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A Reflection on the Implementation of A New Curriculum in Indonesia: A Crucial Problem on School Readiness

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Abstract. Indonesian government assigned a new curriculum in 2013, namely Curriculum of 2013 (C13). Recently, the implementation of the C13 has come up with a big controversy because it was setting back to the previous curriculum of KTSP (Scholl-based Curriculum) for majority of schools. Were the schools not ready to implement the curriculum of 2013? This research was a survey research to give evidence on the school readiness in implementing the new curriculum and to find the problems of the curriculum implementation. The samples of the research were 33 junior high schools from seven regencies in Indonesia. The respondents were 33 school principals and vice principals for curriculum affair, 200 teachers, and 200 students. The data were collected by using questionnaires, interview, and obsevation checklists. The data were taken during monitoring and evaluation programs facilitated by the Indonesian Directorate of Junior High School Development Management. The results indicates that (1) the readiness of the schools was 9 schools (27.27%) were ready, 17 schools (51.52%) were less ready, and 7 schools (21.21%) were not ready to implement the new curriculum; (2) the readiness of the schools was affected by the poor of the books' availability, only 23% of schools had complete student books, the number trained teachers, only 33% of teacher got training, the ICT access, only 17% of school have a good ICT access for all students, and teachers' understanding on the learning and assessment process, only 37% of teacher had good understanding on the new curriculum. The teacher had difficulties on (1) developing a lesson plan (16%), (2) using scientific approach (31,5%), (3) implementing authentic assessment (43,5%). Students mostly (78,5%) said that learning with the new curriculum is more difficult than it was before. Therefore, specific training on the new curriculum implementation is still needed.

INTRODUCTION

Background

Curriculum change is inevitable and desirable as it is said by Oliva[18]. Starting from the year of 2013, Indonesian government implemented a new curriculum, namely Curriculum of 2013 (C13) in about 6.000 pilot schools including primary, junior secondary, and senior secondary school levels. There were about six pilot schools in every a regency for every level. There were 514 regencies in Indonesia [9]. Prior to the implementation of the C13, there were three levels of trainings on the new curriculum: national level, instructor level, and school level using a cascading system. The national level trainer trained the instructors, and then they train the teachers. Each level of training is 5 days (50 hours) long. The school principals and supervisors were also trained in the implementation management of the curriculum [9].

In the implementation phase, there were in- and on-service trainings for teachers. Prior to the on-service, the teachers from the same subject met and had a training in cluster schools, which was called in-service training [9]. The teachers were assisted and guided to implement the curriculum by the instructor teachers in the classroom which were called on-service training. There were also monitoring and evaluation processes during the implementation done by independent assessors. This research was a part of the monitoring and evaluation process on the implementation of the C13.

In the year of 2014, the government urged that the curriculum should be implemented in all schools in all regencies[10]. All schools tried to catch up with the new curriculum and to implement it in the classrooms whether they are ready or not. Some schools train their teachers independently using their own budget, prepare the textbooks, and socialize of the curriculum to students and parents. The policy made schools in a real busy

In the end of year 2014 there were changes in the ministerial education structure as a result of the presidential election. The new government officials set a team to do monitoring and evaluation on the implementation of the curriculum. The results of the monitoring and evaluation process in the piloting schools, however, do not support the policy that the curriculum must be implemented in all schools. The new government provoked schools to stop the implementation of the curriculum. Schools that were implementing the new curriculum in the first semester must be set back to the previous curriculum, namely KTSP (school-based curriculum). Here, the problems started to rise. Many schools that had already received training and books (both the student and teacher books) for the new curriculum were urged to set back to the KTSP. Everything seemed to be useless: the training, the textbooks, and other preparations. The schools get back to use the old book of KTSP; unfortunately some of the textbooks mostly were already incomplete. Some teachers and students that had been practicing the new curriculum for about one year should return to the old syntax of the learning of KTSP. Therefore, the government decision of stopping the implementation of the new curriculum and setting back to the old curriculum was considered anti productive[10].

The government argued that the new curriculum have many changes that make it difficult for teachers to implement it, therefore it needs some improvement and more preparation efforts to implement the C13. The C13 curricular goal is to develop productive, creative, innovative, and affective Indonesians through nurturing their attitudes, skills, and knowledge integratedly [7; 11]. The structure of the C13 consists of four major components (1) basic structure, (2) structure, (3) syllabi, and (4) subject guide. The basic structure of the curriculum states that there are two groups of subject, namely group A and B for primary and secondary junior high schools. Group A is designed to develop students' knowledge, skills, and attitudes for living in the context of society, community, and country. There are seven subjects in group A: (1) Religion and manner, (2) Ideology and civic education, (3) Indonesian language, (4) Mathematics, (5) Natural science, (6) Social science, (7) English language [13].

Group B subject is to develop students' knowledge, skills, and attitudes related to social interactions, cultures, and arts. There are three main subjects of group B, namely (1) Art and culture, (2) Sport, physic and health, and (3) Handcraft. For some schools, such schools related to religion institution, may add several subjects to their specific contents to the curriculum. While Group C subjects, which also called preferable subjects, are chosen by students and consisting four groups: (1) mathematics and science, (2) social science, (3) language and culture [15].

The C13 brings several new standards of teaching and learning process, media, and assessment methods. The standards of curricular goals state that there are four Core Competences or *KompetensiInti*, namely KI₁, KI₂, KI₃, and KI₄. KI₁ extends for spiritual competences, promoting students to be religious people and spiritual intelligence. KI₂ is social competences, developing good social attitudes such as discipline, respect, honor, and responsible, KI₃ is supporting the development of knowledge competences, and KI₄ is skill competences (11). The core competences then are described more detail into some basic of competences and then indicators as instructional goals and objectives.

The C13 promotes scientific approach in the teaching and learning process. The teaching and learning process applies 5Ms, stand for (1) *Mengamati*(observing), (2) *Menanya* (asking questions), (3) *Mengumpulkaninformasi* (information gathering), (4) *Menalar* (reasoning or data analyzing), and (5) *Mengomunikasikan* (Communicating). Some schools may add two more M that are (6) *Mencipta* (creating), and (7) *Membuatjaringan* (networking) [9; 12]. According to the C13, it is imperative that students actively get information by themselves from many resources and activities, including experimenting, reading books, interviewing people, or browsing internet. Teacher may use inquiry and discovery learning, Problem-based Learning, or Project-Based Learning in the learning process. Students also actively involved in the process of constructing meaning and communicating the results of their learning (MoE-t, 2016).

In the assessment process, C13 uses a variety of techniques and aspects. There are four aspects of assessment, including spiritual, social, knowledge, and skills. The C13 uses seven assessment techniques, such as test and non test. The test is either objective or essay. The non-test technique consists of observation, portfolio, project, product, self and peer assessment [8;15].

In order to implement the curriculum, teachers have to develop a lesson plan, a student worksheet, instrument of evaluation, and instructional media. A lesson plan is important because it state all of the components and it is useful to guide instruction (Craft & Bland, 2004; Ediger, 2004). Many teachers may copy a lesson plan from many resources; however they should make adjustment to the characteristic of their students and learning environment.

This research gives more information on the real condition of the school readiness to implement the new curriculum and hopefully it is functional to make the right decision on the curriculum implementation. The implementation of curriculum should be assessed periodically (3), from many perspectives (1), to make students are actively involved in the learning process. The success of a curriculum implementation according to Goldston et al.[6] should be assessed and measured both quantitatively and qualitatively. Monitoring and evaluating the implementation of the curriculum is necessary to ensure that the new curriculum is well-implemented. Therefore, study of the new curriculum implementation is imperative to do⁷.

Curriculum has a cycle from the process of design, development, implementation, and evaluation^[8,9]. Figure 1 shows the curriculum development as a series of processes, not parallel.

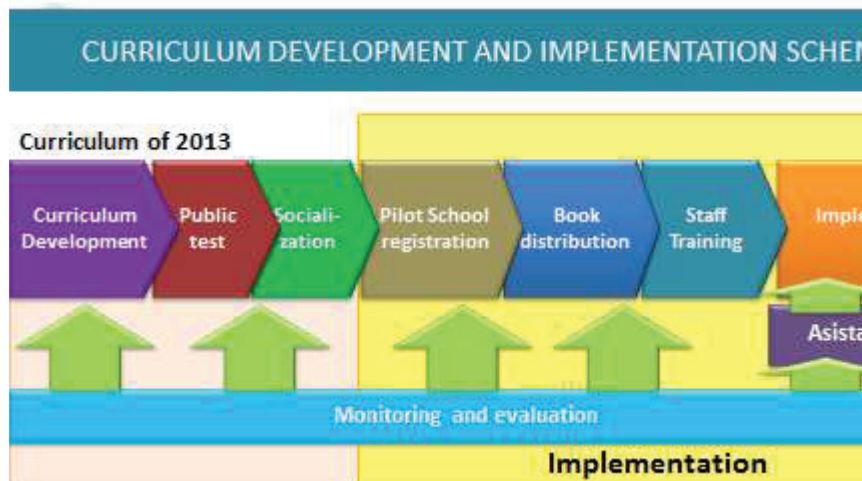


FIGURE 1. Curriculum development and implementation scheme

Formulation of the problem

Curriculum implementation is basically realizing what have already been planned [7], to make students perform as it is proposed in the curricular goals¹⁰ to reach the curriculum goals and objectives. The new curriculum with several changes is not easy for the teacher to understand it. Since the teacher plays the major roles in implementing the curriculum, the ability of the teacher in understanding and implementing the curriculum becomes key success of the new curriculum implementation. Therefore, in this research the teacher understanding on the C13 and its implementation will be the focus of the study. The main question is “Do the schools and teachers ready to implement the new curriculum? This general question is then described more detail into the following questions: (1) are the schools ready to implement the curriculum of 2013 (C 13)? , (2) do the teachers capable of developing a lesson plan based on the C13?, (3) do the teachers competent to implement the scientific approach with 5Ms in their instruction process?, (4) do the teachers and students capable of using ICT in the learning process?, (5) do the teachers understand authentic assessment and how to implement it?

Goal and benefit of the research

The main goal of this research is to know the school readiness to implement the C13. The specific objectives of the research are: (1) to know the schools’ readiness to implement the C13, (2) to know the teachers’ capability in developing a lesson plan based on the C13, (3) to know the teachers’ competence in implementing the scientific approach with 5Ms in their instruction, (3) to know teachers’ and students’ ability to use ICT in the learning process in C13, (4) to know the ability of the teachers in using ICT, and (5) to know the teachers’ understanding on authentic assessment and how to implement it in C13.

METHOD

Research Design

The design of the research was survey and FGD to depict the school readiness in implementing the C13 using NCQTL framework. The survey was conducted using Rea & Parker's method (2005). The research was conducted during monitoring and assisting the schools from 2013-2015. The data were taken on the first year of the implementation of the C13 in 7 regencies, including Gunungkidul, KulonProgo, Kota Yogyakarta, Cilacap, Pati, Bangka Belitung, and Hulu Sungai Tengah. There were 3 to 6 schools in each regency.

Subject of the research

The subjects of this research included (1) 33 school principals/ vice principals for curriculum affair, (3) 200 teachers, and (4) 200 students. The subjects came from 33 junior high schools, from the seven regencies in Indonesia. The teachers included 170 classroom teachers that implement the curriculum and 30 mentors teachers that assist the classroom teachers.

Procedure

The procedure of the research was including survey, FGD, interview, and observation. The instrument of survey used questionnaires with polytomous options. The instrument was sent to the respondents a week prior to surveyor coming. The respondents filled the instrument and the surveyor then checked the validity in term of the concordance of the response to the real condition in schools by making a discussion with the respondents though FGD. To get information about the learning process, surveyor sited in the classroom for one period of lesson for each teacher and recorded the teaching-learning process. To get information about the existence of students and teacher books and also teacher training, the surveyor made an interview with school principals and vice principals for curriculum affair. To get information about the learning process, the surveyor also made an interview with students in groups. To study the lesson plans and instrument of assessment, the surveyor used document available in the school.

Instrument

The instrument of the research was questionnaires, an interview guideline, observation checklists, and rubrics. The instruments were developed by the Directorate of Junior High School Development Management for curriculum monitoring purposes. An interview guide was used to get information on the school plan and policy to implement the C13. The checklist was used to observe the teaching and learning process. Rubrics also were used to measure the lesson plan quality and to evaluate the assessment techniques. The Science Lesson Plan Analysis Instrument (SPLAI) from Jacobs, Martin, & Otieno [6].

Data analysis technique

Data analyses were mainly using descriptive quantitative and qualitative methods. The school readiness has three categories: (1) ready, (2) Less Ready, and (3) Not Ready. The criteria of the school readiness were include (1) the availability of the school policy to implement the C13, (2) the existence of student books, (3) the existence of teacher books, (4) the percentage of trained teachers on the C13, (5) the teacher understanding on the C13, and (6) ICT access. The quality of lesson plan was analyzed by using Science Lesson Plan Analysis Instrument (SPLAI) modified from Jacobs, Martin, & Otieno (6) to meet the style of the C13.

RESULTS

Schools readiness

As Chandler [3] measure school readiness, the schools that ready to implement the C13 among 33 schools were 34.74%; 49.17% was less ready, and 16.10% was not ready (Table 1). It was inferred that the schools were mostly less ready to implement the C13. There were several factors that influence the less readiness of the school to implement the C13, including school policy, the availability of student and teacher books, the number of trained teachers, and teachers' understanding on the curriculum and the implementation (Table 1).

TABLE 1. The school readiness (%)

	Ready	Less Ready	Not Ready
School policy	36.36	48.48	15.15
Students' book	39.39	51.52	9.09
Teachers' book	33.33	51.52	15.15
Trained teachers	33.00	48.00	19.00
Teachers' understanding of C13	33.00	47.00	20.00
ICT access	33.33	48.48	18.18
Total	208.42	295.00	96.58
Average	34.74	49.17	16.10

Ability of the teacher to make a lesson plan

Lesson Plan (LP) is important as a preparation to teaching and shows the teachers' understanding on the C13. It also represents the ability of the teacher to implement the learning process and assessment. The LP was analyzed by using SPLAI [6] that has been modified to meet the characteristics of the C13. The results are as follows (Table 2).

TABLE 2. The result of Lesson Plan Analysis

Lesson plan item of assessment	Portion	Max Score	Real score	Percent.
The fitness to the rules of C13				
1. Fitness to C13 and decree	5	140	100	71.43
Instructional Plan				
2. Orientation to science problem	3	84	75	89.29
3. Orientation to Instructional goals	3	84	75	89.29
4. Observation activity	3	84	60	71.43
5. Questioning activity	3	84	54	64.29
6. Exploration activity	3	84	72	85.71
7. Data analyzing activity	3	84	69	82.14
8. Communication activity	3	84	84	100.00
9. Reflection activity	2	56	38	67.86
10. Applying activity	2	56	24	42.86
Instructional media				
11. Variation & appropriateness	2	56	52	92.86
12. Innovation and up to date	2	56	40	71.43
Assessment				
13. Knowledge assessment	2	56	42	75.00
14. Skills assessment	2	56	30	53.57
15. Attitudes assessment	2	56	26	46.43
16. Management and follow up	2	56	30	53.57
Socio-cultural aspects				
17. No gender bias	1	28	25	89.29
18. Using ICT	2	56	48	85.71
19. Learning community	2	56	38	67.86
20. Easiness to implement	3	84	60	71.43
			Total	1471.45
			Average	73.57

Table 2 indicates that the lesson plans made by the teachers were mostly good, except on the student activity in applying the concepts in real life. This finding had conflicts with the teachers' low understanding on the C13. The research finally found that many teachers used lesson plans developed by the teacher association (MGMP) and copied as their own lesson plans.

The ability of teacher to implement scientific approach

The learning process uses scientific approach respectively, consisting of 5M: Mengamati (Observing), Menanya (Questioning), Mencoba (Experimenting/ information gathering), Menalar (Reasoning/ associating), and Mengomunikasikan (Communicating). The difficulties of the teachers in implementing the scientific approach in the teaching and learning process were as follow (Table 3).

TABLE 3. The percentage of the quality of the implementation of the scientific method

N= 100 class	Good	Moderate	Bad
Observing (M1)	20	57	23
Questioning (M2)	15	52	33
Experimenting (M3)	17	62	21
Data analyzing (M4)	13	60	27
Communications (M5)	15	68	17
Total	80	299	121
Average (%)	16	59.8	24.2

Table 3 shows that the biggest constrain of the implementation of scientific approach were questioning (33%), data analyzing (27%) and experimenting (21%). The teacher mostly asked questions because the students faced difficulties in asking questions. The students are difficult to ask question because they were not accustomed to and because the teacher did not presenting a problematic phenomenon that raises students' motivation to ask questions.

The other difficulties faced by the teacher were using authentic assessment. The C13 promoted several ways of authentic assessment, including project, portfolio, performance, and using rubric assessment. Table 4 describes the percentage of teacher performance in understanding of authentic assessment.

TABLE 4. The teachers' understanding on the authentic assessment

N=200	Good	Moderate	Bad
Portfolio assessment	25	37.5	37.5
Performance assessment	20	38	42
Developing rubric	20	38.5	41.5
Project assessment	19	37	43.5
Total	84	151	164.5
Average	21	37.75	41.125

Overall Difficulties

The teachers mostly said that they still have difficulties in implementing the C13. The teachers are still difficult in writing lesson plan, using the scientific approach with 5Ms, and in implementing the authentic assessment (Table 3).

TABLE 5. The overall teacher difficulty

	Total	Percent
Writing lesson plan	32	16.0
Using scientific approach	63	31.5
Using authentic assessment	87	43.5
Others	18	9.0
Total	200	100
Average		50
		25

Table 3 indicates that teachers have highest difficulties in using the authentic assessment (43.5%), followed by using the scientific approach through 5Ms (31.5%), writing a lesson plan (16%), and others (9%).

DISCUSSION

The school readiness

The data show that the school readiness to implement the C13 is low. This low readiness is due to, first, the ineffective trainings and socialization. A-five days training is not enough to make teachers, principals, and supervisors understand the concepts and the implementation of the C13. There are about 14 changes in the new curriculum; the more the changes the more time it takes to understand. This finding is similar to the research result done by [2; 3;], where staff development is one of the crucial factors of the curriculum implementation. The ineffective training of the staff can be seen from the data that only about 28% of teachers well understand the C13. That percentage is also reasonable, because the number of teachers that have been train on C13 is only about 30% of the teachers in each school. Schools still need more training and socialization on C13. Some teachers complain that the trainers have different subject from the teachers' subject, therefore they cannot give a real example of teaching and learning process suggested by the curriculum. There are also different perceptions on the C13 among the trainers; and because of that the teachers need master trainers from MoE. The trainers also complain about the span of time to train the teacher. Five-day training is not enough. The government provides a five-days training for the National trainers. The national trainers, then, give a five-days training for teacher trainers. The training is considered not sufficient to train the curriculum [10; 16].

The low readiness of the schools to implement the C13 is also due to the lack of students and teacher books. Learning materials, such as books is important to the implementation of curriculum [5]. When the data were taken, there were only about 35% of schools that already got students and teachers books completely. The printing and distribution of the books of C13 was bad. Some schools received the students and teacher book, but it was not complete and not enough for all students. Some schools did not receive the books at all. Some teachers used e-book in pdf format and they let students to copy it. Only they who have a lap top computer could open the books in pdf format. Some schools made copies of the books in black-white colors and they needed an additional budget.

The quality of lesson plans

About 16% of teachers have difficulties in making lesson plans based on the C13. The lesson plans used by the teachers mostly good (score 73.57). However, those lesson plans are made by teacher organization (MGMP) not by individual teacher. The teachers copy and use the lesson plans for teaching science/biology in their schools. This is not a good condition,because every school has a specific student condition, fascilities, and teachers.

The teaching and learning process

In the teaching and learning process, teachers tried to implement the C13 guided by mentor teachers. Teacher retention is one of the big problems in new curriculum implementation. Some teachers may not follow the new curriculumstandards; rather they use the old fashion models [2, 1]. In this case teachers do not implement properly using the scientific approach. In the first step of 5Ms, for example, the teacher should use observation. Here, the teacher should present some things that interesting students mind to observe. Observation is the first and important step in science education[1; 17]. This observation should be followed by student activity to ask question. The teachers mostly have difficulties to show an interesting and problematic phenomenon that raisesstudent's interest to ask questions. The result is students do not ask questions eagerly. Questioning and constructing hypothesis are second step in scientific method [7]. The question that the students ask are mostly in low level such is what, where, and when. Higher level questions such as why and how are still low. This means that higher order thinking skills is yet not developed by [19]. In some cases, the students do not ask question, therefore the teacher asks questions instead of the students.

The next step of learning phase in C13 is doing inquiry activities. In inquiry, students do experiments or explorations [17; 4]. Usually students engage in group discussions. Students work in group of five to six people. They discuss to answer questions that are already in the student book. Then, it is followed by a presentation session from each group of what they already discussed. This activity is a kind of boring session. Imagine that in a day,

students learn 5-6 subjects, and in every subject students follow 5M of the scientific approach. The teacher ability in using suggested models such as Problem-based Learning, Project-based Learning, and Discovery learning is imperative. Besides, the teacher's understanding that in each meeting it is very possible that students just do 2Ms not always completely 5Ms. In the sense of Bruner's theory of learning, namely enactic, iconic, and symbolic, learning begins with hands on activity, then followed by mental activity to get concepts or understanding [5].

The use of ICT

Although in the lesson plan, most of the teachers use ICT to the teaching and learning process, in the real process only 50% of them using ICT. Teachers mostly using powerpoint (45%) and only less than 5% using ICT to get information and to play multi media. The difficulty regarding the use of ICT are (1) the low bandwidth for accessing of internet; (2) the only a few students that have a laptop or smartphone; (3) the less knowledge of teachers on the web sites with good information on science and biology.

The assessment

The next step is assessment aspects. About 43.5% of the teachers face difficulties in understanding and implementing authentic assessment in their classroom. This is reasonable, because there are too many aspects of assessment, including four aspects of assessment (spiritual, social, knowledge, and skills) and seven techniques of assessment (tests, observation, portfolio, project, product, peer assessment, and self-assessment), with rubric of assessment [14].

Students also face difficulties in several aspects of learning using the new curriculum. First, they have difficulties in accessing internet. Only 56% of students have internet access. However, because the computer laboratory is mostly limited in each school, students have to take turn in using it. Students who have a laptop computer or a hand phone may access internet using their gadget. The students also have difficulties in using the textbooks, because only 35.50% of students that had the textbooks completely for six subjects. Some students used e-book in pdf format and the others used copied additions. In the implementation phase, students mostly still had difficulties in asking question, gathering data, and analyzing data. In the evaluation, students felt tired and bored because they had a lot of homework and assignment. About 75% students said that learning through the new curriculum was more difficult than the previous one. In other words, there are a lot of problems in a curriculum implementation in Indonesia as it is mentioned by ZHANG Li-a, et al [18].

Conclusion

From the results and discussion, it is generally concluded that the school readiness in implementing the new curriculum is low. In more detail, there are several conclusions inferred from this research, including:

1. The schools are mostly in less ready and not ready state to implement the curriculum. The school low readiness in the curriculum implementation due to the minimal availability of students' and teachers' textbooks, the low of the number of teachers that have been trained on C13, school policy, teacher understanding on C13, and ICT low access.
2. The lesson plans made by the teachers are mostly good, except students activity on applying the concepts in real life and on the assessment. Teachers mostly use lesson plans made by subject teacher association (MGMP).
3. The teachers' competence in implementing the scientific approach with 5Ms in their instruction is low, specifically in promoting students to, ask questions, to analyze data, and to communicate the results.
4. The teacher's and student's ability to use ICT in the learning process in C13 is also moderate because the number of computer in the IT laboratory is limited and the bandwidth for the internet is low. Students, specifically in remote areas do not have an internet access.
5. The teacher understanding on authentic assessment and how to implement it in the classroom is also low. The number of assessment technique and method is considered too many and new ones for the teacher. Most teachers have difficulties in developing instrument and rubrics to implement authentic assessment.

Implication

The implementation of the C13 will succeed if the following aspects are respectively taken into account.

1. The teachers should be trained by master trainer of subject matter specialist from the concept of the C13 through the implementation phase.
2. The textbooks must be fully provided before teaching and learning process, each student must get complete books. Some student books out of context of the students' living.
3. The scientific method learning approach should be really performed by the trainers so that teachers understand the 5Ms and how to implement it.
4. The specific training on authentic assessment in each subject area should be trained for each technique because most teachers are still confused about it.

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