

# Implementation of the Kurikulum Merdeka: A Case Study at Ogan Komering Ilir Regency Senior High School's in Chemistry Classroom

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**Abstract:** This article analyzes the implementation of the Kurikulum Merdeka in the first year at senior high school of Ogan Komering Ilir Regency, with a focus on Chemistry subject. Kurikulum Merdeka is an educational initiative that aims to provide greater flexibility to schools in designing and implementing curricula according to local needs and student characteristics. This study uses a case study approach to understand how chemistry teachers adapt and apply the Kurikulum Merdeka in teaching Chemistry. Through in-depth interviews with Chemistry teachers and collection of classroom observation data, this article reveals the challenges and opportunities faced by schools in implementing the Kurikulum Merdeka. The findings show that adaptation of the curriculum by schools has resulted in variations in teaching methods, selection of learning materials, and assessment. Chemistry teachers feel the freedom to choose and arrange teaching materials that are more appropriate to the context of students, but at the same time are faced with the need to develop a consistent and structured study guide. The implementation of the Kurikulum Merdeka in the first year at senior high school of Ogan Komering Ilir Regency has brought significant changes in Chemistry learning. Although there are still some obstacles that need to be overcome, such as developing a more structured learning approach and adapting it to meet the needs of various students, the Kurikulum Merdeka provides an opportunity to explore the creative potential of teachers in designing learning experiences that are more relevant and interesting for students. Further research can be conducted to observe the further development of this implementation and its long-term impact on the learning of Chemistry in senior high school.

**Keywords:** Academic achievement, Chemistry, Kurikulum Merdeka

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## Introduction

According to Law number 20 of 2003 in article 1 paragraph 2 (Ministry of Education, 2003) National education is education based on Pancasila and the 1945 Constitution of the Republic of Indonesia which is rooted in religious values, Indonesian national culture and responsive to the demands of the times. The curriculum is one of the important parts in fulfilling the direction and goals of an education. The curriculum is a learning tool offered at educational institutions, containing a directed and structured learning program so that learning

objectives can be achieved. It contains various detailed learner activity plans in the form of forms of educational materials, suggestions for teaching and learning strategies, program arrangements so that they can be applied, and matters that include activities aimed at achieving the desired goals (Cholilah et al., 2023; Huda, 2017).

The curriculum in Indonesia has changed eleven times since 1945 to respond to the challenges of the times (Insani, 2019). Up to the curriculum that will be implemented this year, namely the prototype or independent curriculum. The independent curriculum is an optional

curriculum, which can be implemented by educational units starting in the 2022/2024 school year. In the 2024 evaluation, the independent curriculum policy underwent several changes based on the needs of curriculum implementation in schools. The independent curriculum is also a competency-based curriculum that is supported by learning recovery by requiring project-based learning to support character according to the Pancasila learner profile (Ministry of Education and Culture, 2022). The difference between the Merdeka curriculum and the previous curriculum is in the freedom of teachers in compiling and developing learning objectives along with the process and evaluation. Teachers are given the freedom to collaboratively arrange their learning hours in one phase. This freedom is a hope but also a challenge for teachers to adapt. Freedom that requires teachers to be adaptive to the needs of students in order to fulfill learning outcomes (Firdaus et al., 2022; Qomariyah & Maghfiroh, 2022). Of course, this freedom does not give teachers the opportunity to stick to old habits in teaching which only teaches book content to students classically, but reflects on the shortcomings of the previous learning process in order to provide the best results to achieve the goal of maximizing their competencies.

Based on the results of the survey that has been conducted, it is found that in the province of South Sumatra in 2022, many schools are still using the 2013 curriculum as well as the emergency curriculum and will begin implementing the independent curriculum in the coming school year. It was found that the independent curriculum education plan model is a very appropriate educational curriculum option to be implemented in the midst of an era with a heavy flow of information. In its implementation, whether the independent curriculum will have a good impact or not, and whether it can run effectively or not in 2022, can be seen from the role of teachers as educators and also students with their environment, as well as support from schools and government in the form of facilities and infrastructure provided. The purpose of organizing an independent curriculum is to encourage the

recovery of learning which is expected to have a good impact on the academic field of students.

The purpose of this research is to see data regarding the implementation of the independent curriculum in the academic field of students. The research data was collected directly through interviews with teachers and students. Based on the results of these interviews, it can be known conceptually how the impact felt by students on the independent curriculum being implemented. Especially the positive impact in the academic field of students in chemistry subjects. It is hoped that with this journal, practitioners in the field of education can understand and implement the Merdeka curriculum design as an additional option for educational units in Indonesia in determining the curriculum to be used in 2022/2024. As it is known that curriculum changes are inevitable, therefore it must be adjusted to be lived according to existing needs and principles.

## **Materials and Methods**

### **Study area**

This research is included in qualitative research with descriptive methods, namely research that aims to understand the phenomenon of what is experienced by the research subject. The descriptive method itself aims to combine the information obtained to be compiled and then presented and analyzed so that the truth of the data that has been obtained can be known. This research was conducted on April 11, 2022 online at one of the State Senior High Schools of Ogan Komering Ilir Regency, South Sumatra, Indonesia. At the time this research was conducted, differentiation in learning had not been massively socialized so that teachers still used their own way of implementing the Merdeka curriculum according to learning outcomes.

## Procedures

This survey was conducted by asking several questions through interview sheets, namely teachers who teach chemistry subjects and several students in class XI of the Science program, as well as several reference sources in the form of scientific journal articles related to the subject matter.

The data collected refers to the learners' response to the independent curriculum in chemistry subjects in the academic field. For its implementation, first, a 10-question interview was conducted about the activities of students in the classroom when receiving learning material via zoom with the chemistry subject teacher by giving. Furthermore, conduct interviews with three students in class XI of the Science program via video call by giving 10 questions also regarding their responses when receiving material taught by the teacher in class. This activity aims to find out the general description related to the problems that occur in the field. In this study, the type of data collected is primary data, meaning that the data is directly obtained from the sources given 10 questions, so that the data obtained is not in doubt.

## Data analysis

The data that has been collected is then rearranged in an organized manner to produce data that is in line with the subject matter. In addition, it also pays attention to the rules that apply in literature studies which include general processes such as systematically identifying theories, finding literature and analyzing information related to research material. It was found in previous research that in its implementation, the independent curriculum provides a good goal, namely expecting a more active and adaptive learning process by providing freedom for educators to carry out a learning process that is oriented towards learning projects. To achieve this, the support and hard work of various parties is needed in order to realize a better and more advanced Indonesian education. In accordance with the researchers' expectations, the implementation of the independent curriculum is expected to be able to restore education in Indonesia to be better while still developing the potential of broad-minded students. From the data

obtained, then the data is presented to be able to draw conclusions.

## Results and Discussion

From the results of research conducted by interviewing teachers and several students regarding the impact of the implementation of the independent curriculum in the academic field in chemistry subjects, the results show that in its implementation the independent curriculum can have an impact on both teachers and students based on the responses of the four informants who have been interviewed. The following is a presentation of the results of interviews that have been conducted with teachers and students regarding the implementation of the independent curriculum in one of the senior high school of Ogan Komerling Ilir Regency.

**Table 1. Informant Identity**

No.	Participants	Level of Class	Note
1.	EM	Chemistry	Teacher
2.	DM	XI	Learners
3.	ED	XI	Learners
4.	WD	XI	Learners

Based on the table list above, the informant sample is taken according to the determination of the informant's identity. The list of questions asked to teachers and learners is made different, because the knowledge and perceived impact of educators and learners regarding the implementation of the independent curriculum are also different. Both teachers and students get their own good impacts, according to the responses that informants give during the interview.

EM is a chemistry teacher at one of the public high schools in Ogan Komerling Ilir Regency. He has 10 years of teaching experience and is currently 38 years old. He also has teacher certification. Based on the results of interviews obtained from EM informants, namely chemistry teachers at one of the public high schools in Ogan Komerling Ilir district, he said that each class has a different level division. The class levels are classes A, B, C where each class has a different level of ability, when the teacher conveys the material being taught, some students have obstacles including difficulty accepting the material presented, therefore the EM teacher emphasizes that the material taught can at

least be accepted by class A, so that when classes B and C have difficulty doing assignments, class A students can help each other Class B and class C in understanding the material being taught. The method used in teaching is active question and answer where the teacher provides a stimulus to students before starting learning. In addition, the teacher also relates chemical concepts to everyday life so that students have a great curiosity from this curiosity, several questions arise from students to the teacher.

In this case there are several factors that influence students' difficulty in receiving chemistry lessons. As for when the independent curriculum began to be implemented, the factors that influenced these difficulties were in addition to inadequate facilities and infrastructure and began during the pandemic. Despite the pandemic, teachers can connect chemistry lessons with contexts that can be found in each student's home to develop interest in learning. For example, in learning the concept of salt hydrolysis, some of the stimuli provided by the teacher are for example when the teacher asks students "what types of salt do they know?". Then the students answered "only know the type of kitchen salt" then the teacher explained again that there are many types of salt that exist in everyday life." Furthermore, in colloidal material, it is very broad knowledge, for example, a lot is related to food that we often consume everyday such as sponge, jelly, milk and others. From there the teacher gives assignments to students to collect several products that are often encountered in everyday life, in this case students are required to think critically about the composition or content of colloids what they get from these foods, how the formation process, from these results students are asked to present their findings then conclude and what new knowledge they get.

In implementing this independent curriculum, the teacher provides opportunities for students to learn in their best way. besides that, in teaching he does not differentiate between one and the other but instead provides a direction so that students are able to accept the material being taught. The EM informant also said that this independent curriculum leads to essential material or related to

everyday life so that when the teacher explains and relates certain things, students respond more quickly because they are familiar with products related to chemistry subjects explained by the teacher. From the information provided by EM as a chemistry teacher, the impact of the independent curriculum in the school he teaches is quite good, as long as educators can organize the learning process according to the needs of students, especially for chemistry subjects, with the implementation of the independent curriculum it can provide a lot of help to teachers to focus more on teaching essential material as flexibly as possible. Furthermore, the results of research from interviews conducted with DI, a high school student in the science program from one of the public high schools in Ogan Komering Ilir Regency. DI said that chemistry discusses the periodic table, atoms, partial hydrolysis, determining the nature of acids and bases. DI also said that the chemistry learning carried out in class was very interesting because it used presentations as a summary of the material and videos as learning media when learning took place online and during face-to-face time using books as media. The teacher also gave many assignments along with tips and tricks in doing the assignments given. However, there are also some learning materials that are difficult to understand, namely about the periodic table, especially when you have to memorize the Periodic Table. But if you manage to understand the learning material, there is a special satisfaction for DI. DI also revealed that in electrolyte and non-electrolyte materials the teacher explained first and then directed students to do the practicum. DI also added that the learning method used by the teacher was less effective so DI had a headache when doing the assignments given. With the implementation of the independent curriculum, students can find the meaning of learning, it can be seen from the results of interviews conducted with DI, the implementation of the independent curriculum has a good impact on students in the academic field even though it is still not seen much. The third informant is ED, a grade XI student, who is also from one of the high schools in UPT Ogan Komering Ilir Regency, according to ED, chemistry

subjects mostly discuss the periodic table, compounds and the application of chemistry in everyday life. The learning process is very good because the teacher always explains when students ask questions. In addition, the learning media used is providing learning videos on YouTube and providing audio-visual presentation media during the online process and book media and providing assignments during the face-to-face process. For the difficulties felt there is when memorizing the periodic table and redox, but for ED by memorizing the periodic table it is very easy to do exercises and exams. In addition, in teaching the understanding of atomic material, ED can get acquainted with protons, electrons and neutrons. From the results of interviews conducted with ED, the learning process carried out in the classroom is interesting to continue to be applied, during the learning process, of course, as a student, ED feels difficulties in some of the material taught. However, if the teacher can teach according to the correct level or according to the ability of the students, as in the independent curriculum, learning success can be achieved. The last informant interviewed was a student with the initials WD, just like his two friends WD came from class XI of the Science Program. From the results of the interview about the implementation of the independent curriculum in their school, especially how the impact in the academic field in Chemistry lessons. WD told that the learning process in the classroom was going well, because the media / learning tools used by the teacher were quite interesting, the teacher usually gave a video, displayed audio visual presentation media, and also most often when face to face gave book media. In class, WD said that in learning chemistry, he usually discusses the PH of a compound, molecules, periodic table, chemical laws. For the difficulty that WD feels in learning chemistry is memorizing the periodic table. However, when WD manages to understand the material from the teacher's explanation, he will be more enthusiastic about learning and doing assignments so that he can increase his understanding again. For special chemical materials such as atomic structure that WD gets is about protons, electrons, and neutrons. Furthermore, in the electrolyte solution material,

the teacher explains the material by explaining the theory and then doing the practice. Furthermore, in the material of the periodic system of elements, memorizing or understanding the periodic table is very helpful for WD when working on chemistry questions or tests, especially SPU (Periodic System of Elements) material. Because there is a lot of material that is quite difficult to understand in chemistry subjects, the learning resources used in class are quite extensive, namely textbooks of course and learning videos from YouTube.

Based on the results of the interviews above, students tend to be satisfied with the chemistry learning process using the Merdeka curriculum during the pandemic. Teachers who run the Merdeka curriculum during the pandemic have the ability to adapt to limited conditions, namely distance learning. With these various limitations, teachers are invited to find the most effective way so that learning objectives can be achieved. From the results of this interview, it is known that the use of various interesting learning media is the key to the success of distance learning.

Although in 2023 the development of Merdeka curriculum learning has progressed far, it should be noted that the Merdeka curriculum at the time of this study was still in the form of a prototype or emergency curriculum during the pandemic. In this condition, teachers adapt to distance learning conditions with existing limitations utilizing Merdeka curriculum as a reference. In this condition, teachers also become adaptive to learning learning multimedia to support online learning. The independence seen from EM teacher learning practices is:

1. Using the independent curriculum to determine essential materials.
2. Designing the process even though students still have difficulty understanding the material using learning methods by EM teachers.
3. Use various learning media to motivate learners even in distance learning conditions.
4. Empower the context around learners to learn chemistry concepts.
5. EM teachers reflect on the shortcomings of the learning process and plan improvements to achieve the Objectives.

## Discussion

Based on the research results from the independent curriculum, it is one of the good curricula to be implemented in 2022/2023. By giving teachers the freedom to develop their learning objectives independently, it provides flexibility for teachers to adapt to the learning progress of students. Note that teacher competence is very influential in creating learner learning freedom (Devian et al., 2022/2023) (Devian et al., 2022). This can be seen from how EM as a teacher with high flying hours and has a teacher certificate. When teachers can diagnose learners, are independent in managing materials and pedagogical skills to achieve goals and empower the context around learners, then learning will run effectively. Although not always the steps taken by teachers can be fully effective for all learners, teachers can identify them and use different steps for each learner through differentiated learning (König et al., 2021; Wahyuningsih et al., 2020). Because at the time of this study the concept of differentiated learning had not been socialized massively, EM teachers had not implemented it and there was no information regarding the results of reflection on the difficulties experienced by students in understanding chemical concepts and how to overcome these problems.

In order to create an effective learning atmosphere, cooperation between teachers and school support is needed. As far as possible, schools provide access to facilities and infrastructure needed for chemistry learning. In addition, the expansion of concepts and training for teachers has begun to be carried out in the driving teacher program and driving schools. Support from education practitioners is needed to advance Indonesian education that is better and more advanced.

## Conclusions

From the research conducted, it can be concluded that the independent curriculum can be used as a good curriculum choice to be implemented in various schools. The independent curriculum is designed for students to be more receptive to

learning because teachers teach according to the abilities of students, while for the impact on teachers in implementing the independent curriculum, teachers can focus on teaching essential material, it helps teachers to be more flexible and innovative in teaching. These impacts can be obtained and have a good impact on the progress of education, if it has begun to be implemented. Based on the results of interviews that have been conducted with teachers and also several students regarding the impact of the implementation of the independent curriculum on the academic field of students. The results obtained during the implementation of the independent curriculum, especially in chemistry subjects, so far students have been able to adapt to the independent curriculum. Learners said that some of the factors that influence students to adapt more quickly are from the way teachers teach and guide students to make it easier to balance the curriculum and the subjects taught to students. Besides that, students are happy because the teacher provides space for opportunities and motivates them to learn in their best version. This curriculum is also good to continue to be implemented.

For the teachers themselves, this independent curriculum can be organized more flexibly, making it easier for teachers to design learning according to the abilities of their students and adjustments to the context and local content. But it's just that for the implementation of this curriculum there are several obstacles for schools in the learning process in the classroom, namely the facilities and infrastructure or teaching media used are inadequate. Especially in chemistry subjects are tools and materials in the laboratory. For this reason, support from educational practitioners is needed to advance Indonesian education that is better and more advanced.

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