collaborative Learning

Maps are a visual collaboration will produce content rich and interesting, because it is designed specifically for the advanced aspects of the dialogue in small teams through coaching activity based on a sequence of self-facilitated occurrences. In this methodology, the communication between entities or actors learning will be accommodated based on the deconstruction of a business solution in an interactive and effective. Interactivity takes place during the process, participants will perform the development and understanding of the material based on real time, and use the learning scenarios are realistic [4, 5, 6].



Figure 2. Maps Dynamic Collaborative Learning

In the picture above can be seen that each indicator has a level of interactivity in a comprehensive entity [7]. Business solutions offered by this model promises a high level of participation among the participants. For further descriptions for each variable, can be seen in Table 3 below:

Table 3. Maps Dynamic Collaboration Learning Description

Maps Variable	Description
Effective	Dynamic Collaborative Learning based on adult learning methodologies, and proven to help participants more easily to translate concepts and new information more quickly. The model will also open in the open perspective due to the better aspects of knowledge absorption.
Easy to Roll Out	Due to the method of Dynamic Collaborative Learning is independent and is designed to allow participants to facilitate themselves, they can use the service group with a limited number of participants at different times and locations. This is certainly going to make a different atmosphere when using other similar methods of learning.
Engaging and Fun	One of the unique characters of this method is the learning process that uses a model of discussions in small groups to do a disagreement that will create a solid group.
Versatile	Another advantage of the method is Collaborative Learning Maps have proved successful in the implementation of some of the topics, and the topic can be designed to achieve the learning objectives.
Experiential	Collaborative Learning Maps method allows participants to dissolve in the learning process so as to create harmonious conditions among participants and educators.

4 Summary

Developing the capacity and capability of the education system in Indonesia cannot be simply a way to develop the infrastructure and information systems of learning in it alone. There needs to be a great plan contained in the grand design of the learning system so that all the people of Indonesia without exception can enjoy a better learning system. This research has produced a map in which the Dynamic Collaborative Learning into the core framework is shown to accommodate the needs of local and indigenous of Indonesia society.

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