RELEVAN: JURNAL PENDIDIKAN MATEMATIKA
p-ISSN: 2808-8832 / e-ISSN: 2808-8670
Journal Homepage: https://ejournal.yana.or.id/index.php/relevan
Volume 5, Nomor 3, Juni 2025

TEACHERS' PERSPECTIVES ON JARIMATIKA, KUMON, AND ABACUS METHODS TO IMPROVE STUDENTS' MATHEMATICS EFFECTIVENESS

Alisa Salsabila[1], Rifqi Ardae[2], Wahyunengsih[3]
[1]Pendidikan Matematika, UIN Syarif Hidayatullah Jakarta
Email: alisa.salsabila24@mhs.uinjkt.ac.id
[2]Pendidikan Matematika, UIN Syarif Hidayatullah Jakarta
Email: rifqiardae24@mhs.uinjkt.ac.id
[3]Pendidikan Matematika, UIN Syarif Hidayatullah Jakarta
Email: wahyu.nengsih@uinjkt.ac.id

ABSTRACT

This Study aims to determine teachers' views on the effectiveness of jarimatika, kumon, and abacus methods in improving junior high school students' mathematics abilities. This Study uses a qualitative approach with data sources from one mathematics teacher and 27 junior high school students at Nurul Huda Witthaya School. The research instruments are interviews and Google Forms with data collection techniques through literature studies, questionnaires, and interviews. Data analysis techniques use content analysis and thematic categorization. The study results indicate that teachers tend to choose the Kumon method because it is considered systematic and practical at the junior high school level. At the same time, students prefer jarimatika because it is considered easy and fun. The conclusion of this Study shows the need for adjustments to mathematics learning methods that pay attention to the effectiveness of student interest and learning. This Study suggests a balanced integration approach between pedagogical needs and student preferences.

Keywords: *jarimatika technique; kumon; abacus; junior high school students; teacher's view.*

INTRODUCTION

Jarimatika is a method of counting using fingers. The use of effective learning methods greatly determines the success of the teaching and learning process. In addition, learning media that support the formation of a conducive learning atmosphere also play an important role (Husna A, 2017). Furthermore, learning success is also influenced by various factors. The first factor is an internal factor, such as motivation (Vitoria et al., 2024). While the second factor is an external factor, including learning methods, media, and learning environment (Slameto, 2010:2). Thus, these internal and external factors together form the basis for effective learning, thus strengthening the idea that learning success depends on the right strategy and supportive conditions.

Kumon is a gradual learning method that is adjusted to the student's abilities. The effective method is a learning model like Kumon that connects concepts, skills, independent work, and a comfortable learning atmosphere. Kumon connects models, concepts, and individual learning strategies (Lestari & Yudha, 2015). Likewise, (Nasution et al. 2020:177-179) explained that Kumon has conceptual abilities, skills, and has a calm learning environment. In addition, the Kumon method helps students to learn independently and gradually. In addition, the Kumon method encourages students to learn independently, fostering self-confidence and discipline. Thus, this method is an example of how a structured and student-centered approach can improve internal motivation and external learning conditions (*Student-Centered Learning in the Classroom: Strategies to Improve Student Motivation and Achievement, 2022).*

Abacus is a method of learning arithmetic using a counting tool. Finally, Abacus is another effective method for teaching arithmetic through a physical counting tool. As explained by Anugrahana (2019), Abacus consists of a wooden frame with movable rods and beads that are used for mathematical calculations. In addition, Andi et al. (2019) noted that teachers can use Abacus to help students solve problems involving the greatest common divisor (GCD). In addition, the use of Abacus tools helps students visualize operations such as addition, subtraction, multiplication and division of mathematics. In addition, Abacus can improve understanding of mathematical operations and can adjust students' learning styles. In conclusion, the right learning tools such as Abacus encourage abstract concepts and maintain a conducive learning environment.

Teachers' perspectives on Jarimatika, Kumon, and Abacus. According to several studies, the approach that uses fingers as a counting tool can foster students' enthusiasm which strengthens and facilitates the calculation of arithmetic operations (Huljannah et al., 2024; Nurhaedah et al., 2019). Meanwhile, the use of Abacus is said to help students understand the concept of addition and subtraction more concretely. In addition, this method is believed to improve students' focus and memory. Then, many educators state that the Kumon method which emphasizes independent learning can increase students' motivation and perseverance in completing individual assignments (Ramadhan, 2022; Matona, 2023). While some teachers argue that this method can effectively improve understanding and interest in mathematics, others say that its success depends on how the process is implemented. As a result, most teachers agree that the Jarimatika, Kumon, and Abacus methods can make a positive contribution to mathematics learning as long as they are adjusted to the specific needs of students and teaching conditions.

This study aims to determine the effectiveness of junior high school students in learning using the Jarimatika, Kumon, and Abacus mathematics methods. This study tries to determine the effectiveness of junior high school students in learning using the Jarimatika, Kumon, and Abacus mathematics methods. Specifically, the study shows that the Jarimatika learning method significantly improves students' ability to do multiplication (Dewi, 2020). In addition, the Jarimatika method can improve arithmetic skills and motivate students in learning mathematics (Mutaqin, 2024). Although the Jarimatika method has an effective influence on mathematics learning, it is different from the Kumon

and Abacus learning methods. Specifically, the Kumon learning method is carried out with an individual approach that focuses on independent learning abilities by working on practice questions to test self-abilities and understanding concepts gradually which gives students a strong understanding from the basics. On the other hand, the Abacus method focuses on developing mental arithmetic skills, which can train fast counting skills and improve various cognitive skills.

RESEARCH METHODS

The research method is a series of activities in seeking the truth in the research itself. Whatever, the method used in this study is qualitative, this study is descriptive and more analytical using the Google form method and interviews that focus on students and teachers at Nurul Huda Witthaya School, totaling 27 students and a mathematics teacher (Hidayat, R., 2021). However, this study focuses on secondary education (Hidayat, R., 2021).

RESEARCH INSTRUMENT

1. Data Collection (Moral et al., n.d., 2024)

In the data collection process, this study used interview methods and Google Forms as the primary instruments to obtain perspectives from junior high school teachers and students regarding the Jarimatika, Kumon, and Abacus methods. Before compiling the instrument, the initial step was to review relevant previous studies. The purpose of this step is to ensure that the questions compiled have a clear focus, are following the research context, and cover important aspects that have been discussed in previous studies. By referring to existing literature, compiling the instrument becomes easier, more focused, and more efficient because it does not need to start from scratch. In addition, the use of scientific references also increases the validity of the instrument, strengthens the basis of analysis, and makes it easier for researchers to identify significant findings and compare them with the results of previous studies.

2. Categorization of research topics (Rogers, 2024)

This study used several methods to collect data from the literature related to mathematics education. Specifically, the researchers gathered books, journals, theses, dissertations, and other relevant publications that focused on the Jarimatika, Kumon, and Abacus techniques. In addition, this Google Form was created to assess how effective this third method is when applied at the junior high school level from the student's point of view. Meanwhile, interviews were conducted with mathematics teachers, especially those teaching at the junior high school level, to gain insight into their views on using this technique.

3. Content Analysis (Kasa et al., 2024)

Content analysis in this study was conducted to understand the views of teachers and students on this learning method. The main focus of this method was to analyze how teachers perceive the effectiveness of the Jarimatika, Kumon, and Abacus techniques in mathematics learning. To be more precise, we examine how the three methods are applied in the context of classroom learning, both in terms of application to students and in teaching practices by teachers. In addition, this process identifies similarities and differences in the views of teachers and students. Overall, this study aims to provide a deeper understanding of how each method functions in the world of education.

4. Analysis of Findings (Analysis of Findings, 2023)

After analyzing the previous content, at this stage we analyze the findings taken from several sources, to obtain comprehensive and in-depth data. To achieve this, The analysis process involves combining the results of responses from Google Forms and interviews. Furthermore, this analysis explores how effective the Jarimatika, Kumon, and Abacus methods are in increasing the effectiveness and motivation in learning mathematics at the

junior high school level. In conclusion, this process is to obtain the most in-depth data in this study.

5. Evaluation (Moral et al., n.d., 2024)

At the end we conducted an evaluation stage in this study to critically assess the credibility and relevance of the sources used. In this process we reviewed each reference to ensure that it was in accordance with our research and in accordance with reality. Specifically, we questioned whether the selected research was applicable and meaningful in the context of current mathematics learning. Through this, we can ensure that our research is successful in the world of education specifically in mathematics learning.

Overall, this research method is not only aimed at understanding the effectiveness of strategies in mathematics. However, I also want to see the views of teachers and students so that mathematics learning, especially at the junior high school level, is more effective and efficient. With this systematic approach, the Study's results can contribute to mathematics teachers at certain learning levels. (Darmawan,2024)

RESEARCH AND DISCUSSION

RESEARCH RESULTS

Interview results on the effectiveness of the Jarimatika, Kumon, and Abacus methods in junior high school mathematics learning are presented below:

Aspect	Understanding Basic Concepts
Jarimatika	Practical and relevant
Kumon	Helps students better understand basic concepts
Abacus	Practical

Table 1. Interview results on understanding Basic Concepts aspect

First, understanding the basic concepts of learning mathematics when using the methods above: This Study found that among the three methods, the one that makes it easier for students to understand basic concepts is Kumon, but the Jarimatika and Abacus methods are more practical and relevant. However, the Kumon method strengthens fundamental theories more than the others.

Aspect	Learning Style Suitability
Jarimatika	Suitable for all learning styles
Kumon	Suitable for students who prefer independent learning or private tutoring
Abacus	Only for kinesthetic learners

Table 2. Interview results on learning Style Suitability

Next, analysis of math teachers when adjusting learning methods to the learning styles of each type. Argues that jarimatika is very suitable for all learning styles while Abacus is only effective for kinesthetic. Kumon is specifically for students who like to study independently such as private tutoring.

Aspect	Need for Assistive Devices
Jarimatika	Does not require any learning tools
Kumon	Does not require any learning tools
Abacus	Requires an abacus

Table 3. Interview results on need for Assistive Devices

Then, identify the aspects of learning needs among the methods above. Of the several methods, only Abacus requires tools to be applied in learning. Because, this method cannot be applied if the abacus tool is not available, unlike jarimatika which only uses hands and fingers as tools, while kumon does not require tools. This limitation is also one of the reasons that makes students not use abacus as a method in their learning.

Aspect	Match in Educational Level
Jarimatika	Most suitable for kindergarten level
Kumon	Highly suitable for junior high school level
Abacus	Best applied at elementary level

Table 4. Interview results on Match in Educational Level

Furthermore, the results of the research that we have obtained show that not all levels of education are suitable for implementing all learning methods. For example, jarimatika is ideal if applied at the kindergarten level, where this education focuses more on simple and relevant learning. The Abacus is suitable for use in elementary school because this level of education must train the brain to think. Even though it has begun to provide very complicated operations at this level, it must still be relevant. An excellent method is applied at the junior high school level because when students have entered this level of education, they must start to think critically. At this level, many material concepts cannot be used with the two methods above (Jarimatika and Abacus).

Aspect	Mathematical Operations
Jarimatika	Focused on basic operations
Kumon	All types
Abacus	Focused on basic operations

Table 5. Interview results on Mathematical Operations

In addition to the level of education, the aspect of mathematical operations also plays an important role in determining the effectiveness of each method. Research Results on three methods in the aspect of mathematical operations. In learning mathematics, we learn about addition, subtraction, multiplication or division, and many more operations are learned in mathematics lessons. Of the several methods we have studied. Based on our findings, kumon is very effective if applied to all operations in learning mathematics. At the same time, Jarimatika and Abacus only focus on addition, subtraction, multiplication, and division operations.

Meanwhile, the responses collected from Nurulhuda Witthaya Middle School students via Google Form revealed insights into the effectiveness and relevance of the Jarimatika, Kumon, and Abacus methods in mathematics learning which can be divided into 5 categories:

No.	Indicator	Percentage		
		Jarimatika	Kumon	Abacus
1	Ease and Effectiveness in Understanding Mathematics	60,33	20,12	19,55
2	Suitability with Students' Learning Styles and Needs	40,94	21,26	37,8
3	Engagement, Activeness, and Learning Motivation	43,03	25,31	31,66
4	Independence, Accuracy, and Perseverance in Learning	17,36	68,06	14,58
5	Application in Daily Life and Visualization	44,37	19,55	36,08
the most preferred and relevant method according to students' views		41,01	30,86	27,93

Table 6. Results of answers from the Google form of junior high school students in mathematics learning methods

Based on the results of this study can be explained the views of junior high school students nurulhuda witthaya school on the jarimatika, kumon and abacus methods when applied in mathematics learning which will be presented after this. Furthermore, the results of this study indicate that in terms of ease and effectiveness of students in understanding mathematics, most students prefer the jarimatika method with a percentage of 60.33%, compared to the kumon method (20.12%) and Abacus (19.55%). if then, seen in the aspect of Suitability with Learning Styles and Student Needs, the majority stated that jarimatika is a very suitable method with a percentage of 40.94%, compared to kumon (21.26%) and abacus (37.8%). furthermore, in the percentage data that we can confirm that students are more motivated if the jarimatika method is used (43.03%) although kumon (25.31%) and abacus are also motivated (31.66%). However, in terms of independence, accuracy, and perseverance in a student's learning, the Kumon method excels with the largest percentage of 68.06%, which explains that this method really trains students' discipline, compared to Jarimatika which is only 17.36% and Abacus 14.58%. However, if applied to everyday life or the real world, the Jarimatika method still has the highest potential with a percentage of 44.37%, then the Abacus (36.08%), and Kumon (19.55%).In conclusion, it shows that the most preferred and relevant method according to students' views is Jarimatika with a percentage of 41.01%, then Kumon 30.86%, and the last 27.93%.

DISCUSSION

From the perspective of teachers and students, junior high school mathematics learning methods give rise to many disputes between them. Specifically, teachers prefer to use the Kumon method in learning because they want to train students' abilities in solving mathematical problems with their abilities where problem-solving can be applied in the real world. On the other hand, although students prefer to use the Jarimatika method in

learning, they cannot apply this method at the junior high school level because there are several contents that cannot only be used with the Kumon method.

Next, the Kumon method has many benefits when applied to mathematics learning. Therefore, we can see the improvement in students' ability to learn by using assignments as a measuring tool to improve students' ability in specific materials (Begum et al., 2018). In addition, the Kumon method provides benefits for teachers, such as the ability to assess students' progress and differentiate between those who excel and those who are still having difficulty grasping the lesson (Usmadi & Agita, 2020). Moreover, this method is applied by students 30 minutes per day for personal practice after learning; it will help them concentrate on each topic thoroughly. This exercise builds mathematical skills or expertise and improves their ability to understand and solve problems independently (Begum et al., 2018).

In conclusion, each method of learning mathematics is different for different levels of education. Specifically, the Kumon method is very suitable for junior high schools because of its approach and focus on independent learning in its students. (Usmadi & Agita, 2020). However, jarimatika is better applied at the kindergarten and elementary school levels. The abacus method is perfect for elementary school students (Hijriani et al., 2022).

CONCLUSION

Result of teacher and student research. The study results showed differences in preferences between teachers and students regarding mathematics learning methods. Based on the interview results, the Kumon method can be applied at all levels of education, especially at the junior high school level. In contrast, the Jarimatika method is generally only suitable for kindergarten and elementary school. Likewise, the Abacus method is limited to the elementary school level, making it less effective for junior high school students. Therefore, teachers tend to recommend the Kumon method to junior high school students because it is considered more effective, systematic, and structured and can gradually increase understanding. on the other hand, students prefer the Jarimatika method because it is easier to understand and more enjoyable, especially in basic arithmetic operations. These differences in views indicate that teachers prefer a structured and gradual learning approach, while students tend to choose methods that are relatively easy to follow, more interesting and also easier to visualize arithmetic operations. Thus, these differences in preferences emphasize the need to balance effective teaching strategies and enjoyable learning experiences to achieve educational goals without ignoring students' interests and learning styles.

Teaching strategies should balance teacher and student preferences in mathematics learning methods. Based on these results, it is important to consider the imbalance between teacher and student preferences in choosing the right learning approach. While teachers emphasize structured methods such as Kumon because of their effectiveness in building understanding gradually, students tend to prefer techniques that are more interesting, relatively easy to understand, and easy to visualize arithmetic operations such as the Jarimatika method. Therefore, future teaching approaches need to find a balance between academic rigor and student learning interests. By combining parts of both approaches, educators can create an effective and enjoyable learning environment that supports better student outcomes and motivation.

REFERENCES

Andi Quraisy *et al.* (2022) 'Pelatihan Penggunaan Metode Jarimatika Dan Perkalian Cepat Bagi Siswa Smp', *Jurnal Abdimas Indonesia*, 2(2), pp. 286–293. Available at: https://doi.org/10.53769/jai.v2i2.248.

Analysis of findings (pp. 21–37). (2023). United Nations. https://doi.org/10.18356/9789292686246c007

Begum, J., Bukhari, M. M. A., & Akbar, A. (2018). *Effectiveness of Kumon Teaching Method for Academic Achievement of Children in Mathematics*. *35*(1). https://doi.org/10.30971/PJE.V35I1.559

Bonita, E. and Effendi, M.S. (2020) 'Efektivitas Model Pembelajaran Kumon terhadap Keterampilan Menulis Teks Cerita Fabel Siswa Kelas VIII SMP Negeri 2 (Model) Lubuklinggau', *Seminar Nasional Pendidikan Bahasa ...*, pp. 89–90.

Dwi Rahmayanti, J. (2023) 'Penggunaan Metode Jarimatika Dalam Meningkatkan Kemampuan Berhitung Perkalian Dasar', *Risda: Jurnal Pemikiran dan Pendidikan Islam*, 7(1), pp. 1–13. Available at: https://doi.org/10.59355/risda.v7i1.97.

Fikri, A.D. and Susanto, R. (2024) 'Penerapan metode jarimatika dalam mengoptimalkan hasil belajar matematika materi perkalian di sekolah dasar', 9(2), pp. 130–136.

Hidayat, R. (2021). *Pentingnya Pemahaman Paradigma Penelitian dalam Menyusun Metode Ilmiah*. Jurnal Ilmiah Pendidikan, 14(2), 45–56.

Himmah, K., Asmani, J.M. and Nuraini, L. (2021) 'Efektivitas Metode Jarimatika dalam Meningkatkan Kemampuan Berhitung Perkalian Siswa', *Dawuh Guru: Jurnal Pendidikan MI/SD*, 1(1), pp. 57–68. Available at: https://doi.org/10.35878/guru.v1i1.270.

Huljannah, M., Kalaka, F. R. S., & Akolo, I. R. (2024). Deskripsi Metode Jarimatika Pada Materi Perkalian Di Sekolah Dasar. Karunia, 3(2), 35–41. https://doi.org/10.58192/karunia.v3i2.2141

Husna, A. (2017). Pengaruh metode mengajar dan media pembelajaran terhadap keberhasilan proses belajar mengajar. Jurnal Pendidikan dan Pembelajaran, 5(2), 123–130.

Kasa, Y., Areaya, S., & Woldemichael, M. (2024). *Mathematics teachers' beliefs about mathematics, its teaching, and learning: The case of five teachers*. https://doi.org/10.29333/pr/14172

Matona, M. F. A. D. (2023). Penerapan metode Kumon dalam meningkatkan pemahaman konsep matematika siswa kelas V SD Inpres Laikang. Jurnal Linear: Pendidikan Matematika, 6(2), 65–72. https://ojs.untika.ac.id/index.php/linear/article/view/158

MIFTAKHUL'ULUM, W. and ... (2016) '... Tontalkog Berbasis Multimediaâ€ Sebagai Pengembangan Metode Jarimatika Modern Melalui Implementasi Analysis of Covariance ...', *Jurnal ...*, 2(20), pp. 102–113. Available at: http://jurnal.stkippgritulungagung.ac.id/index.php/pena-sd/article/view/442.

Moleong, L. J. (2017). *Metodologi Penelitian Kualitatif*. Bandung: Remaja Rosdakarya.

Moral, P., Pembelajaran, S., & Praktis, P. (n.d.).(2024), *MATHEMATICS LEARNING STRATEGIES THAT SUPPORT PANCASILA MORAL EDUCATION : PRACTICAL APPROACHES FOR TEACHERS Universitas Nias Raya*.

Mufarokha, L.I. and Utami, R. (2022) 'Pengaruh Metode Kumon terhadap Kemampuan Pemahaman Konsep Kelas XI OTKP SMKN 1 Karangdadap', *Seminar Nasional Pendidikan Matematika*, 3(1), pp. 269–278.

Nurhaedah, N., Patta, R., & Triputri, A. (2019). The jarimatika method on math learning: how to improve math skil. https://doi.org/10.4108/EAI.14-9-2019.2290023

Rahmayanti, J. D. (2023). Penggunaan metode Jarimatika dalam meningkatkan kemampuan berhitung pada materi perkalian dasar. Jurnal Pendidikan Guru Madrasah Ibtidaiyah Al-Amin, 2(1), 47–61. https://doi.org/10.54723/ejpgmi.v2i1.43

Rakhmat, J. (2011). *Metodologi Penelitian*. Bandung: Remaja Rosdakarya.

Ramadhana, R. (2022). Penerapan metode Kumon untuk meningkatkan hasil belajar matematika siswa kelas IV SDN 112 Pekanbaru. Jurnal Tunas Media, 4(1),55–64.

https://journal.uiad.ac.id/index.php/Jtm/article/view/963

Ravichandran, K. D., Osman, S., & Kurniati, D. N. (2024). Enhancing Problem-Solving Learning Through Abacus Mental Arithmetic: A Cognitive Science Perspective on Primary School Students. *International Journal of Academic Research in Progressive Education and Development*. https://doi.org/10.6007/ijarped/v13-i1/19767

Rizky Ramadhana (2022) 'Efektivitas Metode Kumon Terhadap Peningkatan Hasil belajar Matematika', *JTMT: Journal Tadris Matematika*, 3(1), pp. 18–29. Available at: https://doi.org/10.47435/jtmt.v3i1.963.

Rogers, V. (2024). *Searching for Sources Part 1* (pp. 12–40). Oxford University Press. https://doi.org/10.1093/oso/9780197616031.003.0003

Student centered learning in classrooms: a strategy for increasing student motivation and achievement. (2022). https://doi.org/10.5281/zenodo.6595004

Sugiyono. (2013). *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.

Suharni, N. (2024) 'Kemampuan pemahaman matematis siswa smp melalui penerapan model pembelajaran kumon 1 1', 3(2), pp. 1–11.

Suparman. (2015). Pengaruh gaya mengajar guru terhadap minat belajar siswa pada mata pelajaran matematika. Prosiding Seminar Nasional Matematika dan Pendidikan Matematika. Universitas Muhammadiyah Purwokerto. https://seminarmat.ump.ac.id/index.php/semadik/article/view/343/69

Usmadi, A., & Agita, E. (2020). *The Effect of Application Kumon Learning Method in Learning Mathematics of Ability Troubleshooting Mathematics of Students*. *1429*(1), 012005. https://doi.org/10.1088/1742-65

Vitoria, L., Ramli, M., Johar, R., & Mawarpury, M. (2024). Key Influences on Students' Academic Success: Insights from Scholarly Research. *Journal of Educational Management and Learning*, *2*(1), 9–19. https://doi.org/10.60084/jeml.v2i1.164

Zainal,A. (2016). Metode Penelitian Pendidikan: Konsep dan Aplikasi. *Jurnal Pendidikan dan Pembelajaran*, 2(3), 115-123.