Ananda: Jurnal Pendidikan Anak dan Remaja
e-ISSN:3109-4348
Volume 2, Issue. 1, 2026, pp. 10-21

Development of Visual Thinking-Based Fiqh Learning Strategies Using Digital Infographics to Improve Learning Outcomes

Miftahur Rohman[1], Ifrohan[2]

[1]*Universitas Lampung, Indonesia*
[2]*Institut Agama Islam Nusatara Ash-Shiddiqiyah*
e-mail: miftahurrohman@fk.unila.ac.id

Submitted: 05-01-2026 Revised : 12-03-2026 Accepted: 27-04-2026

ABSTRACT. This study aims to develop and examine the feasibility and effectiveness of a visual thinking-based learning strategy using digital infographics in teaching Islamic jurisprudence (fiqh) of prayer to second-grade elementary school students. The research was motivated by the limited ability of students to perform prayer movements sequentially and accurately, indicating a gap between memorization and procedural understanding. This study employed a mixed methods approach with Research and Development (R&D) using the ADDIE model, consisting of Analysis, Design, Development, Implementation, and Evaluation stages. The subjects were second-grade students. Data were collected through needs analysis interviews, classroom observations, expert validation questionnaires, and pretest–posttest assessments. The developed product was validated by material and media experts to ensure content accuracy, visual clarity, and pedagogical appropriateness. The validation results indicated that the digital infographic media met the criteria of high feasibility. The effectiveness test demonstrated a significant improvement in students' learning outcomes, as reflected in the gain score analysis between pretest and posttest results. The visual thinking strategy facilitated students' comprehension by presenting prayer concepts in structured visual sequences, enabling better retention and procedural understanding. The integration of visual representation and digital media supports cognitive development at the concrete operational stage and enhances student engagement in religious learning. Therefore, the implementation of visual thinking through digital infographics can serve as an innovative and effective alternative strategy in Islamic religious education at the elementary school level, particularly in improving students' practical understanding of prayer.

Keywords: Fiqh Learning Strategies, Visual Thinking, Digital Infographics, Learning Outcomes

INTRODUCTION

Islamic religious education at the elementary school level has a fundamental role in shaping students' religious character and worship skills from an early age (Hasbullah, 2024). Ideally, fiqh learning, especially prayer materials, not only aims to instill memorization of reading, but also builds conceptual understanding and correct practice skills according to the guidance of sharia (Zuhairini, 2004). The Merdeka Curriculum emphasizes meaningful, contextual, and oriented learning to strengthen students' spiritual competence and character (Aman, 2012). In this context, grade II students are in a concrete operational phase, so learning should ideally be presented visually, systematically, and applicatively so that it is easy to understand and practice (Damanik, 2025). However, the reality on the ground shows that there is a gap between these ideals and the learning practices that take place. Based on the results of the initial observations in this thesis, most students have not been able to carry out prayer movements in the order of harmony in a precise and consistent manner. Students tend to memorize readings without understanding the relationship between movements, so that when asked to practice independently, there are still mistakes in the order and accuracy of movements.

This condition shows that learning is still oriented to the verbal cognitive aspect, not yet fully touching the procedural and visual dimensions (Suyadi & Sasmita, 2022).

In fact, theologically, the urgency of prayer education is very clearly emphasized in the Qur'an and hadith (Waharjani, 2018). QS. Luqman verse 17 emphasizes the importance of establishing prayer as the main pillar of spiritual character formation (Hanafi, 2019). Similarly, the hadith of the Prophet which instructs parents to habituate children to pray from the age of seven shows that prayer education must be carried out systematically and gradually (Waharjani, 2020). This normative ideality requires the right pedagogical approach so that children not only know, but also be able to perform worship correctly (Maksum, 2020).In the perspective of Islamic educational neuroscience, the learning process of elementary school-age children is greatly influenced by visual stimulation and concrete experiences (Suyadi, 2020). Suyadi explained that the activation of the right and left brain working systems in a balanced manner through visualization can strengthen conceptual understanding and long-term memory (Suyadi, 2022). Visual thinking-based learning allows students to build mental representations through images, symbols, and structured schemes, making information easier to process and remember (Suyadi, 2024). Therefore, the visual approach becomes relevant in procedural fiqh learning (Wantini, 2023).

On the other hand, Waharjani emphasized that the PAI learning strategy in elementary schools must be adaptive to the characteristics of students' cognitive development and contextual to the needs of 21st century learning (Waharjani, 2022). Innovation in learning strategies and media is a necessity so that the learning process is not monotonous and teacher-centered(Maksum, 2017). However, in practice, there are still many fiqh learning that are carried out conventionally through simple lecture and demonstration methods without the support of systematic visual media (Maksum, 2023). As a result, students have difficulty comprehending the sequence of movements thoroughly and coherently (Maksum, 2018). Muh. Nur Rochim Maksum emphasized that fiqh learning should integrate normative and applicative aspects proportionately(Maksum, 2021). Fiqh is not just legal knowledge, but a practical guideline that must be embodied in real action (Waharjani, 2021). If learning only emphasizes the theoretical aspect, then there is a reduction in the meaning of fiqh as a guide for life (Waharjani, 2019). The impact of this less applicable approach can be seen in the low accuracy of students' worship practices even though they are cognitively able to answer theoretical questions (Wantini, 2016).

In addition, the development of educational technology opens up great opportunities to present more innovative and interesting learning media (Wantini, 2018). Wantini stated that the integration of digital media in PAI learning can significantly increase student motivation and involvement (Wantini, 2019). Digital-based media allows for visual, interactive, and systematic presentation of material (Wantini, 2021). One potential approach to bridge the gap between ideality and reality is a digital infographic-based visual thinking strategy (Suyadi, 2021). *Visual thinking* emphasizes the process of thinking through visual representations that are organized in the form of plots, schemes, and symbols (Horn, 2016). In the context of prayer materials, digital infographics can present the sequence of movements chronologically, complete with brief explanations and illustrations that make it easier for students to understand the relationship between the pillars (Ahmad Indrus, dkk, 2023). This approach is in line with the characteristics of cognitive development of grade II students who need concrete and visual media (Arsyad, 2022).

Previous research has shown that the use of visual and digital media in learning can significantly improve learning outcomes and concept understanding (Abdurohman, Lukman Nulhakim, 2025), (Saputra et al., 2021). However, there have not been many studies that specifically integrate visual thinking strategies with digital infographics in prayer fiqh materials in grade II of elementary school. This gap is the basis for the urgency of this research.

Based on this presentation, this study aims to: (1) develop a visual thinking-based learning strategy using valid and practical digital infographics on prayer materials for grade II students; (2) measuring the effectiveness of visual thinking-based digital infographics in improving the cognitive learning outcomes and prayer practices of grade II students. It is hoped that this research can make a theoretical contribution to the development of learning strategies for PAI based on neuroscience and digital technology, as well as practical contributions in the form of media products that can be used by teachers in the implementation of the Independent Curriculum in a more innovative and meaningful way.

METHOD

This research uses *a mixed methods approach* with the type of Research and Development (R&D) which adapts the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model (Creswell, 2018). This model was chosen because it is systematic and suitable for the development of digital media-based learning products, as well as allowing the integration of qualitative and quantitative data in testing the feasibility and effectiveness of the product (Sugiyono, 2020).

(1) The Analysis stage is carried out through observation, interviews with PAI teachers, and identification of characteristics of grade II students. The results of the analysis showed that students had difficulty understanding the sequence and accuracy of prayer movements procedurally. The analysis also considers the cognitive development of concrete operational stages in the perspective of Islamic educational neuroscience (Suyadi & Akbar, 2021), so a systematic visual media is needed. (2) The Design stage includes designing *visual thinking* strategies using digital infographics with sequential movement flows, child-friendly visuals, and simple text (Tufte, 2013). This design refers to the principles of adaptive and contextual PAI learning innovation (Zuhria et al., 2024), as well as the integration of normative and applicative aspects in fiqh (Cahyani, S., Cahyani, I., & Mulyati, 2025). (3) The Development stage is carried out through validation of material and media experts using a Likert scale questionnaire (Sugiyono, 2018). Validation ensures the accuracy of the fiqh substance as well as the visual quality and readability of the product (Lynda FitriAriyanti, 2020). (4) The Implementation stage is in the form of a trial on grade II students using a pretest–posttest design to measure the improvement of learning outcomes (Wahyuni et al., 2021). (5) The Evaluation stage is carried out formatively and summatively through analysis and user feedback (Creswell, 2015). The integration of digital media in this evaluation is in line with Wantini's view on the importance of technology in PAI learning (Wantini, 2023). Thus, this method is designed to produce a valid, practical, and effective product in improving the understanding of prayer practices of elementary school students.

RESULT AND DISCUSSION

Result

A. Development of Visual Thinking-Based Learning Strategies Using Valid and Practical Digital Infographics

1. Results of the Analysis Stage

The analysis stage was carried out through learning observation, interviews with PAI teachers, and identification of the characteristics of grade II students. Based on the results of observations, it was found that most students were not able to carry out prayer movements sequentially and correctly according to the order of harmony. Students tend to memorize the readings without understanding the relationship between movements, so that when asked to practice independently, there are still errors in the order of takbir, ruku', i'tidal, prostration, and final tahiyat.

Quantitatively, the results of the initial pretest showed that the average grade of the class was still below the Learning Goal Achievement Criteria (KKTP). This shows that there is a gap between the mastery of theory and the practice of worship. These findings reinforce the importance of developing visual media that can help students understand the structure of movements systematically.From the perspective of Islamic educational neuroscience, this condition shows the lack of optimal visual stimulation in the learning process. Suyadi (2020) emphasized that neuroscience-based PAI learning must involve visual and kinesthetic memory work systems simultaneously so that synaptic connections are strengthened (Suyadi & Sasmita, 2022). Without systematic visual support, procedural comprehension tends to be weak and easy to forget (Sipakkar & Fauzi, 2023).

2. Design Stage Results

Based on the identified needs, a visual thinking-based learning strategy was designed using digital infographics. The product is developed in a sequential visual format that displays: (1) Chronological order of the prayer pillars, (2) Clear illustration of movements, (3) Brief explanation of each pillar, (4) Contrasting colors and child-friendly typography (Handayani & Rahayu, 2022).This design refers to the principle of visual cognition of elementary school children as explained by Suyadi that children of concrete operational age are easier to understand structured visual-based information than long narrative texts (Suyadi, 2024). In addition, the design also considers contextual PAI strategy innovations as stated by Waharjani (Waharjani, 2022).The infographic product is then arranged in a single flow that allows students to see the entire structure of prayer in one complete view, making it easier to understand the relationship between movements.

3. Development Stage Results

a) Subject Matter Expert Validation

Validation of material experts is carried out to assess the suitability of the content with the rules of fiqh and the accuracy of the order of the pillars of prayer. The results of the assessment can be seen in Table 1.

Table 1. Material Expert Validation Results

Validator	Score
Material Expert Validator I	50
Material Expert Validator II	53
Total score	103
Maximum score amount	60
Average total score	51,5
Percentage	85,83%
Category	Highly feasible

Based on the table, the product obtained a feasibility percentage of 85.83% with the category "Very Feasible". This means that in substance, the product fiqh is in accordance with the principle of integration of theory and practice as emphasized by Muh. Nur Rochim Maksum (Maksum, 2023).

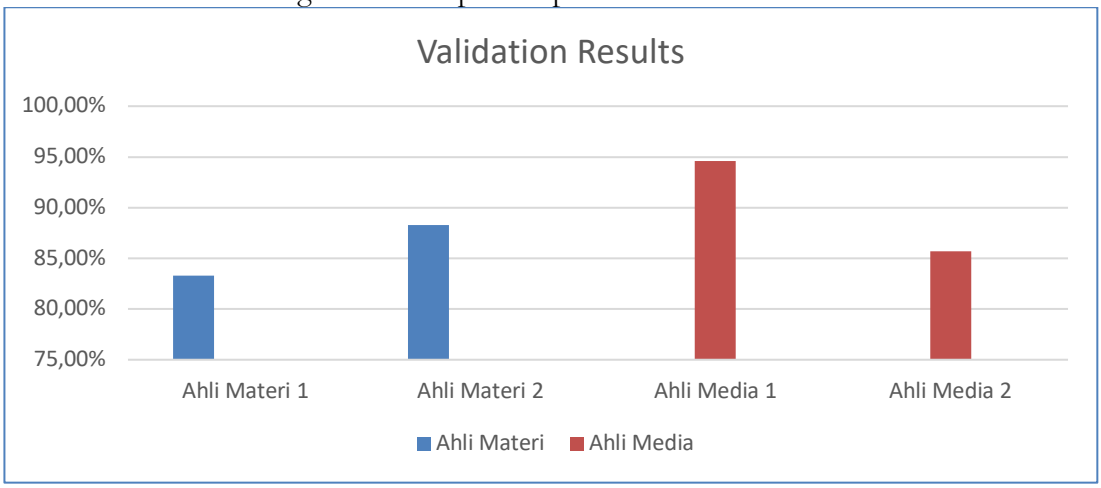
b) Media Expert Validation

Media expert validation assesses visual, graphic design, readability, and attractiveness. The results are shown in Table 2.

Table 2. Media Expert Validation Results

Validator	Score
Media Expert Validator I	54
Media Expert Validator II	48
Total score	102
Maximum score amount	56
Average total score	51
Percentage	91,1%
Category	Highly feasible

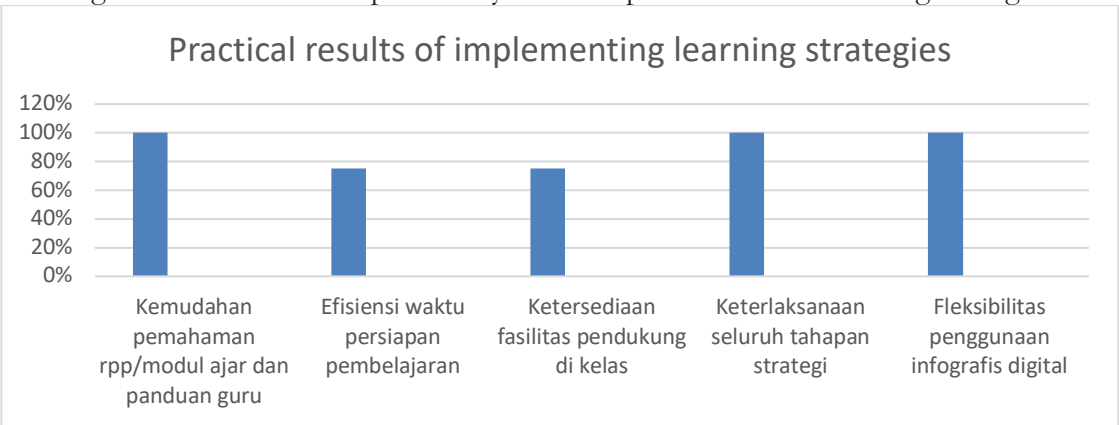
Diagram 1. Recap of Experts' Validation Results



Based on the overall percentage chart, it shows that the product is very feasible to use in learning. This is in line with Wantini who stated that digital media that is systematically designed is able to increase student motivation and involvement (Wantini, 2018).

4. Implementation Stage Results (Practicality test results)

Diagram 2. Results of the practicality of the implementation of learning strategies



In conclusion, this learning strategy and digital infographic have proven to be practical to be implemented by teachers at. This high level of practicality is in line with Hidayat and Lestari's research which emphasizes that digital learning media must be easily accessible and applied in order to function effectively in the context of education in the modern era (Hidayat & Lestari, 2020).

5. Evaluation Stage

Reflection on visual thinking-based learning strategies using digital infographics to identify the extent to which the learning process is going according to plan.

Table 3. Descriptive statistics *of students'* cognitive Pretest and posttest results

Test Type	N (Number of Students)	Lowest Score	Highest Score	Average
Pre-test	28	40	65	53,93
Post-test	28	70	95	80,89

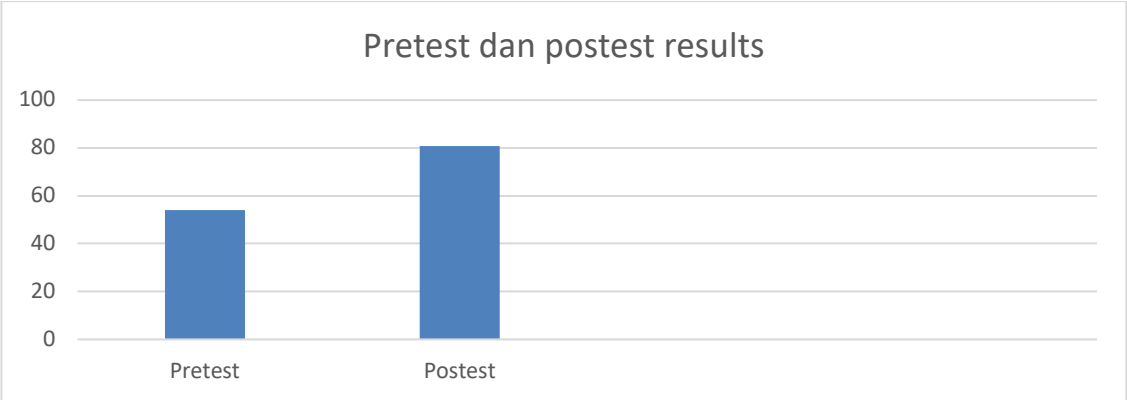
From the diagram above, it is stated that there was an increase in pretest scores with postest scores for 28 students.

The Effectiveness of Visual Thinking-Based Digital Infographics in Improving Cognitive Learning Outcomes and Prayer Practices

1. Results of the Effectiveness Test for Improving Cognitive Learning Outcomes

   The effectiveness test was carried out by comparing *the pretest* (before implementation) and *posttest* (after implementation) scores in 28 grade II students

Diagram 3. Pretest and Postest Results



Before the effectiveness test is carried out, a normality test is first carried out to ensure normal data distribution.

a. Normality test

Table 4. Normality Test Results

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	,148	28	,119	,935	28	,083
Postest	,163	28	,056	,943	28	,129

a. Lilliefors Significance Correction

Descriptive statistical analysis in table 4. The data normality test was performed using *the Shapiro–Wilk* test because the sample count was less than 50 (n = 28). The pretest variable has a significance value of 0.083 (Sig. > 0.05), so that *the pretest* data is distributed normally.

b. *Paired Sample T-Test*

Table 5. Paired Sample t-Test Test Results

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	53,9286	28	7,49780	1,41695
	Postest	80,8929	28	6,39061	1,20771

The results of *the paired sample T-Test* test of cognitive learning outcomes in table 5. show that the average score of *the pretest* result is 53.93, while the average *score of the posttest* increases to 80.89. This increase of 26.96 points indicates a significant increase in the value after the treatment/intervention was given.

Table 6. Paired *samples correlations test results*

Paired Samples Correlations

		N	Correlation	Significance	
				One-Sided p	Two-Sided p
Pair 1	Pretest & Postest	28	,794	<,001	<,001

The correlation test was conducted to determine the relationship between *pretest* and *posttest* scores in the study respondents. Based on the results of *the paired sample correlations analysis,* a sample of 28 respondents was obtained with a correlation coefficient value of r = 0.794.

Table 7. Paired *Sample Test Results*

Paired Samples Test

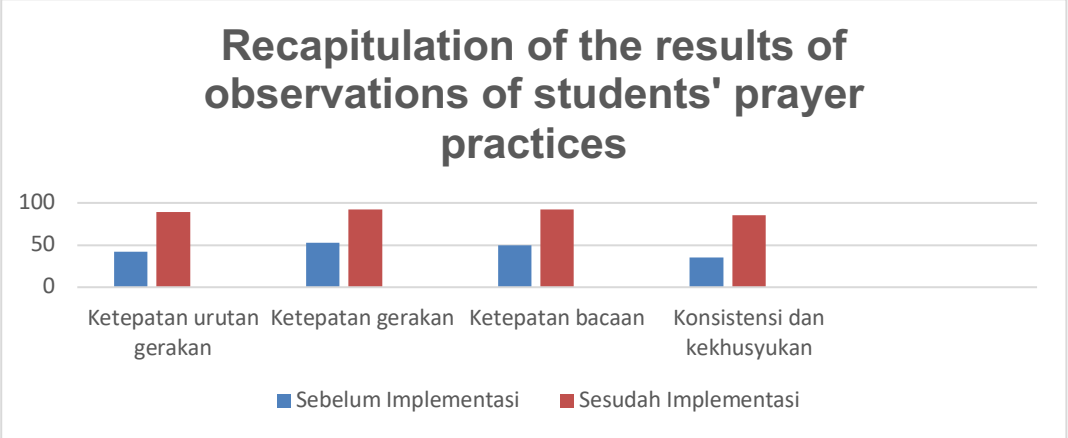
		Paired Differences					t	df	Significance	
					95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			One-Sided p	Two-Sided p
Pair 1	Pretest - Postest	-26,96429	4,58243	,86600	-28,74117	-25,18740	-31,137	27	<,001	<,001

Based on the results of the analysis, the mean *difference* between *the pretest* and *posttest* was -26.96. A negative difference value indicates that the average *posttest* score is higher than the *pretest score.* Based on these results, it can be concluded that the treatment given in this study has a significant effect on the improvement of learning outcomes/ability of respondents, so that the research hypothesis stating that there is a difference between *pretest* and *posttest* is accepted.

2. The results of the effectiveness test to improve the learning outcomes of prayer practice

The effectiveness of improving prayer practice was measured through observation sheets of student prayer practice after the implementation of the strategy.

Diagram 4. Observation Results of Prayer Practice



Observation data on students' prayer practices showed a very significant improvement in psychomotor skills after the implementation of visual thinking-based learning strategies using digital infographics.

Discussion

Development of Visual Thinking-Based Learning Strategies Using Valid and Practical Digital Infographics

The results of the analysis stage showed that there was a gap between the mastery of theory and practice of prayer movements in the second grade students of SDN 1 Jonggrangan. Cognitively, students are able to memorize the readings, but procedurally they still experience errors in the sequence of movements such as takbiratul ihram, ruku', i'tidal, prostration, to the final tahiyat.

The average pretest score below the KKTP indicates that the previous learning has not fully touched the aspect of structural understanding. From the perspective of Islamic educational neuroscience, this condition reflects the suboptimal activation of visual and kinesthetic memory simultaneously, so that the strengthening of synaptic connections has not occurred optimally. Thus, the need for systematic visual media becomes a rational pedagogical urgency.At the design stage, visual thinking-based learning strategies are developed through digital infographics that display the order of prayer harmony chronologically, clear movement illustrations, brief explanations, and the use of contrasting colors and child-friendly typography. This design is in line with the characteristics of the cognitive development of children of concrete operational age who are easier to understand structured visual information than long narrative texts. The presentation of the material in one complete display allows students to see the relationship between movements as a unit of worship system, not as a separate part. This strengthens the construction of students' cognitive schemas towards the structure of prayer as a whole.

At the development stage, the results of the validation of material experts showed a feasibility percentage of 85.83% with the category of "very feasible". This means that the substance of fiqh and the order of harmony are in accordance with the correct rules and support the integration between theory and practice of worship. Meanwhile, the validation of media experts obtained a percentage of 91.1% with the category of "very feasible", which shows that the visual aspects, readability, graphic design, and attractiveness have met the standards of effective digital learning media. These two results confirm that the product is not only content-correct, but also pedagogically and aesthetically powerful.The implementation stage shows a high level of practicality. Teachers can use digital infographics easily without the need for complex technical training. Media can be displayed through projectors or simple digital devices, so that it is flexible to the condition of school infrastructure. Student responses also showed more active involvement, characterized by increased attention, participation, and courage to practice movements independently. This practicality is an indicator that learning strategies are not only theoretically feasible, but also applicable in real classroom contexts.

The evaluation stage showed a significant increase between pretest and posttest scores. The average score increased from 53.93 to 80.89. The increase of 26.96 points shows that the integration of *visual thinking* through digital infographics is effective in helping students understand the cognitive structure of prayer more systematically. Pedagogically, this emphasizes that visual-based learning does not only enhance the appearance of the material, but functions as a *cognitive tool* that strengthens information processing and long-term memory retention.

The Effectiveness of Visual Thinking-Based Digital Infographics in Improving Cognitive Learning Outcomes and Prayer Practices

The results of the normality test using Shapiro–Wilk showed that the pretest data was normally distributed (Sig. 0.083 > 0.05), so that the analysis could be continued with *the paired sample t-test*. The test results showed a significant difference between the pretest and posttest scores with an average difference of -26.96. A negative value on the *mean difference* indicates that the posttest score is consistently higher than the pretest score. Statistically, the research hypothesis is accepted, which means that digital infographic-based learning strategies have a significant effect on improving students' cognitive learning outcomes.The value of the correlation coefficient of r = 0.794 in *the paired samples correlations test* showed a strong relationship between the score before and after the treatment. This means that students with better initial achievement continue to show a proportionate improvement after the intervention, and students with lower attainment also experience a significant surge in understanding. This confirms that this strategy is inclusive and able to reach various levels of students' academic ability.

In the psychomotor aspect, the results of observation of prayer practices showed a very significant increase in the accuracy of the order and suitability of movements. Students no longer only memorize readings, but are able to practice movements in a sequential manner and are aware of the transition between pillars. The integration between visualization and hands-on practice strengthens motor coordination as well as procedural understanding. In other words, this strategy has succeeded in bridging the gap between cognitive and psychomotor aspects in worship learning.Overall, the effectiveness of visual thinking-based digital infographics is not only reflected in the improvement of academic scores, but also in changes in the quality of students' worship practices. This strategy proves that neuroscience-based learning media innovations and visual cognition are able to have a real impact on Islamic religious education in elementary schools. Thus, this model has the potential to be replicated in other PAI materials that are procedural, such as ablution, tayamum, and manasik hajj in a form that is tailored to the characteristics of students.

CONCLUSION

Based on the results of the research in this thesis, it can be concluded that the application *of visual thinking strategies* based on digital infographics significantly improves the understanding and practice of prayer practice of grade II students. The results of the analysis showed an increase in students' ability to recognize the sequence of movements, readings, and the accuracy of the implementation of prayers after the use of digital infographic media compared to before the treatment was given. These findings are supported by data on improving learning outcome scores as well as practical observations that show positive changes in students' cognitive and psychomotor aspects.The claims in this study are consistently supported by the results obtained, both through quantitative data and observational findings, so that they can be assessed logically and reasonably. These results are also in line with the initial expectations of the study and reinforce the findings of previous research that visual media and technology-based approaches are able to improve the understanding of abstract and procedural concepts in elementary school students. This research does not contradict the constructivistic learning theory or *the dual coding theory* which emphasizes the importance of visual and verbal combinations in increasing learning retention, but rather strengthens it in the context of Islamic Religious Education learning.Overall, this research has contributed to the development of innovative technology-based learning strategies in elementary schools, especially in worship practice learning. This study enriches the scientific treasure by showing that the integration of digital infographics in *visual thinking* strategies not only improves learning outcomes, but also encourages active engagement and deeper understanding in students, thus expanding the application of visual learning theory in the context of religious education.

BIBLIOGRAPHY

Abdurohman, Lukman Nulhakim, I. F. (2025). Pengaruh Pembelajaran Berbasis Proyek Dengan Berbantuan Infografis Infografis Terhadap Kreatifitas Siswa Kelas V sdn 1 Waranggunung Kabupaten Lebak. *Jurnal Ilmiah Pendidikan Dasar*, *10*(2), 4–5.

Ahmad Indrus, dkk, S. (2023). Flipbook Digital Dalam Pembelajaran PAI: Inovasi Media Pembelajaran Kreatif Untuk Meningkatkan Minat dan Hasil Belajar Siswa. *Jurnal Literasiologi*, *13*, 182–201.

Aman, S. (2012). *Dahsyatnya Energi Sholat*. Almawardi Prima.

Arsyad, A. (2022). Media Pembelajaran Interaktif dalam Meningkatkan Keterampilan Berpikir Visual Siswa Sekolah Dasar. *Jurnal Pendidikan Dan Teknologi*, *4*(2), 88–101.

Cahyani, S., Cahyani, I., & Mulyati, Y. (2025). *dan Pengajarannya Analysis of Needs for The Development of Viewing Skills , An Infographic Based on The Middle School Level. 11*(1), 537–548.

Creswell, J. W. (2015). *Penelitian Kualitatif & Desain Riset*. Pustaka Pelajar.

Creswell, J. W. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Sage Publications.

Damanik, H. P. (2025). Inovasi Media Visual dan Digital dalam Pembelajaran Pendidikan Agama Islam Abad Ke-21. *Jurnal Kualitas Pendidikan*, *3*(1), 2025.

Hanafi, M. M. et al. (2019). Al Qur'an dan Terjemahannya. In *Badan Litbang dan Diklat Kementrian Agama RI*. Badan Litbang dan Diklat Kementrian Agama RI.

Handayani, T., & Rahayu, S. (2022). Desain Visual Edukatif: Infografis sebagai Media Efektif Pembelajaran Visual. *Jurnal Desain Komunikasi Visual*, *7*(3), 211–220.

Hasbullah. (2024). *Fikih Salat Banin*. Gerhana Media Kreasi.

Hidayat, A., & Lestari, M. (2020). Evaluasi Kelayakan Media Pembelajaran Berbasis Infografis Digital. *Jurnal Evaluasi Pendidikan*, *14*(2), 132–140.

Horn, R. E. (2016). *Visual Language: Global Communication for the 21st Century*. MacroVU Press.

Lynda FitriAriyanti. (2020). Strategi Orangtua Millennial Dalam Menanamkan Kesadaran Menjalankan Shalat Lima Waktu. *Jurnal IImu Pendidikan*, *1*(Institut Agama Islam Negeri (IAIN) Salatiga), 80.

Maksum, M. N. R. (2017). Metodologi Pembelajaran Fikih. *Jurnal Hukum Islam*, *5*(1), 33–48.

Saputra, D., Ratumbuysang, M. F. N. G., & Utama, A. H. (2021). Pengembangan media pembelajaran pai berbasis infografis dengan materi berwudhu untuk kelas II SD. *J-Instech*, *2*(1), 100–105.

Sipakkar, R., & Fauzi, A. (2023). Pengembangan E-Modul Interaktif Berbasis Visual Thinking untuk Meningkatkan Pemahaman Konsep Siswa Sekolah Dasar. *Jurnal Inovasi Teknologi Pendidikan*, *10*(2), 122–136.

Sugiyono. (2018). *Metode Penelitian Kualitatif* (S. Y. Suryandari (ed.)). Alfabeta.

Sugiyono. (2020). *Metodologi Penelitian Kuantitatif, Kualitatif dan R & D*.

Suharman. (2005). *Psikologi Kognitif: Suatu Pengantar dalam Memahami Proses Berpikir Manusia*. Srikandi Press.

Suyadi, & Sasmita, R. (2022). Pengembangan Media Pendidikan Agama Islam Berbasis Neurosains dalam Meningkatkan Higher Order Thinking Skill (HOTS). *POTENSIA: Jurnal Kependidikan Islam*.

Tufte, E. R. (2013). *The Visual Display of Quantitative Information*. Graphics Press.

Waharjani. (2018). Strategi Pembelajaran PAI di SD. *Jurnal Pendidikan Dasar Islam*, *3*(1), 50–65.

Wahyuni, S., Rusdi, M., Huda, N., Matematika, P. P., Jalan, U. J., Mataher, R., & 16 -Jambi, N. (2021). Pengembangan Lembar Kerja Peserta Didik Berbasis Core (Connecting, Organizing, Reflecting and Extending) untuk Meningkatkan Kemampuan Koneksi Matematis Pada Materi Persamaan Trigonometri. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *05*(02), 1498–1511.

Yusuf, A., & Hasan, R. (2021). Pengaruh Kualitas Desain Infografis terhadap Efektivitas Pembelajaran Siswa Sekolah Menengah. *Jurnal Pendidikan Dan Teknologi*, *5*(2), 115–126.

Zuhairini. (2004). *Metodologi Pendidikan Agama Islam*. Universitas Negeri Malang Press.

Zuhria, K., Pascasarjana, D. P., & Malang, U. M. (2024). *Pengembangan Bahan Ajar Digital Interaktif Integratif Pembelajaran Menulis Teks Eksposisi Kelas X SMA*.