

## The Use of Instagram Integrated Learning Media Against Student Learning Motivation in Reaction Rate Material

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**Abstract.** *The purpose of this study was to determine the effect of using Instagram integrated learning media on students' learning motivation in the matter of reaction rate. This study used a qualitative descriptive method by using a questionnaire to find out the increase in the results of students' learning motivation. This research was conducted at one of the public high schools in Malang City involving 33 students of class XI IPA 4. The data analysis used was in the form of a qualitative test of students' learning motivation. The results of the study show that the use of Instagram learning media can increase students' learning motivation regarding the reaction rate material.*

**Keywords:** *learning motivation, reaction rate, Instagram.*

### INTRODUCTION

Education has an important role in preparing graduates to be able to compete in the 21st century. The quality of education in Indonesia is still low. One indicator that influences the quality of education in Indonesia is the success of students in learning. Student learning success is determined by many factors. One of them is the motivation to learn [1]

Motivation has an important role in education because it acts as a driving force that comes from within and outside of humans to carry out certain learning activities and can foster enthusiasm for learning [2]. Learning motivation can be divided into extrinsic motivation, namely motivation that comes from outside that encourages active learning behavior, for example, a learning environment that is comfortable, conducive, and attracts the attention of students. Meanwhile, intrinsic motivation is motivation that comes from within to study hard, for example, the desire to succeed and the urge to learn [3].

Motivation to learn greatly affects the success of a learning. The success of a learning will be achieved if there is a will and motivation to learn. To achieve optimal learning outcomes, it is necessary to have motivation to learn. The more precise the motivation given, the better the learning outcomes [4]. Thus, it can be said that motivation always determines the intensity of students' learning efforts and improves student learning outcomes [5]. Each student has a different learning motivation because each student has different needs in learning activities. The low learning motivation of students in Indonesia is a case that must be understood by educators and a solution is needed to solve these problems.

Most students have low learning motivation in learning chemistry. Until now, the chemistry learning process has not achieved its learning goals optimally because students still find it difficult to understand chemistry learning material [6]. Based on the results of studies conducted by researchers, it was found that one of the chemical materials that was considered difficult for students to understand

was reaction rate material, because students had difficulty understanding the material making students' interest in learning the reaction rate material quite low and making student learning motivation on the reaction rate material decrease [7]. One solution to increase students' learning motivation in the learning process is to use innovative learning media.

Basically, time will always experience development. All aspects of life will follow these developments, including technology. In education, technology allows students to think critically, think creatively, innovate, solve problems, and collaborate [8]. The rapid development of technology is directly proportional to the development of social media which is increasingly being used by people. Today's social media can provide visual, textual, and interactive information. This is what makes social media very loved and a part of life [9].

The development of social media is considered sufficient to influence students academically. Most students use social media as a place to interact with people. Along with these developments, social media can be used as one of the media innovations that can be used in learning. One of the reasons why social media can be used in the learning process is because social media can be used as an innovative learning media [10].

The use of audio-visual learning media is one example of learning media that can increase students' interest and motivation to learn. Visual media such as images, videos, and animations can be used as an excellent alternative learning media to use [11]. Instagram can be used as an option that can be used as a new learning medium for students. The basic reason Instagram can be used as a learning medium is that most students in Indonesia are used to using Instagram in their daily lives. Moreover, almost all students already have laptops and gadgets, so students only need to download the Instagram application and educators do not need to pay a lot of money to apply it [12].

Several studies have been conducted which show the use of the Instagram social media platform in learning. The use of Instagram media as a learning medium can trigger student motivation and learning achievement [13]. This is because the content

contained in Instagram can be in the form of pictorial illustrations that promote understanding, increase curiosity, and increase students' interest in learning. This situation is in line with other research, which shows that Instagram is an effective tool to use in increasing student learning motivation and participation in class activities [14].

In addition, other research shows that the use of Instagram-based learning media is quite effective in increasing student motivation and learning outcomes. In this study, it was found that learning media based on Instagram can make it easier for students to understand learning material, this is because the delivery of various learning materials, namely in the form of photos and videos. Therefore, students become more interested in learning and students can easily understand learning material [15]. This study aims to determine the increase in students' learning motivation after learning chemistry with the Instagram-assisted reaction rate material. Instagram media will be used in several stages of learning, such as presenting problems, learning materials, and forums for discussion.

## METHOD

The method used in this research is descriptive qualitative. The design of this research can be described as follows:

This research was carried out in the odd semester of the 2022/2023 school year at one of Malang City Public High Schools. The research subjects were students of class XI IPA, namely 33 students of class XI IPA 4. The procedure in this study was started by distributing a learning motivation questionnaire related to the reaction rate material to students before starting to study the reaction rate material. In learning activities, class XI IPA 4 is taught with the help of the Instagram application @chemsquad.kimia. At the end of the lesson, a motivational questionnaire will be distributed to students again. This is done to obtain data related to the effect of using Instagram learning media on students' learning motivation in the matter of reaction rate.

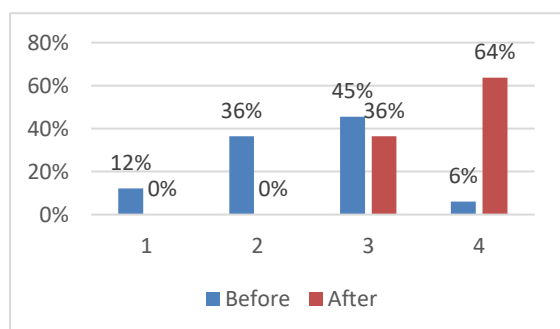
The data collection used was using non-test instruments in the form of a student learning motivation questionnaire. Motivation questionnaire data processing techniques were

analyzed using a qualitative test on students' learning motivation.

## RESULT AND DISCUSSION

The results and discussion describe the results of the research or analysis obtained. In this study, Instagram learning media was used in class XI IPA 4. The Instagram account @chemsquad.kimia was the media used in the research. The content presented includes reaction rate material in the form of infographics and videos. Each sub-material contains examples from everyday life or problems, material explanations, sample questions, and discussions.

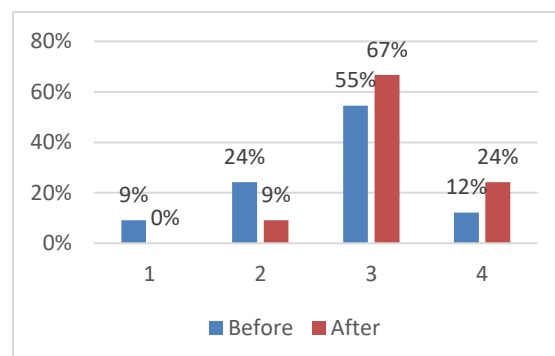
Data on learning motivation results were obtained by distributing motivational questionnaires before and after being given Instagram media as a learning medium which contained 20 statements with 4 assessment scores which had previously been validated by teachers and expert lecturers. A motivational questionnaire was given to class students with learning assisted by the Instagram application to find out the differences and effects of using Instagram in learning. To find out the influence of Instagram media on learning, it can be seen from the increase in the results of students' learning motivation before and after using Instagram media. The results of the motivational test before and after using Instagram media are presented in the following figure:



**Figure 1 Interest in Learning Reaction Rate Material**

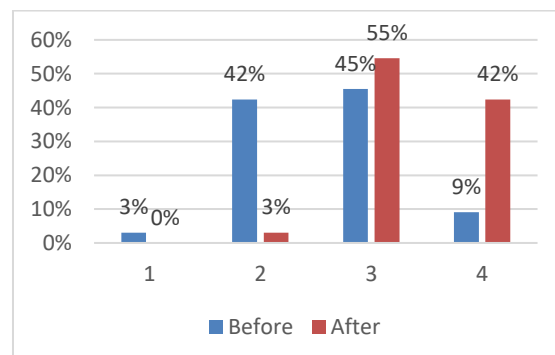
In Figure 1 related to interest in learning the reaction rate material, there was a significant increase after the use of Instagram media in learning. Before the trial was conducted, students dominated scale 3. After using Instagram media, as many as 64% of

students dominated scale 4 by 64%. From the graph, the use of Instagram media in learning can increase the attractiveness of students in the reaction rate material.



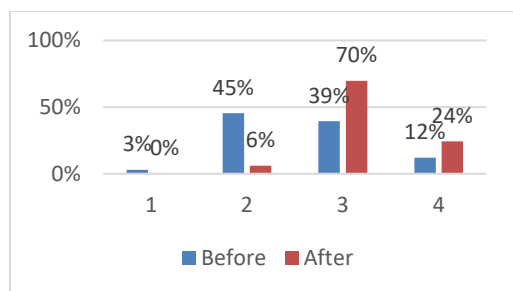
**Figure 2 Preparing Study Tools Before The Teacher Enters The Class.**

In Figure 2 regarding preparing learning equipment before the teacher enters the classroom, there is no significant increase after using Instagram media. Before and after using Instagram media in learning, students dominate scale 3. From the figure, it shows that students are enthusiastic about learning the reaction rate material.



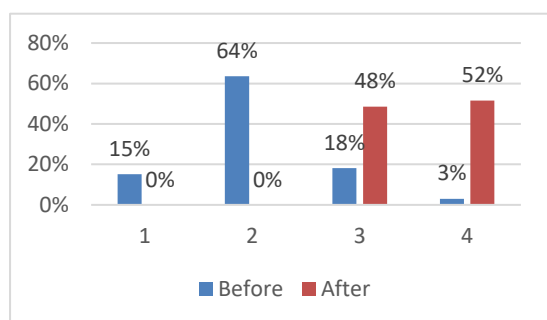
**Figure 3 Pay Attention to the Material Explained**

In Figure 3, regarding paying attention to the material explained, there was no significant increase after using Instagram media. Before being used Instagram media was dominated on a scale of 3 by 45% and after being used Instagram media was dominated on a scale of 3 by 55%. This is because there are still some students who are distracted during learning.



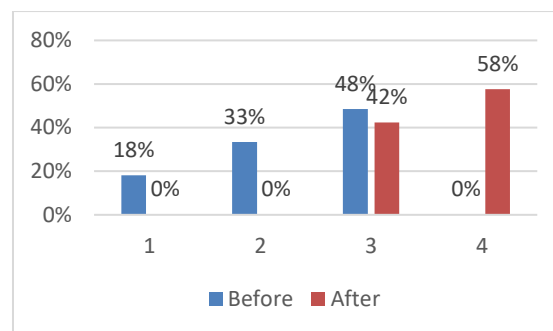
**Figure 4 No Need to Take Notes on the Material Explained**

In Figure 4, students do not need to take notes on the material explained, there was a significant increase after using Instagram media. Before being used Instagram media was dominated on a scale of 2 by 45% and after being used Instagram media was dominated on a scale of 4 by 70%. This shows that students do not need to take notes on the material explained because it is already included in Instagram.



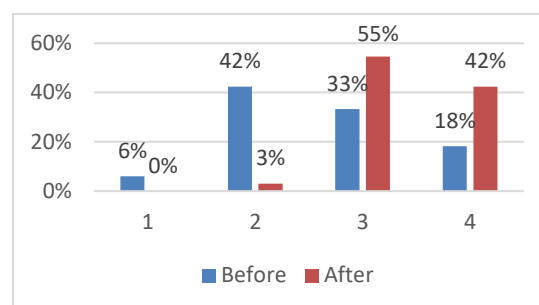
**Figure 5 Active in the Self-Learning Process at Home**

In figure 5 regarding being active in the independent learning process at home, there was a significant increase after using Instagram media. Before using Instagram media, students dominated on a scale of 2 by 64% and after using Instagram media was dominated on a scale of 4 by 52%. This is because Instagram media is one of the social media that can be accessed via the internet at any time, either via a computer or smartphone, easy to use, and unlimited users, making learning more interesting [16]. Thus, students in classes that use Instagram media are more active in independent learning at home.



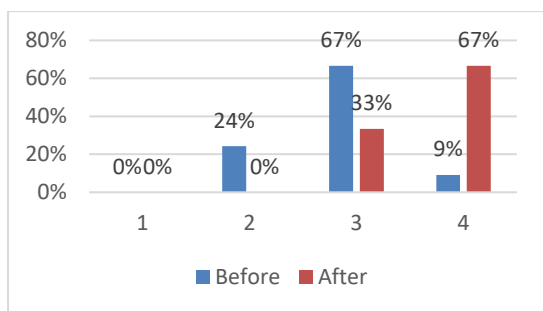
**Figure 6 Thinking about the Relation of Material Reaction Rate with Daily Life**

In Figure 6, regarding the relationship between the reaction rate material and everyday life, there was a significant increase after using Instagram media in learning the reaction rate material. Before using Instagram media, as many as 48% of students dominated scale 3. After using Instagram media, 58% of students dominated scale 4. The material presented on Instagram media includes examples of reaction rates in everyday life which are presented in various forms with duration the longer one. Thus, it is easier for students to relate the reaction rate material to everyday life



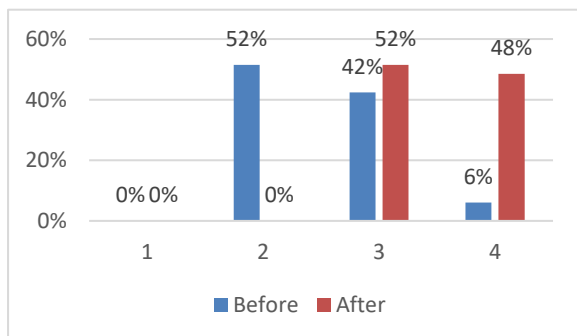
**Figure 7 Concern Over Other Students' Achievement in Reaction Rate Lessons**

In Figure 7, regarding concerns about the achievements of other students in the rate of reaction lessons, there was a significant increase after using Instagram media. Before using Instagram media, students dominated scale 2 by 42%. After using Instagram media, students dominate on a scale of 3 by 55%. The graph shows that after using Instagram media, students experienced an increase in learning motivation and were more motivated to get better results than other students.



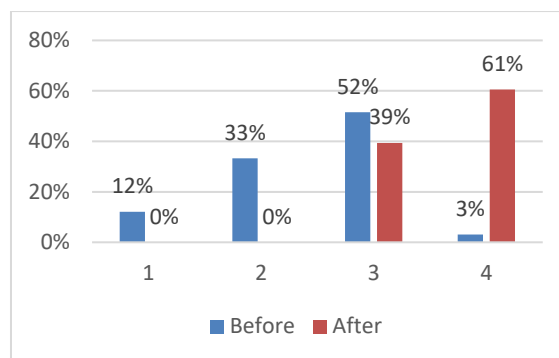
**Figure 8 Mastering Knowledge and Skills in Reaction Rate Material**

In figure 8 regarding mastering knowledge and skills in the reaction rate material, there was a significant increase after using Instagram media. Before using Instagram media in learning, students dominated scale 3 by 67%. After using Instagram media dominated on a scale of 4 by 67%. The figure shows that the use of Instagram media can increase students' confidence in mastering the knowledge and skills of the reaction rate material.



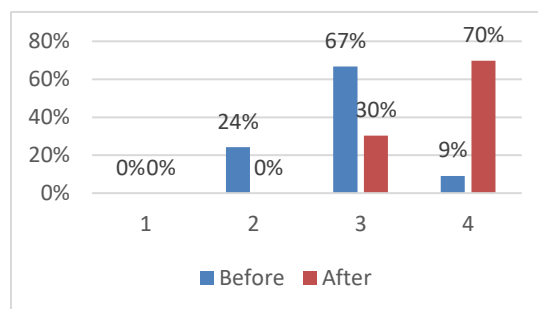
**Figure 9 Always Ask If There Is Material That You Don't Understand**

In figure 9 related to always asking if there is material that is not understood, there has been a significant increase after using Instagram media. Before using Instagram media it was dominated on a scale of 2 by 52% and after being used Instagram media was dominated on a scale of 3 by 52%. The picture shows that after using Instagram media in learning, students' curiosity about the material increases the rate of reaction so that if there is material that is not understood, students will actively ask questions.



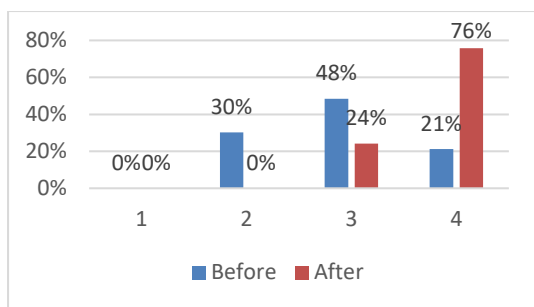
**Figure 10 Can Do Well in the Reaction Rate Material Test**

In figure 10 related to being able to do well in the reaction rate material test, there was an increase after using Instagram media. Before using Instagram media, students dominated scale 3 by 52%. After using Instagram media dominated on a scale of 4 by 61%. The figure shows that the use of Instagram media can increase students' confidence in doing the reaction rate test material well.



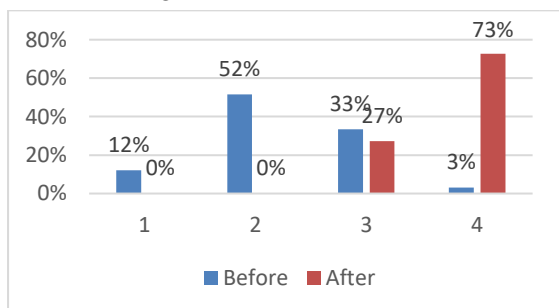
**Figure 11 Always Improve Yourself If You Don't Succeed in the Exam**

In Figure 11, it is related to improving yourself if you don't succeed in the reaction rate material test, there is an increase after using Instagram media. Before using Instagram media, students dominated scale 3 by 67% and after using Instagram media was dominated on scale 4 by 70%. This shows that the use of Instagram media in learning can increase students' learning motivation. Thus, students will improve themselves if they fail in the reaction rate material exam.



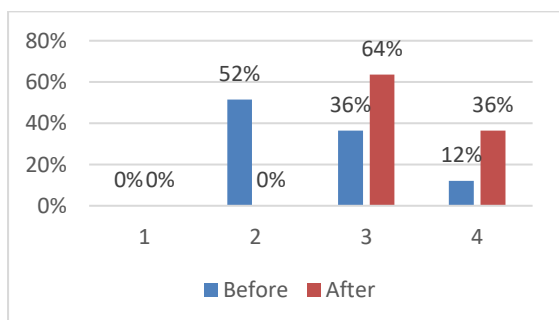
**Figure 12 Happy When Successfully Understanding Reaction Rate Material**

In figure 12 regarding the feeling of pleasure when successfully understanding the material the rate of reaction, there was a significant increase. Before using Instagram media, students dominated scale 3 by 48%. After using Instagram media, it was dominated on a scale of 4 by 76%. The figure shows that the use of Instagram media can increase students' pleasure when they succeed in understanding the reaction rate material.



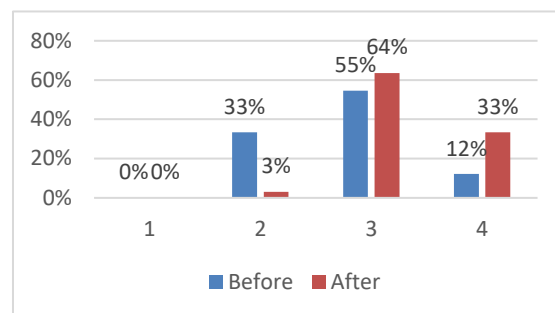
**Figure 13 Reaction Rate Learning is Great Fun to Learn.**

In Figure 13 regarding learning the reaction rate is very fun to learn, there is a significant increase after using Instagram media. After using Instagram media dominated on a scale of 4 by 73%. The graph shows that learning reaction rate material with Instagram media is more fun to learn.



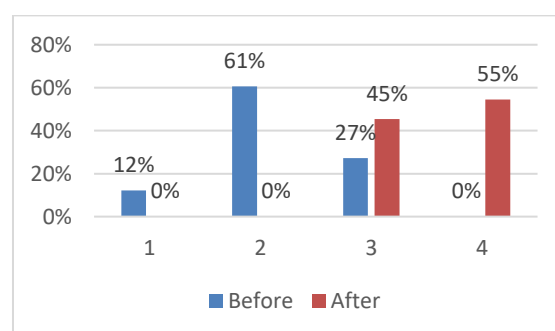
**Figure 14 Difficult Reaction Rate Materials Can Be Learned Interesting.**

In Figure 14 regarding the reaction rate material which is difficult to learn interestingly, there has been a significant increase after using Instagram media. Before using Instagram media it was dominated on a scale of 2 by 52% and after being used Instagram media was dominated on a scale of 3 by 64%. This shows that difficult reaction rate material can be presented attractively using Instagram media.



**Figure 15 Happy to Observe Natural Events in Everyday Life**

In Figure 15 related to the pleasure of observing natural events in daily life, there was no significant increase after using Instagram media. Before being used Instagram media was dominated on a scale of 3 by 55% and after being used Instagram media was dominated on a scale of 3 by 64%. This shows that the use of Instagram media does not really affect students to be happy and enthusiastic in observing natural events in everyday life.

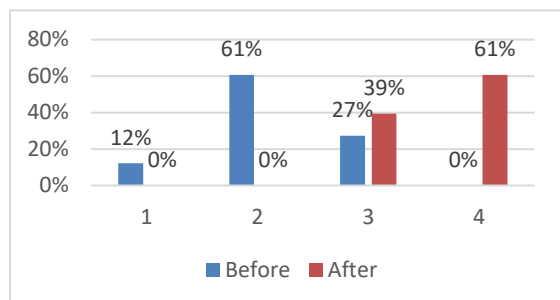


**Figure 16 Reaction Rate Material Can Be Understood**

In Figure 16 regarding the reaction rate material it can be understood easily, there has been a significant increase after using Instagram media. Before using Instagram media, students dominated scale 2 by 61%. After using Instagram media, it is dominated on



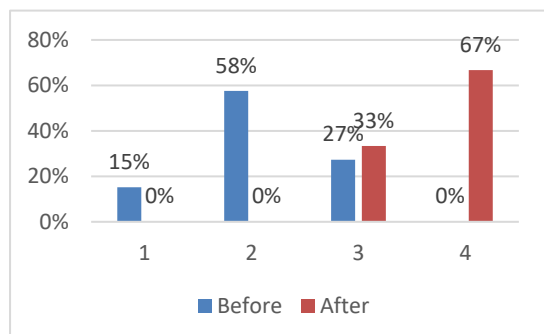
a scale of 4 by 55%. This shows that it is easier for students to understand the reaction rate material through Instagram media.



**Figure 17 Interesting Reaction Rate Material to Learn**

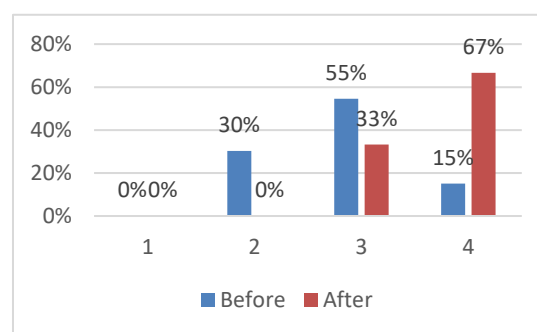
In Figure 17, regarding the interesting reaction rate material to study, there was a significant increase after using Instagram media. Before using Instagram media, students dominated scale 2 by 61%. After using Instagram media, it is dominated on a scale of 4 by 61%. This shows that learning the reaction rate material using Instagram media is more interesting to learn.

Instagram has several features that can support the learning process such as the Feed feature which can be used to deliver material and collection of assignments, Live which can be used to facilitate interaction to monitor the learning needs of students, Instagram TV which can be used to deliver material in the form of videos or animations. duration of 1 to 30 minutes [17]. With the variety of features provided on Instagram, educators can present learning materials by utilizing these features and increase the attractiveness of students in understanding the reaction rate material.



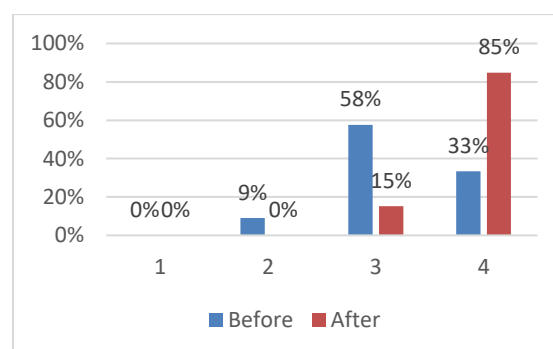
**Figure 18 Enthusiasm for Learning Reaction Rate Material**

In Figure 18, related to the enthusiasm of students to learn the reaction rate material, there was a significant increase after using Instagram media. Before using Instagram media, students dominated scale 2 by 58%. After using Instagram media, it was dominated on a scale of 4 by 67%. This shows that students are more interested and enthusiastic about learning the reaction rate material through Instagram media.



**Figure 19 Enjoys Learning Reaction Rate Materials with the Help of Pictures and Videos**

In Figure 19 regarding the enjoyment of students learning the reaction rate material with the help of pictures and videos, there was a significant increase after using Instagram media. Before using Instagram media it was dominated on a scale of 3 by 55% and after being used Instagram media was dominated on a scale of 4 by 67%. From this figure, students prefer to study reaction rate material with the help of pictures and videos using Instagram media.



**Figure 20 The Desire to Get the Best in Class Reaction Rates for Chemistry**

In figure 20 regarding the desire to get the material score for the best reaction rate in class, there was an increase after using Instagram media. Before using Instagram media it was

dominated on a scale of 3 by 58% and after being used Instagram media was dominated on a scale of 4 by 85%. From the figure, the use of Instagram media can increase students' motivation to get the material value for the best reaction rate in class.

## CONCLUSION AND SUGGESTION

Based on the research data obtained, there is an increase in students' learning motivation after using Instagram media. So it can be concluded that the use of Instagram in the learning process can increase students' learning motivation on the reaction rate material.

With the development of technological advances, especially in the world of education, innovation in the field of educational research also needs to be considered. By doing research on the use of Instagram media in learning the reaction rate material, it is hoped that in further research the use of Instagram media in learning chemistry of other materials can continue to be developed.

## REFERENCES

- [1] Rohman, A. A., & Karimah, S. (2018). Gmail.Com, 2. *Faktor-Faktor Yang Mempengaruhi Rendahnya Motivasi Belajar Siswa Kelas Xi, 10*, 95–108
- [2] Monika, M., & Adman, A. (2017). Peran Efikasi Diri Dan Motivasi Belajar Dalam Meningkatkan Hasil Belajar Siswa Sekolah Menengah Kejuruan. *Jurnal Pendidikan Manajemen Perkantoran*, 2(2), 109. <https://doi.org/10.17509/jpm.v2i2.8111>
- [3] Emda, A. (2018). Kedudukan Motivasi Belajar Siswa Dalam Pembelajaran. *Lantanida Journal*, 5(2), 172. <https://doi.org/10.22373/lj.v5i2.2838>
- [4] Andriani, R., & Rasto, R. (2019). Motivasi belajar sebagai determinan hasil belajar siswa. *Jurnal Pendidikan Manajemen Perkantoran*, 4(1), 80. <https://doi.org/10.17509/jpm.v4i1.14958>
- [5] Palupi, R., Anitah, S., & Budiyo. (2014). Hubungan antara Motivasi Belajar dan Persepsi Siswa terhadap Kinerja Guru dalam Mengelola Kegiatan Belajar dengan Hasil Belajar IPA Siswa Kelas VIII di SMPN N 1 Pacitan. *Jurnal Teknologi Pendidikan Dan Pembelajaran*, 2(2), 157–170.
- [6] Putri, D. P. E., & Muhtadi, A. (2018). Pengembangan multimedia pembelajaran interaktif kimia berbasis android menggunakan prinsip mayer pada materi laju reaksi. *Jurnal Inovasi Teknologi Pendidikan*, 5(1), 38–47. <https://doi.org/10.21831/jitp.v5i1.13752>
- [7] Safitri, N. C., & Wijayanti, I. E. (2019). SISWA PADA KONSEP LAJU REAKSI. 4(1), 1–12. <https://doi.org/10.30870/educhemia.v4i1.5023>
- [8] Chatwattana, P., & Nilsook, P. (2017). A web-based learning system using project-based learning and Imagineering. *International Journal of Emerging Technologies in Learning*, 12(5), 4–22. <https://doi.org/10.3991/ijet.v12i05.6344>
- [9] Selatan, T. (2018). THE EFFECT OF PEER FEEDBACK THROUGH INSTAGRAM ON STUDENTS' WRITING RECOUNT TEXT (A Quasi-experimental Study at the Tenth Grade Students of SMA Triguna Utama.
- [10] TASKIRAN, A., KORAL GUMUSOGLU, E., & AYDIN, B. (2018). Fostering Foreign Language Learning with Twitter: What Do English Learners Think About It? *Turkish Online Journal of Distance Education*, 19(1), 100–116. <https://doi.org/10.17718/tojde.382734>
- [11] Mei, X. Y., Aas, E., & Medgard, M. (2019). Teachers' use of digital learning tool for teaching in higher education: Exploring teaching practice and sharing culture. *Journal of Applied Research in Higher Education*, 11(3), 522–537. <https://doi.org/10.1108/JARHE-10-2018-0202>
- [12] SESRIYANI, L., & SUKMAWATI, N. N. (2019). Analisis Penggunaan Instagram Sebagai Media Pembelajaran Bahasa Inggris Pada Program Studi Pendidikan Ekonomi. *EDUKA: Jurnal Pendidikan, Hukum, Dan Bisnis*, 4(1). <https://doi.org/10.32493/eduka.v4i1.3822>
- [13] Nugroho, I. R., & Ruwanto, B. (2017). Pengembangan Media Pembelajaran Fisika Berbasis Media Sosial Instagram sebagai Sumber Belajar Mandiri untuk Meningkatkan Motivasi dan Prestasi Belajar Fisika SMA Kelas XI SMA. *Jurnal Pendidikan Fisika*, 6(6), 460–470.



- [14] Purnama, A. D. (2017). Incorporating Memes and Instagram to Enhance Students Participation. *LLT Journal: A Journal on Language and Language Teaching*, 20(1), 1–14. <https://doi.org/10.24071/llt.v20i1.404>
- [15] Suarsini, N., Wesnawa, I., & Kertih, I. (2020). Pengembangan Media Pembelajaran Geografi Berbasis Media Sosial Instagram untuk Peningkatan Motivasi dan Hasil Belajar Siswa. *Jurnal Pendidikan IPS Indonesia*, 4(2), 72–81. <https://doi.org/10.23887/pips.v4i2.3386>
- [16] Kurniawan, P. (2017). Pemanfaatan Media Sosial Instagram Sebagai Komunikasi Pemasaran Modern Pada Batik Burneh Puguh Kurniawan Universitas Trunojoyo Madura. *Kompetensi*, 11(2), 217–225. <http://journal.trunojoyo.ac.id/kompetensi/article/view/3533>
- [17] Veygid, A., Aziz, S. M., & S.R., W. S. (2020). Analisis Fitur dalam Aplikasi Instagram sebagai Media Pembelajaran Online Mata Pelajaran Biologi untuk Siswa Sekolah Menengah Atas. *ALVEOLI: Jurnal Pendidikan Biologi*, 1(1), 39–48. <https://doi.org/10.35719/alveoli.v1i1.5>