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Teachers' Efforts in Understanding the Factual, Conceptual, Procedural and Metacognitive Assessment Using the Revised 2013 Curriculum

Hermayawati

Universitas Mercu Buana Yogyakarta
 Yogyakarta, Indonesia
<https://orcid.org/0000-0003-2860-6322>

Abstract. This paper aims at analysing the efforts of forty teachers of the Madrasah Tsanawiyah School in Indonesia in understanding the revised 2013 Curriculum (RC-13), particularly on how to implement the Factual, Conceptual, Procedural, and Metacognitive (FCPM) knowledge dimensions in assessments. This case study was carried out using the lecturing, discussion and implementation (LDI) approach to understand the RC-13 conceptually, discuss teachers' problems and implement assessments using FCPM. The results of an in-depth observation and data analysis indicated that 30 out of 40 participants gained a better understanding on the RC-13 concept. They are now in a better position to know what should be done to prepare their RC-based instructional programs and they are conceptually able to implement the RC-13, except for the metacognitive dimension. The ten other teachers are still having some difficulties with FCPM as they did not have real classes such as Guidance Counselling, Sport and Health, and Scouting teachers. The results imply that teachers must be proactively trained to continue updating their knowledge, particularly on curriculum development so that the quality of education can be improved.

Keywords: Revised 2013 curriculum; LDI; FCPM

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1. Introduction

Secondary education in Indonesia has been currently implementing higher-order thinking skills (HOTS) in their curriculum to improve learning. This affects the teachers who were previously more focused on implementing lower-order thinking skills (LOTS) (Abdullah et al., 2016; Seman et. al., 2017; Ahmad, 2018; Mohan, 2019). LOTS and HOTS are 29 levels of thinking skills suggested by Bloom in 1956 and which came to be known as the Bloom's Taxonomy (Bloom, 1956). Bloom's Taxonomy is an ordering of cognitive skills, while a taxonomy is a form of classification.

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Higher-order thinking skills (HOTS) is a concept which distinguishes critical thinking skills from low-order learning outcomes which are achieved through sequential memorizing while HOTS involves synthesizing, analyzing, reasoning, comprehending, application, and evaluation (Watson, 2019). Such a concept develops students' capacities in analyzing, evaluating, and creating through their Factual, Conceptual, Procedural, and Metacognitive (FCPM) thinking capacities. The launch of the 2013 Curriculum 2013, which has been revised three times in 2017, has confused many primary and secondary teachers, both in understanding its content and its implementation (Suyanto, 2017; Hermayawati, 2017; Palupi, 2018). As a result, many teachers pro-actively requested their institutions to guide them on its implementation of RC-13 and its revisions. Ironically, the institutions also did not seem to fully understand both the content and its implementation.

According to the Minister of Education and Culture (2013), RC-13 is a dynamic document, i.e., it could be interpreted and developed by the needs, situations, and conditions of the learners and the schools. The curriculum had been successfully revised three times, namely in 2014, 2016 and 2017. Various changes were made, starting from the concept of the curriculum, the books used, and the regulations related to its implementation. However, until this project was carried out, the existence of curriculum revisions did not fully socialize among secondary level teachers, especially in understanding and applying the factual, conceptual, procedural, and metacognitive (FCPM) dimensions of knowledge (Marlina et al., 2017). Such a condition confused the teachers especially in its implementation (Hermayawati, 2017). Teachers needed more drilling and practice in designing and implementing lesson plans (Roza et al., 2017; Ekawati, 2017). There is a lack of monitoring and training conducted by the government and the school itself (Ramdani & Pangestu, 2017).

The revision of the 2013 Curriculum (C-13) into the 2017 version (RC-13) was supported by the Minister of Education and Culture Regulations (MECR), Number: 54 of 2013 (Graduates Competency Standards for Primary and Secondary Education Units), 64 of 2013 (Content Standards for Primary and Secondary Education Units), Number 65 of 2013 (Process Standards for Units Basic and Secondary Education), Number 10 of 2013 (Educational Assessment Standards), and Number 104 of 2014 (Learning Outcomes Evaluation by Educators on Primary and Secondary Education). Learning models in the C-13 include cooperative learning, contextual teaching and learning (CTL), discovery learning, task-based learning, project-based learning and problem-based learning (Kemendikbud, 2013). Even though the Minister of Education and Culture had synchronized both the C-13 and its revisions in various schools through training, there were still many schools where teachers were still having much difficulties to cope with these changes. This case was also evidenced from the teachers' statements in several secondary schools who did not understand the nature of the C-13 such that they are still using the previous Curriculum, which is known as the 2006 Education Unit Level Curriculum (EULC) (Barratt-Pugh, 2015; Hermayawati, 2017).

4 Training 4 at was provided to teachers was limited to the introduction level. The training only reached the stage of knowing 4 and not preparing teachers to implement the curriculum (Ekawati, 2017). The main problem in implementation the C-13 are the lack of teachers' capability in implementing authentic assessments. They need more drilling exercises to practice on designing and implementing teaching programs (Roza et al., 2017; Suyanto, 2017). However, little research has been conducted to examine how teachers implement a new curriculum, particularly concerning the literacy curriculum at the lower 12 level of primary schools, in the Indonesian context (Barratt-Pugh, 2015). Other findings indicated that teachers faced several challenges in teaching and learning for HOTS 5 the challenges were in the aspects of teaching and learning (Seman, et al., 2017). The findings also showed that the level of knowledge and practice of the assessment aspect was the weakest. Also, there was a relationship between the level of knowledge and practice of 20 TS (Abdullah, et al., 2016). These issues need solutions through the Direct Teaching Model, which fosters a learning environment characterized by teacher-directed learning and a high level of teacher-student interaction (Mohan, 2019). Another solution that may solve the problems faced by the teachers is the need to closely mentor them regarding the implementation of C-13. They must be taught how to write lesson plans, how to adopt a scientific approach to problem-solving, what the different models of learning, and how to assess student learning outcomes (Gunawan, 2017).

Although previous studies have conducted teacher training regarding the implementation of HOTS, as demanded by the currently used curriculum, there has been no study regarding the implementation of FCPM needed by the secondary school teachers, that was conducted through training as well as workshops. Considering such problems, this paper is intended to provide enlightenment regarding the understanding of the revised curriculum content, especially the 2017 revised edition (RC-13) implemented at a Madrasah Tsanawiyah (MTs). This Islamic junior high school is located in Magelang Regency, Middle Java, Indonesia whose teachers were involved as the research participants. The understanding of the RC-13 was concerned with the content of the concept and its practical implementation, particularly in designing the lesson plans and its assessments. Slightly different from 19 the C-13, the RC-13 involves aspects of developing learning through new the Factual, Conceptual, Procedural, and Metacognitive (FCPM) knowledge dimensions, as demanded by the authorized educational institutions.

This study was conducted with forty junior high school teachers who had difficulties to implement the RC-13 guidelines. This study investigated the following: (1) what type of method or approach should be used to gain teachers' understanding on the RC-13 Curriculum concept; (2) assessment of the capacity of teachers to prepare their curriculum-based instructional programs; (3) monitoring teachers' efficacy in implementing the RC-13 consistently, including conducting appropriate assessments. In this study, it was assumed that those three data could be obtained through LDI (Lecturing, Discussion, and Implementation) procedures.

In the RC-13, an assessment must involve Factual, Conceptual, Procedural, and Metacognitive (FCPM) question to keep its quality, as suggested by Krathwohl et al. (2002). The first three categories were included in the original classification, while the fourth one, namely the Metacognitive aspect was added later. Metacognitive involves knowledge about cognition in general as well as awareness of and knowledge about one's cognition. It has both educational and psychological benefits and helps students' to be more knowledgeable and responsible for their cognition (Pintrich, 2002).

FCPM knowledge dimensions in this study were introduced to the teachers who were treated as the research participants through a Needs Analysis, Teaching and Actuating Assessment (NATA) procedure. This project employed such a procedure for the pursuit of the teachers' ability in implementing the FCPM both conceptually and practically within the use of both Lower-Order and Higher-Order Thinking Skills (LOTS and HOTS) as demanded in the FCPM implementation. By doing so, it was assumed that the teachers' FCPM capacities implementation would affect their students' learning achievements.

2. Research Method

This project employed a Single Case Study (SCS) that was carried out at an Islamic Junior High School located at Magelang Regency, Middle Java, Indonesia. Conceptually, a Single Case Study (SCS) is established when the researcher wants to study, for example, a person or a group of people in detail (Yin, 2009). In this case, the researcher also may investigate old theoretical relationships and explore the new ones. This aims at making a more careful study (Gustafson, 2017). It also can provide a viable alternative to large group studies such as randomized clinical trials. Single case studies involve repeated measures, and manipulation of an independent variable (Lobo et al., 2017). It is different from a multiple case study (MCS), where the researcher studies multiple cases to understand the similarities and differences between the cases (Yin, 2009). This study employed SCS for it only involved a certain location of Islamic secondary school, the so-called Madrasah Tsanawiyah (MTs), which is situated at Magelang Regency, Middle Java, Indonesia. The author was invited as an instructor in the training and workshop initiated by this MTs School as many teachers, including the principal, were having difficulties with the implementation of the Revised 2013 Curriculum, particularly on how to implement the FCPM dimensions in their teaching programs. Thus, the researcher functioned as the main instrument for data collection through an in-depth observation of the training and workshop.

Data collected on the in-depth observations on teachers' training and workshops regarding the concept and implementation of the RC-2013 were recorded and analysed. The activities particularly focused on Bloom's revised cognitive domains and the Factual, Conceptual, Procedural and Metacognitive (FCPM) knowledge dimensions. The training method was carried out in an intensive and comprehensive LDI (lecturing, discussions, and implementation) procedure by involving 40 teachers from various subjects. The program was also attended by the Head of the Education and Culture of Magelang District. As an illustration, Figure 1 describes the stages of the LDI procedure conducted in this project.

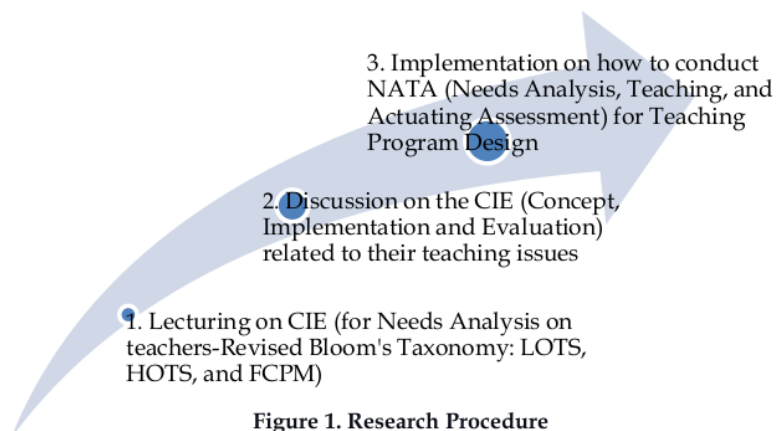


Figure 1. Research Procedure

Lecturing stage

The lecture was conducted at the same time or in an integrated way with the discussion and implementation stages sequentially. Lecturing was performed to find the depth of teachers' acquisition level both towards the original C-13 and its revision of RC-13. This activity functioned as a data resource collection of their needs (that included their deficiencies, wants and necessities) concerning LOTS, HOTS and FCPM. These results could be used as the basis of developing further procedures for the discussion and implementation stages. The lecture content included the concept, implementation, and evaluation (CIE) of the RC-13. CIE was delivered orally (questions-answers or stimulus-response). The lectured materials were around the concepts of both C-13 and RC-13, in which its content and its assessment were delivered primarily by employing FCPM knowledge dimensions. In this stage participants' performance was observed and assessed by using the Carnegie Mellon Oral Communication Scoring Rubrics. Table 1 shows the scoring rubrics employed to assess the participant's performance in the LDI procedures. These were inspired by Huba and Freed (2000).

Discussion stage.

In this case, CIE was also employed in five prior topics that were delivered in the forms of structured questions, which were distributed to be discussed in groups. The topics were similar to the lectured materials related to the RC-13 content, the primary content differences, LOTS and HOTS, FCPM knowledge dimensions and its implementation for each. The discussion was conducted in groups by considering both the number of the participants and the limited available time in this study. The forty teachers with the various subject matter fields were divided into five groups. Each group consisted of eight teachers. Each group was assigned a topic to discuss. This stage aimed to obtain certainty about the level of teachers' understanding of various explanations delivered at the lecturing stage.

Table 1: Scoring rubrics for assessing participants performance simplified from Carnegie Mellon oral communication scoring rubrics (Huba and Freed, 2000)

Components	3-Sophisticated/ Good	2-Competent/ Fair	1-Not yet Competent/ Poor
Organization	Presentation is clear, logical, and organized. Listener can follow the line of reasoning.	Presentation is generally clear and well organized. A few minor points that maybe confusing.	Organization is haphazard; listener can follow presentation only with effort. Arguments are not clear.
Style	Speaker is comfortable in front of the group and can be heard by all.	Presenter seems slightly uncomfortable at times, and audience occasionally has trouble hearing him/her.	Presenter seems uncomfortable and can be heard only if listener is very attentive. Much of the information is bad.
Use of communication aids	Communication aids enhance presentation.	Communication aids contribute to the quality of the presentation.	Communication aids are poorly prepared or used inappropriately.
Depth of content	Speaker provides accurate and complete explanations of key concepts and theories, drawing on relevant literature. Information (names, facts, etc.) included in the presentation is consistently accurate.	For the most part, explanations of concepts and theories are accurate and complete. No significant errors are made.	Explanations of concepts and/or theories are inaccurate or incomplete. Some information is accurate but the listener must determine what information is reliable.
Use of language	Sentences are complete and grammatical. They flow together easily. Words are well-chosen; they express the intended meaning precisely. Both oral language and body language are free from bias.	Sentences are complete and grammatical for the most part. They flow together easily. With some exceptions, words are well-chosen and precise.	Listeners can follow presentation, but they are distracted by some grammatical errors and use of slang. Oral language and/or body language includes some identifiable bias. Some listeners will be offended.
Responsiveness to the audience	Consistently clarifies, restates, and responds to questions. Summarizes when needed. Body language reflects comfort interacting with the audience.	Generally responsive to Audience questions and needs. Misses some opportunities for interaction. Body language reflects some discomfort interacting with audience.	Responds to questions inadequately. Body language reveals a reluctance to interact with audience.

Implementation Stage

The next stage after the discussion was the implementation of the RC-13 on each of the subjects taught. The class was kept in groups of eight persons. However, they were grouped based on the similarity of their teaching subject. They were

only 10 subjects contained in the RC-13. However, some schools added subjects that were needed to cater for healthcare, scouting, information technology and local content. Each group was asked to implement the concepts they just discussed to practice formulating the design of each teaching program with samples of teaching materials. This activity was monitored by the school principal and the Head of the Education and Culture department of Magelang District. They were then requested to submit their works to the Head of the Education and Culture department as evidence for the activity. All of these activities were then analyzed descriptively and provided relevant data for this research.

ALOKASI WAKTU KURIKULUM 2013
SMP/MTS
 Sesuai Permendikbud No. 35 Tahun 2018
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MATA PELAJARAN	ALOKASI WAKTU PER MINGGU		
	KELAS VII	KELAS VIII	KELAS IX
Kelompok A (Umum)			
1 Pendidikan Agama Islam & Budi Pekerti	3	3	3
2 Pendidikan Pancasila & Kewarganegaraan	3	3	3
3 Bahasa Indonesia	6	6	6
4 Matematika	5	5	5
5 Ilmu Pengetahuan Alam	5	5	5
6 Ilmu Pengetahuan Sosial	4	4	4
7 Bahasa Inggris	4	4	4
Kelompok B (Umum)			
1 Seni Budaya	3	3	3
2 Pendidikan Jasmani, Olahraga & Kesehatan	3	3	3
3 Prakarya dan / atau Informatika	2	2	2
Jumlah Jam Pelajaran Per Minggu	38	38	38

@kamimadrasah kami madrasah

Figure 2: RC-13 Program of MTs referring to the Ministry of Education and Culture Regulation No. 35/2018 (Kami Madrasah, 2019)

Figure 2 (which is in Bahasa Indonesia) shows that there are 14 subjects in the Implementation Stage, namely: (1) Religion Education, (2) Pancasila and Civic Education, (3) Bahasa Indonesia (Indonesian Language), (4) Mathematics, (5) Natural Sciences, (6) Social Sciences, (7) English, (8) Cultural and Arts, (9) Physical Education, Sports, and Health, (10) Handy-Craft, (11) Informatics, (12) Scouts, (13) Local Content (Javanese Language) subjects, and (14) School Health Centre and Juvenile Red Cross. There are 5 teachers who teach each subject. They teach from the first to the third year. All of the in-depth observations conducted during the LDI stages were compiled as the research findings. Figure 3 describes the LDI stages procedure for the data collection technique and its analysis.

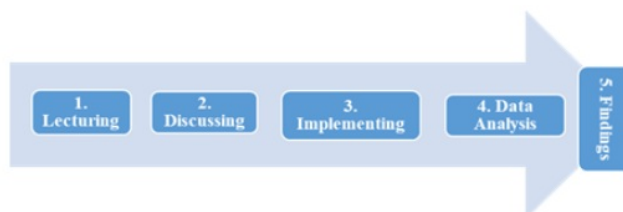


Figure 3: LDI stages procedure for data collection technique and its analysis

3. Findings

There were three objective in this project, namely: (a) increasing the teacher's ability to understand the Revised 2013 Curriculum (RC-13) concept (through lecturing); (b) increases teachers' ability to deduce what needs to be done to prepare their RC-13-based instructional programs (performed through discussion); and (c) enhances teacher's ability to implement the current curriculum consistently across schools (performed through implementation). The results of the LDI (Lecturing, Discussion, and Implementation) stages and the in-depth structured observations are presented in Table 2.

Table 2: Lecturing stage of concept, implementation, and evaluation (CIE)

#	Lecturing Materials Content	Number of Teachers Who Understood the Concepts		
	Delivered Subjects Understanding	Conceptual	Implementation	Evaluation
1	C-13: The What, Why and How?	40	38	40
2	RC-13: The difference between RC-13 and C-13.	40	31	35
3	Bloom's Taxonomy and its revision (Anderson et al., 2002).	40	34	35
4	FCPM knowledge dimensions.	40	34	21
5	LOTS versus HOTS: The What, Why and How?	40	35	31

Firstly, the result of the Lecturing Stage indicated that all teachers relatively understood the concepts of the Revised 2013 Curriculum (RC-13). They were able to answer the questions embedded in the training materials. But when they were also asked on how they implemented the FCPM knowledge dimensions related to their subject matters field, many teachers were not able to answer. Similarly, in answering the instructor's questions and in finding the examples on how to evaluate their students using FCPM, LOTS and HOTS, there were respectively only 21 and 31 teachers who were able to respond to the questions correctly. The remaining, in each case, responded only to the tutorial questions addressed to them. This case occurred mainly because ten teachers did not teach classically but they carried out their duties outdoors such modules as Guidance and Counselling, Sports Physical Education and Health, Scouts, and Juvenile Red Cross Education.

Secondly, the result of the Discussion Stage showed that there were two groups who achieved a 'very good understanding', two groups reached 'good understanding' and the remaining one group got 'fairly/average understanding' levels. Such achievement levels were obtained through the presentation of the assigned materials and in responding to all the problems' queries addressed by the other groups. Table 3 illustrates the structured questions that were distributed for discussion to each group of eight teachers.

Table 3: Structured questions assignment to discuss and perform in groups

#	Structured Questions Content to Discuss and Perform	5 groups of 8 persons	Discussion Results Level
1	Explanation of the C-13 concept: definition/s, reasons to implement it and Procedure/s to deliver it by examples based on the teachers teaching subjects.	Group 1 Discussion Material	Very Good
2	Explanation of the difference between RC-13 and C-13 conceptually, including the definition, reasons to implement it and procedures to deliver.	Group 2 Discussion Material	Good
3	Explanation of the concept of Bloom's Taxonomy and its revision (Anderson et al., 2000)	Group 3 Discussion Material	Very Good
4	Explanations on the concept of FCPM knowledge dimensions for learning assessment.	Group 4 Discussion Material	Fair/Average
5	Explanation of the concept of LOTS versus HOTS: The What, Why and How?	Group 5 Discussion Material	Good

Thirdly, the result of the Implementation Stage revealed the teachers' ability in implementing the FCPM in their teaching assessments that were designed for their students. In this stage, teachers were invited to design assessment items by considering the use of FCPM in their learners' tasks items. The aim was to develop their learners HOTS skills based on each of the subject matters that they were assigned to teach. The results are shown in Table 4.

Table 4: Structured observations on how to implement FCPM in the Teaching Program

Grp. No.	Observable FCPM Knowledge Dimensions				Number of Teachers' Acquisition	Teachers' Understandability Level
	Factual	Conceptual	Procedural	Metacognitive		
1	++	++	++	√	8	Very Good
2	++	++	√	√	6	Fair
3	++	++	+	√	7	Good
4	++	++	√	√	7	Good
5	++	++	+	-	3	Fair

Note: A double plus sign (++) means a very good understanding; a single plus (+) sign means a good understanding; a tick sign (√) means a fair/average understanding; a single dash sign (-) means a poor understanding and a single cross sign (x) means a very poor understanding.

The 'fair' score category was mostly obtained by those who did not understand how to implement FCPM, particularly the Metacognitive dimension, such as the GC (Guidance and Counselling), Drawing, Religion, Art and Culture subjects. They still found it difficult to implement such a curriculum because they did not

have teaching hours in class. A similar trend was found for Physical Education (Sport) and Health teachers. Also, there were ten teachers who were still confused with the process and evaluation of learning particularly with the metacognitive dimension.

Even though most participants seemed relatively confident in implementing the FCPM knowledge dimensions (orally), many of them revealed that they were still doubtful for the problems that may arise during their teaching. Such worries appeared mainly due to low-ability students. It was difficult for the teachers to design assessment to enhance the cognitive domain and the HOTS skills of such students. Moreover, they also felt doubtful in enhancing their students' Metacognitive capacity.

Table 5: Teachers' ability in implementing the knowledge and the cognitive process dimensions for their assessments

Grp. No.	The Knowledge Dimension	The Cognitive Process Dimension					
		1 Remember	2 Understand	3 Apply	4 Analyze	5 Evaluate	6 Create
1	Factual	+	+	+	+	+	+
	Conceptual	+	+	+	+	+	+
	Procedural	+	+	+	+	+	+
	Metacognitive	√	√	√	√	√	x
2	Factual	+	+	+	+	+	+
	Conceptual	+	+	+	+	+	+
	Procedural	+	+	+	+	+	+
	Metacognitive	√	√	√	√	√	x
3	Factual	+	+	+	+	+	+
	Conceptual	+	+	+	+	+	+
	Procedural	+	+	√	√	√	√
	Metacognitive	√	√	√	√	√	x
4	Factual	+	+	+	+	+	+
	Conceptual	+	+	+	+	+	+
	Procedural	√	√	√	√	√	x
	Metacognitive	√	√	√	√	√	x
5	Factual	+	+	+	+	+	+
	Conceptual	+	+	+	+	+	+
	Procedural	√	√	√	√	√	x
	Metacognitive	√	√	√	√	√	x

Note: (++) means a very good understanding; (+) means a good understanding; (√) means a fair/average understanding, a (-) means a poor understanding and an x means a very poor understanding.

Table 5 describes the teachers' ability in implementing their assessments by applying both the cognitive domain and the FCPM knowledge dimensions, in which the teaching process embedded the students' LOTS and HOTS capacities in an integrated way. The results showed that most of the teachers were able to apply the integrated cognitive aspects and FC (Factual and Conceptual) knowledge dimensions in their teaching. However, ten teachers were still confused, for they did not have any traditional lecture-type classes for carrying out their jobs. In other words, their duties were mainly carried outdoors. Nevertheless, they were also demanded to implement such a current curriculum since there was no exception for anyone category of subjects or teachers.

4. Discussion

Curriculum characteristics, including the Revised 2013 Curriculum (RC-13) are conceptually designed with due regard to theoretical and juridical aspects. Theoretical aspects refer to the concept of subjects or fields of teaching and learning. The juridical aspect refers to the applicable law when the curriculum was designed and implemented in schools. The concept of subjects refers to functionalism and cognitive theories and constructivist theories of learning. The learning process must also access the concept of mixed education (eclectic), namely the philosophy of the reconstructionist theory, essentialism and progressivism (Kemendikbud, 2017).

The juridical foundation of the 2013 Curriculum (C-13) design is Law No. 20/2003 on the National Education System (NES), National Education Objectives (NEO), and Government Regulation No. 19/2005 on the Standards of National Education (SNE). The foundation requires understanding and implementation of relevant stakeholders regarding factual, procedural, conceptual, and metacognitive (FCPM) learning at the Madrasah Tsanawiyah (MTs) schoolteachers. The ability of teachers to prepare instructional programs based on the RC-13 was inseparable from giving questions, as a means of checking students' understanding of the material to be studied.

In line with the education system, the 2013 Curriculum (C-13)-based assessment concept is legally based on the: (1) Minister of Education and Culture Regulation No. 3/2017 on the Assessment of Learning Outcomes by the Government (through National Examination) and Assessment of Learning Outcomes by Education Units (through National Standard School Exams refers to Graduates Competency Standards; (2) Regulation of the Minister of Education and Culture No. 23/2016 on Educational Assessment Standards. RC-13 has been intended to develop the learning process and its evaluation by referring to the revision of the well-known and well-accepted Bloom's Taxonomy. Conceptually, the six cognitive domains must be implemented in an integrated way together with the four FCPM knowledge dimensions. King et al. (2016) argued that those knowledge dimensions are activated when individuals encounter unfamiliar problems, uncertainties, questions, or dilemmas.

Successful applications of the skills result in explanations, decisions, performances, and products that are valid within the context of the available knowledge and experiences. This promotes continued growth in the quality of education and other intellectual skills. However, it is still not easy for teachers to implement these guidelines, especially in the procedural and metacognitive dimensions. There is a need for teacher training related to preparation for designing at the C4, C5, and C6 (including the HOTS) levels according to the NSO (National Science Olympiad) test items. This will improve student performance and also affect the implementation of the teaching and learning process.

5. Conclusion

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Even after the four dimensions of factual, conceptual, procedural and metacognitive knowledge were carried, some of the teachers were still confused in their implementation, both in the learning process and their evaluation. Even though they had been involved in training, many are still unable to practice it in their classrooms. Most test items designed by teachers only cover factual and conceptual Knowledge. Teachers rarely include procedural and metacognitive knowledge in their assessments. The training of teachers should be related to understanding concepts, implementation, and evaluation of learning by employing the rules of both the cognitive domain and knowledge dimensions. This study only touches a very small fraction of the total number of teachers. The results of this study imply that the continuity of partnerships between schools and FTTE (Faculty of Teachers Training and Education) graduates' teacher providers should be carried out proactively and continually to improve the quality of education. The quality of education imparted to teachers will have an impact on improving the quality of the Indonesian human resources. Therefore, it is recommended that the FTTE should work closely with schools in order to provide continuous professional development programmes to teachers on a regular basis so that they can be trained in relevant aspects of teaching and learning. Teachers always need to remain up to date so that the quality of imparted education can be maintained.

6. Limitations and further studies

The limitation of this study was that only a single institution was involved for it was a single case study (SCS) with forty teachers of different subjects. The researcher also functions as the training instructor at the request of Madrasah Tsanawiyah (an Islamic Junior High School) "Ma'arif" Magelang, Middle-Java, Indonesia. Further studies on the teachers' FCPM actualization is needed for improvement in the quality of teaching.

7. Acknowledgements

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