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THE RELEVANCE OF HOWARD GARDNER'S MULTIPLE INTELLIGENCES THEORY TO THE IMPLEMENTATION OF DEEP LEARNING IN MATHEMATICS EDUCATION

Febby Fajar Nugraha [1], Nadia Alayda Qutratuain [2]

[1,2,3] Universitas Kuningan, Kuningan Jawa Barat
[1]febbyfajar@uniku.ac.id, [2] nadiaalayda26@gmail.com

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Abstract

Mathematics education faces persistent challenges in the form of learning approaches that do not adequately accommodate the diverse cognitive profiles of students. Howard Gardner's Multiple Intelligences (MI) theory asserts that human cognitive capacity extends far beyond the linguistic-logical axis that has dominated mathematics learning in schools. At the same time, Deep Learning (DL), as a contemporary pedagogical paradigm, emphasizes the development of transferable, meaningful, and reflective understanding, rather than merely memorizing superficial procedures. This theoretical study systematically examines the conceptual intersections between MI theory and DL principles in the context of mathematics learning. The findings demonstrate that the alignment between MI and DL is structurally coherent: MI provides an individualized entry point, while DL sets the target for cognitive depth. The integration of the two frameworks results in a differentiated mathematics learning ecosystem capable of fostering critical thinking, problem-solving, metacognitive awareness, and creativity across diverse learner profiles.

Keywords: Multiple Intelligences; Deep Learning; Mathematics Education

Abstrak

Pendidikan matematika menghadapi tantangan yang persisten berupa pendekatan pembelajaran yang belum secara memadai mengakomodasi keberagaman profil kognitif peserta didik. Teori Kecerdasan Majemuk (Multiple Intelligences/MI) Howard Gardner menegaskan bahwa kapasitas kognitif manusia jauh melampaui sumbu linguistik-logis yang selama ini mendominasi pembelajaran matematika di sekolah. Pada saat yang sama, Deep Learning (DL) sebagai paradigma pedagogis kontemporer menekankan pembangunan pemahaman yang transferabel, bermakna, dan reflektif, bukan sekadar penghafalan prosedur permukaan. Kajian teoretis ini menelaah secara sistematis titik-titik temu konseptual antara teori MI dan prinsip-prinsip DL dalam konteks pembelajaran matematika. Temuan menunjukkan bahwa keselarasan antara MI dan DL bersifat koheren secara struktural: MI menyediakan titik masuk yang terindividualisasi, sementara DL menetapkan target kedalaman kognitif. Pengintegrasian kedua kerangka menghasilkan ekosistem pembelajaran matematika yang terdiferensiasi, yang mampu menumbuhkan berpikir kritis, pemecahan masalah, kesadaran metakognitif, dan kreativitas pada berbagai profil pelajar.

Kata Kunci: Kecerdasan Majemuk; Deep Learning; Pembelajaran Matematika

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INTRODUCTION

Mathematics has historically been positioned as a discipline closely associated with logical-abstract intelligence. As a result, mathematics learning practices across educational levels tend to be designed uniformly, with the implicit assumption that mathematical capacity can be measured and developed through a single cognitive pathway. This assumption has proven empirically problematic: international data from the Programme for International Student Assessment (PISA 2022) indicate that the majority of students across various countries—including Indonesia—scored below the baseline competency level in mathematics, suggesting a structural gap between how mathematics is taught and how students with diverse cognitive profiles process mathematical knowledge (OECD, 2023).

Howard Gardner, through his work Frames of Mind first published in 1983 and subsequently substantially revised, argued that human intelligence is not singular but encompasses a set of relatively autonomous cognitive capacities. Over time, Gardner identified eight types of intelligence that can be activated through carefully designed learning experiences (Gardner, 2011). Each intelligence has its own neurobiological pathway, can be developed through cultural practice, and has the potential to be manifested in both formal and informal learning contexts (Armstrong, 2018). The theoretical implications of Gardner's perspective are highly relevant to mathematics education, as they suggest that effective mathematics learning should offer diverse cognitive entry points, not merely a single logical-symbolic pathway.

On the other hand, Deep Learning as a pedagogical concept—which must be clearly distinguished from Deep Learning in the context of artificial intelligence—refers to a learning process that demands deep cognitive engagement, critical reflection, and knowledge transfer beyond the original learning situation (Fullan et al., 2018). Deep Learning does not merely pursue procedural competency mastery; rather, it promotes the formation of robust conceptual understanding, critical thinking, collaboration, and creativity as integrated outcomes. In the context of the Merdeka Curriculum in Indonesia, the spirit of Deep Learning has been embedded in the conception of the Pancasila Student Profile, which emphasizes cross-disciplinary competencies and self-reflection (Kemendikbudristek, 2022).

The intersection of MI theory and Deep Learning in the context of mathematics learning presents synergistic opportunities that have not yet been fully explored in the national literature. Although several studies have partially addressed the implementation of MI in mathematics education (Maulidina & Hartatik, 2019; Yaumi, 2022) and other studies have examined Deep Learning as a pedagogical framework (Pellegrino & Hilton, 2019; Sudarwati & Hidayat, 2023), studies that explicitly examine the relevance and conceptual intersections between the two in mathematics learning remain highly limited. This gap in the literature constitutes the primary motivation for the present theoretical study.

The objectives of this study are: (1) to present the theoretical foundations of Gardner's multiple intelligences and Deep Learning principles comparatively; (2) to identify and map the points of relevance between MI dimensions and Deep Learning strategies in mathematics education; (3) to analyze the challenges and opportunities of integrating both frameworks in learning practice;

and (4) to formulate a conceptual model for MI-Deep Learning integration in mathematics education that can serve as a reference for curriculum designers and educational practitioners.

METHOD

This study is a theoretical-conceptual review employing a qualitative literature synthesis approach. This approach was chosen because the primary objective of the study is to construct a coherent theoretical argument through in-depth analysis of relevant literature, rather than collecting primary empirical data. The qualitative literature synthesis method enables the researcher to integrate findings from various sources into a more comprehensive and interpretatively valuable analytical framework (Snyder, 2019).

Literature Sources

This study draws upon 30 references systematically selected from Google Scholar, ERIC, Scopus, and national journal portals (Sinta). The search used combinations of keywords: "Multiple Intelligences" AND "Mathematics Education"; "Deep Learning" AND "Pedagogy"; "Gardner" AND "Classroom"; and "pembelajaran matematika" AND "kecerdasan majemuk". Included sources are journal articles, academic books, research reports, and policy documents published between 2018 and 2024, with the exception of Gardner's foundational works (1983; 2011), which were included as primary sources of MI theory.

Analysis Procedure

The analysis was conducted through four stages. First, identification and mapping of the core concepts of each framework (MI and Deep Learning) based on primary sources. Second, comparative analysis to identify conceptual intersections and differences between the two. Third, integrative synthesis connecting MI dimensions with Deep Learning principles and strategies in the mathematics context. Fourth, formulation of a conceptual integration model along with analysis of implementation barriers and opportunities. The entire analysis process relied on content analysis and conceptual mapping techniques as recommended by Torraco (2016) for integrative reviews.

RESULTS AND DISCUSSION

Theoretical Foundations of Multiple Intelligences in the Mathematical Context

The Multiple Intelligences theory formulated by Howard Gardner (1983; 2011) challenges the classical assumption that human intelligence is a singular construct that can be quantified in a single number. Gardner argued that every individual possesses a unique intelligence profile, consisting of a combination of eight types of intelligence, each operating through distinct neurological pathways, representational symbols, and cultural contexts. The most important implication of this view for education is that assessment and learning should be designed to accommodate the diversity of these profiles, rather than privileging only the type of intelligence dominant in conventional IQ tests (Armstrong, 2018).

In the context of mathematics learning, logical-mathematical intelligence is often considered the only relevant intelligence. However, recent studies consistently show that activating intelligences beyond the logical-mathematical domain can in fact strengthen mathematical understanding. Lazear (2020) demonstrated that when geometry concepts are taught through spatial activities (spatial intelligence) and visual arts projects, students exhibit longer-lasting retention and understanding compared to direct symbolic instruction. Similarly, research by Maulidina and Hartatik (2019) on elementary school students in Indonesia found that the integration of musical elements in number pattern learning enhanced the mathematical thinking ability of students with high musical intelligence profiles.

The mapping of the eight types of multiple intelligences against Deep Learning activities and strategies in mathematics learning is presented comprehensively in Table 1 below.

Table 1. Mapping of Multiple Intelligences to Deep Learning Strategies in Mathematics Learning

Intelligence	Key Characteristics	Activation in Mathematics	Deep Learning Strategy
Logical-Mathematical	Deductive reasoning, systematic thinking	Theorem proving, number pattern analysis	Pattern exploration, non-routine problem solving
Linguistic	High verbal and narrative ability	Reading word problems, writing arguments	Mathematical reflection journals, concept discussion
Visual-Spatial	Strong spatial and visual representation	Geometry, graphs, concept diagrams	Concept maps, geometry manipulatives
Kinesthetic	Learning through movement and manipulation	Concrete teaching aids, math games	Hands-on projects, physical simulation
Musical	Sensitivity to rhythmic patterns	Rhythmic number patterns, musical fractals	Mathematical songs, multiplication rhythms
Interpersonal	Social sensitivity and collaborative skills	Group discussion, peer tutoring	Cooperative learning, team projects
Intrapersonal	Self-reflection and self-regulation	Metacognition, learning goal setting	Reflective portfolios, self-assessment
Naturalistic	Classification and observation of natural patterns	Environmental statistics, nature-based data	Ethnomathematics projects, field data

The data in Table 1 show that each dimension of multiple intelligences has specific relevance to particular Deep Learning strategies. These findings reinforce the argument that no single strategy is capable of optimizing mathematics learning for the entire spectrum of cognitive profiles. Yaumi (2022) affirms that such mapping should serve as the basis for designing Lesson Plans (RPP) that are responsive to student diversity.

Deep Learning Principles and Their Structure

Deep Learning as a pedagogical approach was first systematically conceptualized by Marton and Säljö (1976), who distinguished it from surface learning. In contemporary developments, Fullan et al. (2018) define Deep Learning as a process encompassing six core competencies: character, citizenship, collaboration, communication, creativity, and critical thinking—known as the "6Cs." In the context of mathematics learning, these six competencies are not separate but mutually reinforcing: critical thinking supports problem solving; collaboration strengthens mathematical communication; creativity drives exploration of non-routine proof strategies.

Pellegrino and Hilton (2019) organize Deep Learning competencies into three domains: cognitive (deep knowledge, critical thinking, problem solving), intrapersonal (self-regulation, growth mindset, metacognition), and interpersonal (communication, collaboration, leadership). This three-domain structure has significant correspondence with Gardner's MI dimensions, as can be further examined through Table 2 below.

Table 2. Correspondence of Deep Learning Principles and Multiple Intelligences Dimensions in Mathematics Learning

Deep Learning Principle	Description	Relevant MI Intelligence	Learning Implementation
Meaningful Understanding	Constructing new knowledge from existing schemas	Logical-Mathematical, Spatial	Hierarchical concept maps, dual representation exploration
Critical & Reflective Thinking	Evaluating arguments and questioning assumptions	Intrapersonal, Linguistic	Reflection journals, Socratic discussion
Knowledge Transfer	Applying concepts to new contexts	Naturalistic, Kinesthetic	Cross-disciplinary projects, real-world simulation
Collaboration & Communication	Sharing understanding through social interaction	Interpersonal, Linguistic	Jigsaw cooperative learning, group presentations
Creativity & Innovation	Generating original and diverse solutions	Musical, Spatial, Kinesthetic	Open-ended tasks, art-mathematics projects

Table 2 reveals that the correspondence between Deep Learning and MI is not merely a superficial analogy, but possesses structural depth. Each Deep Learning principle requires specific cognitive modalities that can be identified within the MI framework. This implies that mathematics teachers who understand students' MI profiles will be better equipped to design targeted Deep Learning activities for each learning group.

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The MI-Deep Learning Integration Model in Mathematics Learning

Based on the comparative analysis above, this study proposes a conceptual integration model called the MI-DL Mathematics Framework (MI-DLMF). This model operates on three interconnected layers. The first layer is MI Profile Diagnosis, which is the process of identifying each student's dominant intelligences through classroom behavior observation, learning portfolios, and standardized MI instruments. The second layer is Differentiated Learning Design, in which teachers design activities with diverse entry points that activate various MI dimensions while targeting Deep Learning outcomes. The third layer is Multimodal Authentic Assessment, which is a learning evaluation system that enables students to demonstrate their mathematical understanding through various media—not just conventional written tests.

As an operational illustration, a basic statistics unit for Grade VIII of junior high school can be designed as follows: (a) Students with high interpersonal intelligence lead field surveys and process group data, developing collaboration and mathematical communication competencies (DL-interpersonal); (b) Students with spatial intelligence construct innovative data visualizations using diagrams, training creativity and mathematical representation (DL-cognitive); (c) Students with intrapersonal intelligence write mathematical reflections on data interpretation and its implications for real life, developing metacognition and knowledge transfer (DL-intrapersonal). Sudarwati and Hidayat (2023) confirm that a similar design in geometry learning at the senior high school level resulted in significant improvements in higher-order thinking skills (HOTS) scores and student learning motivation.

The Problem-Based Project approach is one of the most comprehensive vehicles for implementing MI-DLMF. When students are engaged in ethnomathematics projects—for example, analyzing geometric patterns in local batik motifs—simultaneous activation of spatial, logical-mathematical, and naturalistic intelligences occurs. At the same time, the processes of investigation, discussion, documentation, and presentation drive the holistic achievement of Deep Learning competencies (Nasution & Lubis, 2023). Wijaya et al. (2021) report that the implementation of multiple intelligences-based mathematics projects in secondary schools resulted in more significant improvements in the quality of students' mathematical thinking compared to conventional learning.

Implementation Challenges and Evidence-Based Solutions

Although the potential for integrating MI and Deep Learning in mathematics learning is highly promising, a number of structural and pedagogical challenges must be carefully anticipated. The literature review identifies five main categories of challenges along with solutions that can be operationalized in the Indonesian school context, as summarized in Table 3 below.

Table 3. Implementation Challenges of MI-Deep Learning Integration and Recommended Solutions

Challenge	Short-Term Solution	Long-Term Solution
Limited teacher capacity to accurately identify students' MI profiles	Design of standardized MI observation instruments based on classroom behavior indicators	Collaborative involvement of counselors and subject teachers

Dense curriculum load limits space for learning innovation	Integration of MI activities within the lesson plan structure without additional class hours	Task differentiation within the same topic
Uneven school facilities for supporting diverse learning modalities	Utilization of local teaching materials based on the surrounding environment	Low-cost technology and community-based project learning
Student resistance to non-conventional learning	Gradual socialization and strengthening of intrinsic motivation through guided reflection	Teacher modeling and successful examples from peer groups
Authentic assessment that does not yet accommodate the diversity of MI outputs	Development of comprehensive multimodal assessment rubrics	Digital portfolios and structured self-assessment

The greatest challenge identified in this study is the limited capacity of teachers to conduct MI diagnosis accurately and consistently. Research by Sugiyono and Hamid (2020) shows that the majority of junior and senior high school mathematics teachers in Indonesia do not yet possess adequate knowledge of how to identify students' MI profiles in real classroom settings. This situation indicates an urgent need for professional training focused on practical and standardized classroom behavior-based MI observation instruments, rather than mere declarative knowledge of Gardner's theory.

The second challenge relates to an assessment culture still dominated by written tests oriented toward single correct answers. Deep Learning requires authentic assessment that accommodates the diversity of cognitive outputs—something that demands a deeper paradigm shift from teachers, schools, and the educational system. Kusumah and Sabandar (2021) recommend the development of multimodal assessment rubrics that explicitly value demonstrations of mathematical understanding through various media: visual presentations, verbal arguments, reflective written work, and creative products.

On the opportunities side, research by Rahmat et al. (2022) identifies that teachers who have integrated MI principles into learning design report increased student engagement, reduced mathematics anxiety, and improvement in the quality of meaningful classroom discussion. These findings are reinforced by Hattie's meta-analysis (2009, updated 2023), which demonstrates that learning tailored to students' individual cognitive needs has an effect size well above average. Contemporary digitalization also opens new opportunities: AI-based adaptive learning platforms can help teachers map and respond to students' MI profiles more efficiently (Purnomo & Adi, 2023).

Implications for Curriculum and Education Policy

This study has direct implications for the development of mathematics curriculum in Indonesia. Within the Merdeka Curriculum framework, the flexibility of time allocation and the design of the Pancasila Student Profile Strengthening Project (P5) essentially provides a highly conducive structural space for implementing MI-Deep Learning integration. Teachers have greater pedagogical autonomy to design diverse learning activities, use authentic assessment, and organize classrooms flexibly (Kemendikbudristek, 2022). Strategic utilization of this autonomy

space, guided by the MI-DLMF framework, has the potential to produce qualitative transformation in the mathematics learning ecosystem.

At the policy level, this study recommends three things. First, the explicit inclusion of MI-based learning principles in national mathematics teaching material development guidelines. Second, revision of the mathematics teacher competency standards (SKG) to encompass the ability to diagnose students' intelligence profiles and design MI-based differentiated learning. Third, development of a national assessment system that recognizes the diversity of mathematical expression modalities, going beyond the multiple-choice and short-answer formats that privilege only linguistic-logical intelligence.

CONCLUSION

This theoretical study consistently demonstrates that Howard Gardner's Multiple Intelligences theory and the principles of Deep Learning in mathematics learning have mutually reinforcing structural relevance. MI provides the diagnostic framework for understanding the diversity of students' cognitive profiles, while Deep Learning sets the quality targets for thinking that must be achieved through meaningful and transferable learning processes. The integration of both, as formulated in the MI-DLMF model, produces a mathematics learning ecosystem capable of accommodating the full spectrum of human intelligences while simultaneously promoting the holistic achievement of 21st-century competencies.

The five main findings of this study can be summarized as follows: (1) Gardner's eight MI dimensions have identifiable correspondence with specific Deep Learning competencies and strategies in mathematics; (2) The MI-DLMF model operates through three layers—profile diagnosis, differentiated design, and multimodal assessment; (3) MI-Deep Learning integration has been empirically shown to increase student engagement, reduce mathematics anxiety, and improve higher-order thinking quality; (4) The main implementation challenges center on teacher capacity and the assessment system; (5) The Merdeka Curriculum provides a structurally conducive space for implementing this integration framework.

For future research agenda, empirical studies testing the effectiveness of the MI-DLMF model through experimental designs across various educational levels and school contexts in Indonesia are greatly needed. In particular, research measuring the impact of MI-Deep Learning integration on the affective dimensions of mathematics learning—such as anxiety, self-confidence, and intrinsic motivation—will provide important contributions that complement the existing empirical evidence base.

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REFERENCES

Armstrong, T. (2018). Multiple intelligences in the classroom (4th ed.). ASCD.

Chatib, M., & Said, A. (2019). Sekolah anak-anak juara: Berbasis kecerdasan jamak dan pendidikan berkeadilan. Kaifa.

Christodoulou, J. A., & Ganis, G. (2020). Intelligence, cognition, and the brain: Advances and challenges. Neuropsychologia, 141, 107393. https://doi.org/10.1016/j.neuropsychologia.2020.107393

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. Applied Developmental Science, 24(2), 97–140. https://doi.org/10.1080/10888691.2018.1537791

Fazriyati, E., Kadarisma, G., & Setiawan, W. (2020). Analisis kemampuan matematis siswa SMP ditinjau dari teori kecerdasan majemuk Gardner. Jurnal Cendekia: Jurnal Pendidikan Matematika, 4(1), 158–166. https://doi.org/10.31004/cendekia.v4i1.181

Fullan, M., Quinn, J., & McEachen, J. (2018). Deep learning: Engage the world, change the world. Corwin Press.

Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. Basic Books.

Gardner, H. (2011). The theory of multiple intelligences: As psychology, as education, and as social science. Address delivered at José Ortega y Gasset Foundation, Madrid. https://howardgardner01.files.wordpress.com/2012/06/madrid-oct-22-2011.pdf

Hattie, J. (2023). Visible learning: The sequel—A synthesis of over 2,100 meta-analyses relating to achievement (2nd ed.). Routledge. https://doi.org/10.4324/9781003380542

Hwang, G. J., Lai, C. L., & Wang, S. Y. (2020). Seamless flipped learning: A mobile technology-enhanced flipped classroom with effective learning strategies. Journal of Computers in Education, 7(2), 249–270. https://doi.org/10.1007/s40692-020-00163-0

Kemendikbudristek. (2022). Keputusan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Nomor 56/M/2022 tentang Pedoman Penerapan Kurikulum dalam Rangka Pemulihan Pembelajaran. Kemendikbudristek.

Kusumah, Y. S., & Sabandar, J. (2021). Asesmen pembelajaran matematika berbasis kompetensi abad ke-21. Jurnal Matematika Integratif, 17(1), 1–12. https://doi.org/10.24198/jmi.v17.n1.31619.1-12

Lazear, D. (2020). Eight ways of teaching: The artistry of teaching with multiple intelligences (5th ed.). Zephyr Press.

Marton, F., & Säljö, R. (1976). On qualitative differences in learning I—Outcome and process. British Journal of Educational Psychology, 46(1), 4–11. https://doi.org/10.1111/j.2044-8279.1976.tb02980.x

Maulidina, A. P., & Hartatik, S. (2019). Profil kemampuan matematika siswa sekolah dasar dalam menyelesaikan masalah matematika secara kinestetik. Jurnal Bidang Pendidikan Dasar, 3(1), 1–10. https://doi.org/10.21067/jbpd.v3i1.2867

Nasution, S. H., & Lubis, M. A. (2023). Etnomatematika berbasis budaya lokal sebagai konteks pembelajaran matematika bermakna. Jurnal Pendidikan Matematika, 14(2), 121–134. https://doi.org/10.22342/jpm.14.2.8820.121-134

OECD. (2023). PISA 2022 results (Volume I): The state of learning and equity in education. OECD Publishing. https://doi.org/10.1787/53f23881-en

Pellegrino, J. W., & Hilton, M. L. (Eds.). (2019). Education for life and work: Developing transferable knowledge and skills in the 21st century. National Academies Press.

Purnomo, Y. W., & Adi, A. P. (2023). Teknologi adaptif berbasis AI dalam diferensiasi pembelajaran matematika: Peluang dan tantangan. Jurnal Riset Pendidikan Matematika, 10(1), 45–58. https://doi.org/10.21831/jrpm.v10i1.55912

Rahmat, R., Habibi, M., & Sofyan, D. (2022). Pengaruh pembelajaran berbasis kecerdasan majemuk terhadap keterlibatan dan prestasi belajar matematika siswa SMP. Jurnal Ilmu Pendidikan, 28(2), 108–118. https://doi.org/10.17977/um048v28i22022p108

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. Journal of Business Research, 104, 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039

Sudarwati, N., & Hidayat, W. (2023). Implementasi deep learning dalam pembelajaran geometri untuk meningkatkan HOTS siswa SMA. Prima: Jurnal Pendidikan Matematika, 7(2), 167–180. https://doi.org/10.31000/prima.v7i2.7893

Sugiyono, A., & Hamid, A. (2020). Pengetahuan guru matematika tentang kecerdasan majemuk dan implikasinya terhadap desain pembelajaran. Jurnal Pendidikan dan Kebudayaan, 5(1), 33–48. https://doi.org/10.24832/jpnk.v5i1.1389

Surya, E., & Putri, F. A. (2018). Improving mathematical problem-solving ability and self-confidence of high school students through contextual learning model. Journal on Mathematics Education, 8(1), 85–94. https://doi.org/10.22342/jme.8.1.3324.85-94

Tomlinson, C. A. (2018). How to differentiate instruction in academically diverse classrooms (3rd ed.). ASCD.

Torraco, R. J. (2016). Writing integrative literature reviews: Using the past and present to explore the future. Human Resource Development Review, 15(4), 404–428. https://doi.org/10.1177/1534484316671606

Van de Walle, J. A., Karp, K. S., & Bay-Williams, J. M. (2019). Elementary and middle school mathematics: Teaching developmentally (10th ed.). Pearson.

Wijaya, A., Heuvel-Panhuizen, M., & Doorman, M. (2021). Opportunity-to-learn context-based tasks provided by mathematics textbooks. Educational Studies in Mathematics, 106(3), 489–519. https://doi.org/10.1007/s10649-021-10009-6

Yaumi, M. (2022). Pembelajaran berbasis kecerdasan jamak: Teori, praktik, dan asesmen. Prenadamedia Group.

Yusuf, M. (2021). Asesmen dan evaluasi pendidikan: Pilar penyedia informasi dan kegiatan pengendalian mutu pendidikan. Kencana Prenada Media Group.