



Description of The Learning Motivation of 10th Grade High School Students In Chemistry Learning Using The Merdeka Curriculum

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Abstract

This study aims to describe the learning motivation of tenth-grade students in Chemistry in the implementation of the Merdeka Curriculum. This research is relevant and timely because the Merdeka Curriculum is still in the stage of widespread implementation, while empirical studies that specifically reveal the learning motivation of high school Chemistry students are still limited. The research used a quantitative descriptive approach involving 143 tenth-grade students at Mujahidin Pontianak High School. Data were collected through a learning motivation questionnaire and analyzed descriptively using percentages. The results showed that overall student learning motivation was in the high category. The indicator of a conducive learning environment received the highest percentage (77%), while the indicator of interesting learning activities showed the lowest percentage (50%). These findings indicate that although the Merdeka Curriculum contributes positively to student learning motivation, the design of more interesting and varied learning activities still needs to be improved. The novelty of this study lies in the presentation of the profile of Chemistry students' learning motivation based on motivation indicators in the context of the Merdeka Curriculum, thus providing practical implications for the development of curriculum design and Chemistry learning strategies in high schools.

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INTRODUCTION

Education plays a strategic role in the development of Indonesia's human resources, especially in preparing a generation that is capable of critical thinking, adaptability, and competitiveness. One of the key factors that determine the success of the educational process is student motivation, because motivation serves as an internal driver that directs, maintains, and strengthens learning behavior. Without adequate motivation, the learning process tends to be superficial and unsustainable, resulting in low quality learning outcomes and student engagement in the long term (Sardiman, 2014; Ryan & Deci, 2020).

In the context of chemistry education at the high school level, the issue of motivation becomes increasingly crucial. Chemistry is a subject that has abstract concepts, involves simultaneous

macroscopic, microscopic, and symbolic representations, and requires high logical and mathematical reasoning skills. Low motivation to learn chemistry not only affects short-term academic achievement, but also influences students' attitudes towards science, their interest in continuing their studies in science, and their readiness to face the demands of 21st century competencies. The issue of student learning motivation is becoming increasingly relevant in the context of the implementation of the Merdeka Curriculum, which is currently being widely applied in Indonesia. The Merdeka Curriculum is designed to encourage student-centered learning, strengthen essential competencies, and develop character through flexible and contextual learning (Kemendikbudristek, 2022).

Theoretically, this curriculum has great potential to increase learning motivation because it provides learning autonomy, room for exploration, and opportunities for students to be actively involved in the learning process (Ryan & Deci, 2020; Hidi & Renninger, 2006). However, the implementation of the Merdeka Curriculum in real classrooms still faces various challenges, especially in chemistry learning. The flexibility of the curriculum requires teachers to be able to design meaningful, engaging learning activities that are appropriate for the characteristics of chemistry material.

A number of studies report that teachers still experience difficulties in translating the principles of the Merdeka Curriculum into learning practices, such as limitations in designing project-based learning, inquiry-based learning, and the use of interactive technology to increase student engagement (Khoirurrijal & Fadriati, 2022; Tuerah & Tuerah, 2023). This condition has the potential to cause a gap between the ideal goals of the Merdeka Curriculum and the learning experiences actually felt by students. Empirically, several studies show that the Merdeka Curriculum has a positive relationship with student learning motivation.

Rifai (2024) reports that the implementation of the Merdeka Curriculum contributes significantly to increasing student learning motivation. Other studies also confirm that learning that provides freedom of learning, contextual relevance, and meaningful activities tends to increase students' intrinsic motivation (Ryan & Deci, 2020). However, most of these studies are still general in nature, have not specifically examined the profile of student learning motivation in chemistry, and have not described the indicators of learning motivation in detail in the context of the Merdeka Curriculum. Thus, there is an important research gap that needs to be examined, namely the limited empirical studies that describe the factual conditions of student learning motivation in chemistry learning based on learning motivation indicators in the implementation of the Merdeka Curriculum. In fact, understanding the variations in student learning motivation is very important because it has direct implications for learning engagement, perseverance in completing tasks, and long-term learning achievement.

Initial observations and interviews with chemistry teachers at Mujahidin High School in

Pontianak showed variations in student motivation, which were reflected in the level of participation, attention, and perseverance of students during the chemistry learning process. Based on these issues, this research is highly urgent, considering that the Merdeka Curriculum is still in the stage of widespread implementation and requires empirical data-based evaluation, especially in subjects with a high level of difficulty such as chemistry.

The novelty of this study lies in its specific focus on describing the learning motivation of tenth-grade students in chemistry learning based on learning motivation indicators according to Uno (2016) in the context of the implementation of the Merdeka Curriculum, which has been relatively rarely studied. The results of this study are expected to not only contribute academically to enriching the study of learning motivation and curriculum implementation in chemistry education, but also provide practical solutions for teachers and schools in designing chemistry learning that is more interesting, meaningful, and capable of fostering students' learning motivation in a sustainable manner, in line with the spirit of the Merdeka Curriculum.

METHOD

This study uses a quantitative descriptive approach. This approach was chosen based on the research objective, which focuses on systematically describing students' learning motivation levels, rather than testing cause-and-effect relationships or the effectiveness of specific treatments. The quantitative approach is considered appropriate because learning motivation is a psychological construct that can be operationalized into measurable indicators, thus enabling the presentation of data in the form of numbers and percentages to objectively describe students' learning motivation trends.

The descriptive method was chosen because this study aimed to obtain a factual description of the learning motivation of tenth-grade students in chemistry lessons under the implementation of the Merdeka Curriculum as it exists in the field, without manipulating the research variables. Thus, this approach is relevant to use as a basis for evaluating learning and formulating practical recommendations for teachers and schools.

The research was conducted in the 2024–2025 academic year for one semester at Mujahidin

Private High School in Pontianak. The research subjects were all 143 students in grade X. The sampling technique used was saturated sampling, which is a technique of determining the sample by taking all members of the population as the research sample. This technique was chosen because the population size was relatively limited and all subjects could be reached by the researcher, so that the research results were expected to represent the conditions of the population as a whole.

The research instrument used was a learning motivation questionnaire. The questionnaire was chosen as the main instrument because it can efficiently collect data from a large number of respondents and allows for standardized measurement of learning motivation based on predetermined indicators. Compared to interviews or observations, questionnaires are more suitable for descriptive quantitative research because they facilitate the process of statistical data processing and analysis.

However, the use of questionnaires has limitations, including the possibility of respondent subjectivity bias and limitations in exploring the deeper meaning of student learning motivation. Therefore, the results of this study are interpreted as a general description of the level of student learning motivation. Further research is recommended to combine quantitative methods with qualitative approaches, such as in-depth interviews or classroom observations, as well as using a longitudinal design to monitor changes in student learning motivation over time.

The learning motivation questionnaire consists of 44 statements compiled based on eight indicators of learning motivation according to Uno (2016), which include internal and external indicators. Each statement is measured using a four-point Likert scale. Before being used in data collection, the instrument was validated through content validation by two expert validators. Furthermore, validity and reliability tests were conducted empirically using SPSS software version 21.

Data analysis was carried out in several stages, namely validity testing, reliability testing, and descriptive statistical analysis. Validity testing was conducted using corrected item-total correlations to determine the feasibility of each statement item. Reliability testing was conducted using Cronbach's Alpha coefficient to ensure the

internal consistency of the instrument. Data that was declared valid and reliable was then analyzed descriptively by calculating the percentage score for each learning motivation indicator. The results of the analysis were then interpreted based on learning motivation level criteria to determine student motivation categories, namely very high, high, moderate, low, and very low.

In this study, the questionnaire consisted of 44 questions with two indicators, namely internal and external indicators. In addition, there were eight sub-indicators, namely: 1. Desire and enthusiasm to learn again, 2. Hopes and dreams for the future, 3. Showing interest, 4. Perseverance in completing tasks, 5. Appreciation in the learning process, 6. The existence of interesting learning activities, 7. A conducive learning environment to support the learning process, 8. Motivation and need to learn (Uno, 2016:23).

Based on these indicators, various statements were collected. These statements were categorized into two types: positive statements, consisting of 20 questions, and negative statements, consisting of 24 questions. To measure each statement, a Likert scale was used. The Likert scale is used to measure the attitudes, opinions, and perceptions of individuals or groups regarding social events or phenomena (Sugiyono, 2016:93).

The learning motivation questionnaire instrument in this study consisted of 44 statements developed based on learning motivation indicators according to Uno (2016). Before being used in data collection, the instrument was validated through expert assessment by two validators, namely Guidance Counseling teachers. The content validation results stated that all items were suitable for use, although two statements were revised based on the validators' suggestions. Furthermore, an empirical test was conducted using SPSS version 21 to assess the validity and reliability of the instrument. At the statistical test stage, only 42 statements were analyzed because the two revised statements were not included in the trial. The validity test was conducted through a Corrected Item-Total Correlation analysis, and the results showed that 27 items met the validity criteria. Therefore, only 27 items were used in the research data collection, while the invalid items were eliminated. The reliability of the instrument

was analyzed using Cronbach's Alpha (α). Referring to Ghozali's (2018) criteria, the instrument was considered reliable if $\alpha > 0.70$. The calculation results showed a Cronbach's Alpha value of 0.994, so the instrument was categorized as very reliable and consistent for measuring student learning motivation.

Table 1. Scoring System for Questionnaire Responses

Answering	Code	Score Value
Strongly agree	SS	4
Agree	S	3
Disagree	TS	2
Strongly disagree	STS	1

Source: Sugiyono (2019:147)

Questionnaire Item Analysis

Questionnaire Validation

Table 2. Summary of Case Processing

	N	%
Valid	143	100.000
Excluded	0	,0
Total	143	100.000

a. Listwise deletion based on all variables in the procedure.

Based on the results of the learning motivation questionnaire validity test, all statement items showed calculated r values greater than the table r (calculated $r > 0.30$). This indicates that each questionnaire item has a significant correlation with the total score. Thus, it can be concluded that all 44 statement items are valid and suitable for use as a research instrument to measure student learning motivation in Chemistry learning using the Merdeka Curriculum.

Questionnaire Reliability

These findings are in line with the results of Rahayu's (2022) study, which states that an instrument is considered valid if the correlation coefficient value of each item to the total score exceeds the table r value, so that the instrument is able to accurately measure the construct being studied. In addition, Latip (2021) emphasizes that the validity of an instrument indicates the extent to which the items in the instrument can reveal aspects of the variables to be measured accurately and consistently. In line with this, the results of a thesis study conducted by Sari (2020) also show that questionnaires with an r -count value > 0.30 are considered valid because they have a significant correlation with the variables being measured.

Table 3. Reliability Statistics

Alfa Cronbach	Number of Items
0.683	44

The reliability test produced a Cronbach's Alpha value of 0.683, which is above the minimum threshold of 0.60, so the instrument is considered reliable. Thus, the questionnaire has good internal consistency and can provide stable and consistent data in measuring student learning motivation. According to Siregar and Lubis (2020), the reliability of an instrument is considered adequate if the Cronbach's Alpha value is greater than 0.60, as this indicates good internal consistency between the items in the questionnaire. The results of a study conducted by Rifai (2024) also show that instruments with a Cronbach's Alpha > 0.60 are suitable for use in educational research because they are able to provide stable measurement results for respondents.

Table 4. Assessment of Questionnaire Responses

Answer	Code	Score Value
Strongly agree	SS	4
Agree	S	3
Disagree	TS	2
Strongly disagree	STS	1

Source: Sugiyono (2019:147)

In this study, the researcher used data analysis with a formula according to Arikunto (2017).

$$P(\%) = \frac{F}{N} \times 100\%$$

Description:

P: Percentage of learning motivation

F: Total score

N: Number of respondents

The criteria used to determine the respondent scores in this study, namely the percentage of students' motivation to learn chemistry in post-pandemic learning, are as follows.

Table 5. Learning Motivation Scores

Presentation (%)	Criteria
81–100	Very High
61–80	High
41–60	Moderate
21–40	Low
0–20	Very Low

Source: Nasrah A & Muafiah, (2020): 207-213.

RESULTS AND DISCUSSION

Based on the results of research on student learning motivation in 10th grade high school chemistry classes, 143 students completed the

questionnaire. The classified data is presented in the Table 6.

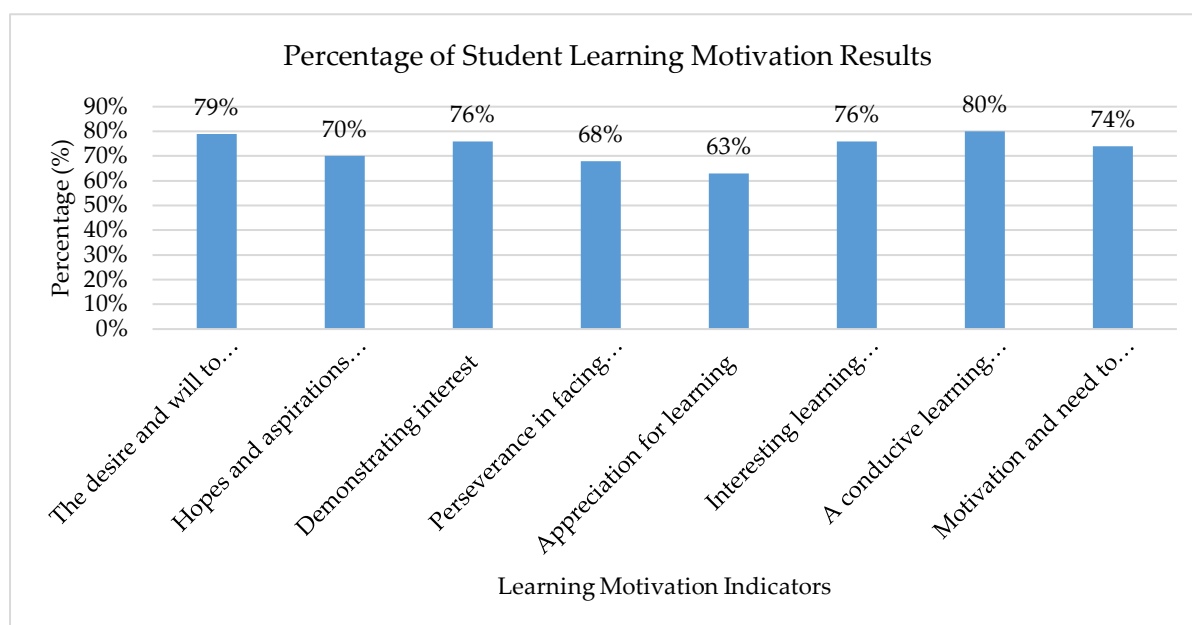
Table 6. Criteria for Motivation to Study Chemistry for 10th Grade Students

Percentage	Criteria	Respondents	Percentage (%)
81 – 100	Very High	4	2,8
61 – 80	High	133	93
41 – 60	Moderate	6	4,2
21 – 40	Low	0	–
0 – 20	Very Low	0	–
Total		143	100

Chemistry learning motivation was measured using eight indicators designed to assess student

motivation levels. The data was then categorized into five levels of motivation: very high, high, moderate, low, and very low.

Based on the results of research on student learning motivation in 10th grade high school chemistry classes, 143 students completed the questionnaire. Chemistry learning motivation was measured using eight indicators designed to assess student motivation levels. Furthermore, the data was categorized into five levels of motivation, namely very high, high, moderate, low, and very low.



Percentage 1. Student Learning Motivation Results per Indicator

Based on the results of the data analysis that has been carried out, student learning motivation is classified as high, from a total of 143 respondents. Learning motivation itself is an internal drive within students that encourages them to engage in learning activities to support the continuity and direction of the learning process to achieve success. Several indicators of learning motivation include: 1) The desire and willingness to succeed; 2) Hopes and dreams for the future; 3) Interest; 4) Perseverance in facing tasks; 5) Appreciation for learning; 6) Interesting learning activities; 7) A conducive learning environment that allows students to learn well; 8) The presence of encouragement and need in learning. These eight indicators can be used as a reference to assess the level of student learning motivation in chemistry.

Based on the research results, in indicator 1, the desire and willingness to succeed was categorized as high with a percentage of 79%. This

shows that students have strong motivation to complete tasks well and achieve perfection. All forms of student learning activities aim to achieve satisfactory results, because no student wants poor learning outcomes. Therefore, they will try their best and compete positively to achieve this (Djamarah, 1994). The drive that arises from learning motivation makes students continue to strive for the best results, which will ultimately shape their learning achievements and have a positive impact on their educational process. Motivation acts as an effective form of reward in encouraging the achievement of optimal learning outcomes (Rosyid & Abdullah, 2018).

In indicator 2, hopes and aspirations for the future were in the high category with a percentage of 70%, indicating that students were motivated to improve their performance in order to receive rewards. Students' hopes for success in their studies are an important factor in supporting their emotional well-being. Aspirations are fact-

ors that encourage students to be more diligent in their learning activities (Widlund et al., 2020). Having hopes and goals for the future motivates students to do their best in order to achieve the best learning outcomes (Rahiem, 2021).

Positive emotions arising from belief in academic success play a major role in supporting students' emotional stability (Jembarwati, 2011). Students who have a high level of emotional well-being usually also have high expectations for their learning success, which then encourages them to strive harder to achieve academic excellence. Snyder (in Snyder & Lopez, 2002) states that expectations for academic success include self-confidence (agency), strategies or paths to achieve it, and individual evaluations of the likelihood of achieving academic goals. These expectations influence students' ability to adapt, whether when facing exams, in the learning process at school, or when solving problems.

In indicator 3, interest in learning, especially chemistry, was also high at 76%, showing students' enthusiasm for learning. In indicator 4, perseverance in completing tasks received a high score of 68%, reflecting students' enthusiasm and consistency in learning. In indicator 5, the level of appreciation for learning was also high at 63%, emphasizing the importance of a supportive learning environment for optimal results. For comparison, in a study conducted by (Maulina, 2023) entitled "The Relationship between Motivation to Learn Chemistry and Pancasila Student Profiles" conducted at Depok State High School, which implemented an independent curriculum in 2022/2023 with a population of 501 students and a sample of 223 respondents in grades X & XI. It was mentioned that 1) the desire and willingness to succeed were classified as high at 72.4%, 2) the drive and need to learn at 69%, 3) appreciation for learning at 77.6%; 4) the presence of interesting activities in learning at 79%; 5) the existence of a conducive learning environment at 69%, and 6) the existence of a conducive learning environment at 69.0%.

This study was conducted on 246 tenth-grade students at Mujahidin High School. However, during the study, several students were absent due to illness or without explanation, so the total number of students participating in the study was 143. Meanwhile, in a study conducted by Febia Maulina entitled "The Relationship between Motivation to Learn Chemistry and Pancasila

Student Profiles," it was mentioned that 76% of students considered learning activities to be interesting, 84.61% of students had high levels of motivation and learning needs, 94.87% of students had very high hopes and aspirations for the future, the indicator of student appreciation for learning activities was in the low category with a percentage of 58.97%, the indicator of interesting activities felt by students in learning was in the high category with a percentage of 79.48%, and the indicator of student needs for a conducive learning environment was in the very high category with a certain percentage.

Indicator 6: The level of appreciation for learning, at 76%, is considered high. According to Dimiyati & Mujiono (2006), students will find it easier to pay attention to learning materials if they consider them relevant to their needs, both for further learning and for everyday life, as this can trigger higher learning motivation.

Indicator 7 shows that there is a conducive learning environment to encourage the learning process, which is classified as high at 80%. This means that the students' learning environment supports their learning process, and the educational environment provides opportunities for students to understand positive behavior and discipline through situations that are different from their experiences at home (Nugiyanti, 2023). Then, in indicator 8, the indicator of encouragement and need in learning is 74%, which is relatively high. This means that the internal motivation of 10th grade high school students in learning chemistry is high. The cause of this high motivation is learning motivation, namely stimulation from within and outside the students that encourages them to change their behavior during the learning process (Hidayah & Hermansyah, 2016).

Based on the results of a survey of 10th grade students at Mujahidin High School regarding their motivation to study chemistry using the Merdeka Curriculum, the data shows that 2.8% of respondents, or 4 students, have very high motivation to study. The majority of students, namely 93% or 133 respondents, showed high motivation to study. Meanwhile, 4.2% or 6 students had moderate motivation to learn. The average percentage of respondents fell into the high motivation category.

In a study conducted by Maulina (2023) entitled "The Relationship between Motivation to

Learn Chemistry and Pancasila Student Profiles," it was found that 72.2% (N=223) of 223 respondents showed high motivation to learn. This study covered six aspects of motivation, namely: (1) desire and willingness to succeed (72.4%, high category), (2) learning motivation (69%, high category), (3) hopes and aspirations for the future (66.3%, high category), (4) appreciation in learning (77.6%, very high category), (5) interesting learning activities (79%, very high category), and (6) a conducive learning environment (69%, high category). The average total percentage of all aspects was 72.2%, which was also in the high category.

Research shows that learning motivation plays a very important role in the learning process. Learning motivation serves as a driving force that provides encouragement, direction, and perseverance in behavior during learning. With motivation, students will exhibit energetic, focused, and consistent behavior. When motivation is based on interest, students tend to achieve academic success more easily. To achieve their goals, students need enthusiasm supported by motivation in learning or working. Therefore, the involvement of teachers, families, and peers is very important to nurture and strengthen learning motivation so that educational goals can be achieved and students' dreams can come true.

The results of the study indicate that the learning motivation of tenth-grade students in chemistry using the Merdeka Curriculum is in the high category. This finding indicates that, in general, the implementation of the Merdeka Curriculum has made a positive contribution to the psychological condition of students in the chemistry learning process. The Merdeka Curriculum, which emphasizes student-centered learning, learning flexibility, and strengthening essential competencies, theoretically has great potential to foster students' intrinsic motivation (Ryan & Deci, 2020). Therefore, the results of this study reinforce the view that curriculum policies that provide learning autonomy can create a more conducive and meaningful learning climate.

When examined in more detail based on learning motivation indicators, conducive learning environment indicators received the highest percentage. This shows that school environment support, classroom atmosphere, and positive social relationships between teachers and students play an important role in encouraging

student engagement in chemistry learning. This finding is in line with the research by Nugiyanti et al. (2023), which states that a safe, comfortable, and supportive learning environment can increase students' focus, perseverance, and learning motivation. In a broader educational context, these results confirm that increasing learning motivation does not only depend on the curriculum or teaching methods, but also on the school ecosystem as a whole.

Conversely, the indicator of engaging learning activities showed the lowest percentage compared to other indicators. Although still in the medium-high category, this finding indicates that the chemistry learning applied has not been fully able to meet students' needs for varied, contextual, and challenging learning activities. This condition is understandable given the abstract nature of chemistry material and the demands of the Merdeka Curriculum, which requires teachers to design project-based, inquiry-based, or real-life context-based learning. This finding is in line with Khoirurrijal and Fadriati (2022) and Tuerah and Tuerah (2023), who stated that teachers still face challenges in translating the principles of the Merdeka Curriculum into innovative learning activities, especially in science subjects.

From a practical point of view, the results of this study have important implications for educators, schools, and policymakers. For chemistry teachers, these findings indicate the need to strengthen more creative and interactive learning strategies, such as the use of contextual experiments, problem-based projects, discussions based on chemical phenomena in everyday life, and the use of interactive digital media. This approach is expected to improve indicators of engaging learning activities and encourage more equitable student motivation. For schools, these results emphasize the importance of providing adequate facilities to support chemistry learning and creating an academic climate that supports active learning in line with the spirit of the Merdeka Curriculum.

In the context of education policy, the findings of this study provide empirical evidence that the Merdeka Curriculum has the potential to positively improve student motivation to learn, but its success is highly dependent on teacher readiness and institutional support. Therefore, policymakers need to strengthen mentoring

programs, pedagogical training, and professional development for teachers so that the implementation of the Merdeka Curriculum is not merely administrative in nature, but truly has an impact on the quality of the student learning experience.

The results of this study are also consistent with the findings of Maulina (2023) and Rifai (2024), which show that student learning motivation in the context of the Merdeka Curriculum is generally in the high category. However, differences in the percentage of indicators of engaging learning activities show that the school context, teacher characteristics, and learning design play a significant role in shaping students' learning experiences. Thus, this study not only confirms previous findings but also highlights areas that still need improvement in chemistry teaching practices.

Although it provides a comprehensive overview, this study has several limitations. First, this study uses a quantitative descriptive design, so it can only describe the condition of student learning motivation without explaining the cause-and-effect relationship. Second, the data was obtained through questionnaires, so it is highly dependent on the subjective perceptions of students. Third, this study is cross-sectional in nature, so it is not yet able to describe changes in student learning motivation in the long term.

Given these limitations, future research should develop more diverse research designs, such as mixed methods approaches involving interviews or observations to explore students' learning experiences in greater depth. In addition, longitudinal research is also needed to monitor the dynamics of student learning motivation as the Merdeka Curriculum is implemented, particularly in chemistry, which is a highly complex subject.

CONCLUSION

Based on the description of the research results regarding student motivation to learn chemistry in chemistry lessons, it can be concluded that student learning motivation is high, based on a total of 143 respondents. Reviewing the description of each indicator of student motivation to learn chemistry, it can be seen that the average learning motivation is categorized as high, with a percentage of 79% for the indicator of desire and enthusiasm to learn again, 70% for the indicator of having hopes and dreams for the future, 76% for

the indicator of showing interest, 68% for the indicator of having the determination to complete tasks, 63% for the indicator of having appreciation in the learning process, 76% for the indicator of having interesting learning activities, 80% for a conducive learning environment to support the learning process, and 74% for the indicator of having encouragement and needs in learning.

Based on the research results showing that the motivation to learn chemistry among 10th grade students is in the high category, these findings have important implications for schools, teachers, and students. For schools, high learning motivation is a positive indicator that the Merdeka Curriculum policy has been quite effective, so it needs to be maintained and improved by providing more diverse learning facilities and a more conducive school environment. For teachers, these results emphasize the importance of designing learning that is interesting, interactive, and relevant to students, especially in an effort to improve the indicator of interesting learning activities, which is still in the moderate category.

Teachers also need to continue to provide positive reinforcement and rewards in the learning process so that student motivation remains stable. For students, high learning motivation reflects their readiness to face chemistry learning, but independence in learning and active involvement in various learning activities are still needed so that their academic potential can develop optimally. Thus, collaboration between schools, teachers, and students is very important so that the level of learning motivation can be maintained and even increased, thereby maximizing learning outcomes in the future.

RECOMMENDATION

Based on the research findings, the following recommendations have been compiled as guidelines for further research development, taking into account constraints that may affect the research results :

For Future Researchers

This study is still descriptive in nature, so further research is recommended to develop a correlational or experimental research design to test the relationship or influence of learning motivation on chemistry learning outcomes, critical thinking skills, or Pancasila student

profiles. In addition, the use of mixed methods can provide a more in-depth picture of the factors that influence student learning motivation.

For Schools

Schools are advised to continue improving the quality of the learning environment that supports student motivation, such as providing more diverse chemistry learning facilities and infrastructure. Obstacles in the form of limited facilities and learning time need to be anticipated so as not to hinder the strengthening of student learning motivation.

For Teachers

Teachers need to develop more innovative and contextual learning strategies, especially to improve learning activity indicators that are still not optimal. Obstacles such as differences in student characteristics and limitations in learning media need to be overcome so that the learning process can continue to motivate all students equally.

For Students

Students are expected to maintain and improve their motivation to learn by developing independent learning and active participation in the learning process. Obstacles such as poor time management and lack of confidence need to be minimized so that learning potential can be developed to the maximum.

By considering these suggestions, it is hoped that further research and chemistry learning practices can be more effective and improve the quality of student motivation and learning outcomes.

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BIBLIOGRAPHY

Arikunto, S. (2017). *Prosedur penelitian: Suatu pendekatan praktik* (Edisi revisi). Rineka Cipta.
Chang, R. (2005). *Chemistry* (3rd ed.). McGraw-Hill.

- Daga, M. (2021). Implementasi Kurikulum Merdeka Belajar dalam dunia pendidikan Indonesia. *Jurnal Pendidikan dan Kebudayaan*, 26(3), 143–152.
- Deci, E. L., & Ryan, R. M. (2020). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Press.
- Djarwo, H. (2020). Pendekatan pembelajaran dalam mengatasi kesulitan belajar kimia. *Jurnal Inovasi Pendidikan Kimia*, 14(2), 85–91.
- Ghozali, I. (2018). *Aplikasi analisis multivariate dengan program IBM SPSS* (8th ed.). Badan Penerbit Universitas Diponegoro.
- Hidayah, N., & Hermansyah, F. (2016). Hubungan antara motivasi belajar dan kemampuan membaca pemahaman siswa kelas V madrasah ibtidaiyah. *Terampil: Jurnal Pendidikan dan Pembelajaran Dasar*, 3(2), 30–41.
- Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist*, 41(2), 111–127. https://doi.org/10.1207/s15326985ep4102_4
- Jespersen, N. D., Brady, J. E., & Hyslop, A. (2012). *Chemistry: The molecular nature of matter* (6th ed.). John Wiley & Sons.
- Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia. (2022). *Panduan implementasi Kurikulum Merdeka*. Author.
- Khoirurrijal, K., & Fadriati, F. (2022). Merdeka belajar: Konsep dan implementasi dalam pembelajaran. *Jurnal Pendidikan dan Kebudayaan*, 12(2), 45–56.
- Latip, A. (2021). *Pengembangan instrumen evaluasi pembelajaran berbasis angket*. Alfabeta.
- Lestari, S., & Puspitasari, D. (2021). Pengaruh penggunaan media pembelajaran interaktif terhadap motivasi belajar siswa. *Jurnal Edukasi*, 19(2), 98–105.
- Madhakomala, R., Suwandi, S., & Rahmawati, R. (2022). Implementasi Kurikulum Merdeka sebagai penyempurnaan kurikulum 2013. *Jurnal Pendidikan*, 20(3), 101–112.
- Maulina, F. (2023). Hubungan motivasi belajar kimia dengan profil pelajar Pancasila pada implementasi Kurikulum Merdeka. *Jurnal Pendidikan Sains Indonesia*, 11(2), 134–145.
- Nasrah, N., & Muafiah, A. M. A. (2020). Analisis motivasi belajar dan hasil belajar daring mahasiswa pada masa pandemi. *JRPD: Jurnal Riset Pendidikan Dasar*, 3(2), 207–213.
- Nugiyanti, T., Hasyim, S. H., & Azis, F. (2023). Pengaruh lingkungan sekolah terhadap disiplin dan motivasi belajar siswa. *Jurnal Eduscience*, 10(3), 830 - 839. <https://doi.org/10.31605/jes.v10i3.5091>
- Rahmatika, D., Sari, A. N., & Wibowo, H. (2022). Peran motivasi dalam pembelajaran pada era Kurikulum Merdeka. *Jurnal Pendidikan Indonesia*, 11(1), 34–42.
- Rahma, H. A., Novianti, N., Qolbiyah, A., Firmansyah, F., & Nurdin. (2025). Implementasi kebijakan

- pendidikan Merdeka Belajar. *Jurnal Pendidikan Tambusai*, 9(1), 1–10.
- Rifai, A. L. (2024). Pengaruh implementasi Kurikulum Merdeka terhadap motivasi belajar siswa kelas X SMA (Skripsi). Universitas Islam Negeri Syarif Hidayatullah Jakarta.
- Rosyid, M., & Abdullah, T. (2018). Motivasi belajar dan pengaruhnya terhadap prestasi akademik siswa. *Jurnal Pendidikan dan Pembelajaran*, 24(2), 134–140.
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective. *Contemporary Educational Psychology*, 61, 101860. <https://doi.org/10.1016/j.cedpsych.2020.101860>
- Sardiman, A. M. (2014). *Interaksi dan motivasi belajar mengajar*. Rajawali Pers.
- Sari, D. K., Hidayah, N., & Wulandari, T. (2022). Hubungan motivasi belajar dan Kurikulum Merdeka terhadap hasil belajar siswa. *Jurnal Evaluasi Pendidikan*, 9(1), 55–66.
- Siregar, A., & Lubis, H. (2020). Reliabilitas instrumen penelitian pendidikan menggunakan Cronbach's alpha. *Jurnal Evaluasi Pendidikan*, 8(1), 44–52.
- Subagia, I. W. (2014). Faktor penyebab rendahnya minat siswa terhadap pelajaran kimia. *Jurnal Pendidikan dan Pengajaran*, 47(3), 201–210.
- Sugiyono. (2016). *Metode penelitian pendidikan*. Alfabeta.
- Sugiyono. (2019). *Statistika untuk penelitian*. Alfabeta.
- Tuerah, E. M., & Tuerah, F. P. (2023). Kurikulum Merdeka: Peluang dan tantangan dalam pembelajaran di sekolah. *Jurnal Inovasi Pendidikan*, 8(1), 55–66.
- Uno, H. B. (2016). *Teori motivasi dan pengukurannya: Analisis di bidang pendidikan*. Bumi Aksara.
- Widlund, A., Tuominen, K., Tuominen, H., & Tapola, A. (2020). Task-focused processing, utility value, and interest in chemistry learning. *Contemporary Educational Psychology*, 62, 101889. <https://doi.org/10.1016/j.cedpsych.2020.101889>
- Yamin, M. (2012). *Paradigma baru pembelajaran*. Gaung Persada Press.