STUDI META-ANALISIS *PRE-POST CONTRAST* PENGARUH PENGGUNAAN MEDIA PEMBELAJARAN TERHADAP HASIL BELAJAR MATEMATIKA ANAK BERKEBUTUHAN KHUSUS TUNARUNGU

TESIS

diajukan untuk memenuhi sebagian syarat untuk memperoleh gelar
Magister Pendidikan Program Studi Pendidikan Matematika

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PROGRAM STUDI PENDIDIKAN MATEMATIKA
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ABSTRAK

Wenda Alifulloh (2024), Studi Meta-Analisis *Pre-Post Contrast*: Pengaruh Penggunaan Media Pembelajaran terhadap Hasil Belajar Matematika Anak Berkebutuhan Khusus Tunarungu

Penelitian ini bertujuan untuk menganalisis pengaruh penggunaan media pembelajaran terhadap hasil belajar matematika anak berkebutuhan khusus (ABK) tunarungu di Indonesia melalui studi meta-analisis *pre-post contrast*. Dari 349 karya ilmiah yang diseleksi, instrumen lembar koding digunakan untuk mengekstraksi data dari 15 studi primer yang memenuhi syarat untuk dianalisis, dengan memperhatikan karakteristik jenjang pendidikan, lokasi penelitian, dan jenis media pembelajaran yang digunakan. Perhitungan ukuran efek dan analisis karakteristik studi dilakukan dengan menggunakan aplikasi CMA versi 4.0 berdasarkan persamaan Hedges's g dengan taraf kepercayaan 95%. Model estimasi yang digunakan adalah *random effect model*, berdasarkan asumsi penelitian pendidikan yang didukung oleh uji heterogenitas ukuran efek dari studi-studi primer. Hasil analisis menunjukkan ukuran efek keseluruhan yang sangat tinggi dengan nilai *effect size* sebesar 1,325 dan *standar error* 0,245. Hal ini mengindikasikan bahwa penggunaan media pembelajaran memiliki pengaruh positif yang sangat tinggi terhadap hasil belajar matematika ABK tunarungu. Analisis karakteristik penelitian menemukan perbedaan yang signifikan dalam hal jenjang pendidikan dan jenis media yang digunakan. Penelitian ini menunjukkan bahwa media pembelajaran yang digunakan lebih efektif dalam kondisi tertentu. Pertama, penggunaan media pembelajaran bagi ABK tunarungu lebih efektif pada jenjang SMP. Kedua, pemilihan media pembelajaran jenis visual memberikan efektivitas yang lebih tinggi dibandingkan jenis lainnya dalam meningkatkan hasil belajar matematika ABK tunarungu. Uji heterogenitas terhadap lokasi penelitian mengungkapkan bahwa perbedaan lokasi tidak menyebabkan perbedaan signifikan dalam ukuran efek. Fakta-fakta ini menunjukkan bahwa ukuran efek dipengaruhi oleh karakteristik studi berupa jenjang pendidikan dan jenis media pembelajaran namun tidak dipengaruhi oleh lokasi penelitian.

Kata kunci: media pembelajaran, hasil belajar matematika, tunarungu, meta-analisis

ABSTRACT

Wenda Alifulloh (2024), ***Meta-Analysis Pre-Post Contrast: The Influence of Instructional Media on Mathematics Learning Outcomes of Deaf Students***

This study aims to analyze the impact of using instructional media on the mathematics learning outcomes of deaf students in Indonesia through a pre-post contrast meta-analysis. Out of 349 selected scholarly works, a coding sheet instrument was used to extract data from 15 primary studies that met the criteria for analysis, considering educational level, research location, and type of instructional media used. Effect size calculations and study characteristic analyses were conducted using CMA version 4.0, based on Hedges's g formula with a 95% confidence interval. The estimation model used was a random effect model, based on the assumption of educational research supported by heterogeneity tests of effect sizes from the primary studies. The analysis results showed a very high overall effect size of 1.325 with a standard error of 0.245. This indicates that the use of instructional media has a very high positive impact on the mathematics learning outcomes of deaf students. The analysis of study characteristics found significant differences in terms of educational level and type of media used. This research indicates that the instructional media used is more effective under certain conditions. Firstly, the use of instructional media for deaf students is more effective at the junior high school level. Secondly, the selection of visual instructional media provides higher effectiveness compared to other types in improving the mathematics learning outcomes of deaf students. Heterogeneity tests regarding research location revealed no significant differences in effect size based on location. These findings suggest that while effect size is influenced by study characteristics such as educational level and the type of instructional media, it is not affected by the research location.

Keywords: *instructional media, mathematics learning outcomes, deaf student, meta-analysis*

DAFTAR ISI

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DAFTAR GAMBAR

DAFTAR PUSTAKA

Abramo, G., D'Angelo, C. A., & Rosati, F. (2016). A methodology to measure the effectiveness of academic recruitment and turnover. *Journal of Informetrics*, *10*(1), 31–42. https://doi.org/10.1016/J.JOI.2015.10.004

Aeny, A. N., Rahmadhani, L. W., Azzahra, S. M., & Santoso, G. (2022). Analisis dan Evaluasi: Program Pendidikan Inklusi Melalui Sekolah Dasar. *Jurnal Pendidikan Transformatif*, *1*(3), 118–126. https://doi.org/10.9000/JPT.V1I3.495

Ainsworth, S. (2006). DeFT: A conceptual framework for considering learning with multiple representations. *Learning and Instruction*, *16*(3), 183–198.

Alam, A., & Mohanty, A. (2023). Cultural beliefs and equity in educational institutions: exploring the social and philosophical notions of ability groupings in teaching and learning of mathematics. *International Journal of Adolescence and Youth*, *28*(1). https://doi.org/10.1080/02673843.2023.2270662

Alessi, S. M., & Trollip, S. R. (2001). Multimedia for learning: Methods development. *Boston: Allyn and Bacon*, 596. https://books.google.com/books/about/ Multimedia_for_Learning.html?hl=id&id=mmruAAAAMAAJ

Alifulloh, W., Juandi, D., & Hasanah, A. (2023). Trend of Mathematics Learning Research for Deaf Children in Indonesia: A Systematic Literature Review. *MATHEMA: Jurnal Pendidikan Matematika*, *5*(2), 177–192. https://doi.org/10.33365/JM.V5I2.2834

Alifulloh, W., Juandi, D., Hasanah, A., Usdiyana, D., & Nuralam, H. (2024). Research Trends of Mathematics Learning for Deaf Junior High School Students in Indonesia: A Systematic Literature Review. *The Eurasia Proceedings of Educational and Social Sciences*, 24–33.

Alifulloh, W., Juandi, D., Ismail, M. T., Khoirunnisa, A. N., & Nuralam, H. (2024). Mathematics Learning Research for Deaf Elementary School Students in Indonesia: A Systematic Literature Review. *Mimbar Sekolah Dasar*, *11*(2).

Alsolami, A. S. (2022). Teachers of Special Education and Assistive Technology: Teachers' Perceptions of Knowledge, Competencies and Professional Development. *12*(1). https://doi.org/10.1177/21582440221079900

Anjarwati, D., Juandi, D., Nurlaelah, E., & Hasanah, A. (2022). Studi meta-analisis: pengaruh model discovery learning berbantuan geogebra terhadap kemampuan berpikir kritis matematis siswa. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, *6*(3), 2417–2427.

Antia, S. D., Jones, P. B., Reed, S., & Kreimeyer, K. H. (2009). Academic status and progress of deaf and hard-of-hearing students in general education classrooms. *Journal of Deaf Studies and Deaf Education*, *14*(3), 293–311.

Arsyad, A. (2013). *Media Pembelajaran. Jakarta: GrafindoPersada*.

Asmara, A., Judijanto, L., Hita, I. P. A. D., & Saddhono, K. (2023). Media Pembelajaran Berbasis Teknologi: Apakah Memiliki Pengaruh terhadap Peningkatan Kreativitas pada Anak Usia Dini? *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *7*(6), 7253–7261. https://doi.org/ 10.31004/ OBSESI.V7I6.5728

Ayuningthyas, N. I., Alfin Imanullah, M., Anastasya, A., & Permana, P. (2021). Tanggung Jawab Pemerintah dalam Pemenuhan Hak Konstitusional Atas Hak Pendidikan di Masa Pandemi Covid-19: Government Responsibilities in Fulfilling Constitutional Rights to Education Rights during the Covid-19 Pandemic. *Seminar Nasional Hukum Universitas Negeri Semarang*, *7*(1), 197–218. https://doi.org/10.15294/SNHUNNES.V7I1.712

Azkia, N. F. (2023). *Meta-Analisis Pengaruh Media Pembelajaran Berbasis Digital terhadap Hasil Belajar Matematika*. Jakarta: FITK UIN Syarif Hidayatullah Jakarta.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191.

Bandura, A., & Walters, R. H. (1977). *Social learning theory* (Vol. 1). Englewood cliffs Prentice Hall.

Batool, K., Iqbal, Dr. M. N., Mushtaq, R., & Shakeel, M. (2022). Effectiveness of Assistive Technology in Teaching Mathematics to the Students with Hearing Impairment at Primary Level. *VFAST Transactions on Education and Social Sciences*, *10*(3), 93–99. https://doi.org/10.21015/VTESS.V10I3.1354

Batu, S. (2013). *Problems, expectations, and suggestions of elementary teachers regarding inclusion*.

Belur, J., Tompson, L., Thornton, A., & Simon, M. (2021). Interrater Reliability in Systematic Review Methodology: Exploring Variation in Coder Decision-Making. *Sociological Methods & Research*, *50*(2), 837–865. https://doi.org/10.1177/0049124118799372

Bernard, R. M., Borokhovski, E., Schmid, R. F., Tamim, R. M., & Abrami, P. C. (2014). A meta-analysis of blended learning and technology use in higher education: From the general to the applied. *Journal of Computing in Higher Education*, *26*(1), 87–122. https://doi.org/10.1007/s12528-013-9077-3

Black, P., & Wiliam, D. (1998). *Inside the black box: Raising standards through classroom assessment*. Granada Learning.

Bloom, B. S. (1971). *Taxonomy of educational objectives: The classification of educational goals: By a committee of college and university examiners*. David McKay.

Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook 1: Cognitive domain*. McKay New York.

Boaler, J., Dieckmann, J. A., Pérez-Núñez, G., Sun, K. L., & Williams, C. (2018). Changing students minds and achievement in mathematics: The impact of a free online student course. *Frontiers in Education*, 26.

Borenstein, M., Hedges, L. V, Higgins, J. P. T., & Rothstein, H. R. (2009). *Introduction to Meta-Analysis* (First Edition). John Wiley & Sons, Ltd.

Borenstein, M., Hedges, L. V, Higgins, J. P. T., & Rothstein, H. R. (2010). A basic introduction to fixed-effect and random-effects models for meta-analysis. *Research Synthesis Methods*, *1*(2), 97–111. https://doi.org/10.1002/jrsm.12

Borg, W. R., & Gall, M. D. (1984). Educational research: An introduction. *British Journal of Educational Studies*, *32*(3).

Brockwell, S. E., & Gordon, I. R. (2007). A simple method for inference on an overall effect in meta-analysis. *Statistics in Medicine*, *26*(25), 4531–4543.

Card, N. A. (2012). *Applied Meta-Analysis for Social Science Research*. The Guilford Press.

Card, N. A. (2015). *Applied meta-analysis for social science research*. The Guilford Press.

Chankseliani, M., & McCowan, T. (2021). Higher education and the Sustainable Development Goals. *Higher Education*, *81*(1), 1–8. https://doi.org/10.1007/S10734 -020 -00652-W/METRICS

Cheung, A. C. K., & Slavin, R. E. (2013). The effectiveness of educational technology applications for enhancing mathematics achievement in K-12 classrooms: A meta-analysis. *Educational Research Review*, *9*, 88–113.

Choirudin, C., Darmayanti, R., Usmiyatun, U., Sugianto, R., & Ananthaswamy, V. (2021). Mathematics teacher vs. media development, What are the learning problems in MTs? *AMCA Journal of Religion and Society*, *1*(1), 19–24. https://doi.org/10.51773/AJRS.V1I1.280

Clark, R. C., & Mayer, R. E. (2023). *E-learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning*. john Wiley & sons.

Clark, R. E. (1994). Media will never influence learning. *Educational Technology Research and Development*, *42*(2), 21–29. https://doi.org/10.1007/BF02299088

Cleophas, T. J., & Zwinderman, A. H. (2017). *Modern Meta-Analysis*. Springer International Publishing Switzerland.

Coe, R. (2002). It's The Effect Size, Stupid: What Effect Size is and Why It is Important. In *British Educational Research Association* (pp. 1–18).

Cohen, J. J. (1988). *J 1923–1998. Statistical Power Analysis for the Behavioral Sciences*. Lawrence Erlbaum Associates Inc.: Hillsdale, NJ, USA.

Cohen, L., Manion, L., & Morrison, K. (2007). Research Methods in Education. *Research Methods in Education*. https://doi.org/10.4324/9780203029053

Coladarci, T., & Cobb, C. D. (2013). *Fundamentals of Statistical Reasoning in Education* (4th ed., Vol. 1). John Wiley & Sons. https://books.google.co.id/books?id =dUWkAQAAQBAJ

Colman, I., Friedman, B. W., Brown, M. D., Innes, G. D., Grafstein, E., Roberts, T. E., & Rowe, B. H. (2008). Parenteral dexamethasone for acute severe migraine headache: meta-analysis of randomised controlled trials for preventing recurrence. *Bmj*, *336*(7657), 1359–1361.

Cooper, H. (2003). Psychological Bulletin: Editorial. *Psychological Bulletin*, *129*(1), 3–9. https://doi.org/10.1037/0033-2909.129.1.3

Cooper, H. (2017). *Research Synthesis and Meta-Analysis: A Step-by-Step Approach*. Sage Publications, Inc.

Cooper, H., Hedges, L. V, & Valentine, J. C. (2019). *The Handbook of Research Synthesis and Meta-Analysis* (H. Cooper, L. V Hedges, & J. C. Valentine, Eds.). Russell Sage Foundation. https://doi.org/10.7758/9781610448864

Copur-Gencturk, Y., & Thacker, I. (2021). A comparison of perceived and observed learning from professional development: Relationships among self-reports, direct assessments, and teacher characteristics. *Journal of Teacher Education*, *72*(2), 138–151.

Creswell, J. W. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. Pearson. https://books.google.co.id/books?id=4PywcQAACAAJ

Darling-Hammond, L., & Snyder, J. (2000). Authentic assessment of teaching in context. *Teaching and Teacher Education*, *16*(5–6), 523–545.

David, A., Kiose, V., & Tzelepi, E. (2023). *ICTs in education for Deaf and Hard-Of-Hearing learners*.

Dewi, N. S. (2023). *Meta-Analisis: Pengaruh Pendekatan Open-Ended Terhadap Kemampuan Berpikir Kreatif Matematis Siswa*. Universitas Pendidikan Indonesia.

Dewi, P. K., & Budiana, N. (2018). Media Pembelajaran Bahasa : Aplikasi Teori Belajar dan Strategi Pengoptimalan Pembelajaran. In *UB Press*. Universitas Brawijaya Press.

Djamas, D., Tinedi, V., & others. (2021). Development of interactive multimedia learning materials for improving critical thinking skills. In *Research Anthology on Developing Critical Thinking Skills in Students* (pp. 507–525). IGI Global.

Durlak, J. A. (1995). *Understanding meta-analysis.*

Duval, S., & Tweedie, R. (2000). Trim and Fill: A Simple Funnel-Plot–Based Method of Testing and Adjusting for Publication Bias in Meta-Analysis.

Biometrics, *56*(2), 455–463. https://doi.org/10.1111/j.0006-341X.2000.00455.x

Egger, M., Smith, G. D., Schneider, M., & Minder, C. (1997). Bias in meta-analysis detected by a simple, graphical test. *BMJ*, *315*(7109), 629–634. https://doi.org/10.1136/bmj.315.7109.629

Ellis, P. D. (2010). *The essential guide to effect sizes: Statistical power, meta-analysis, and the interpretation of research results*. Cambridge university press.

Eseadi, C. (2023). Enhancing Educational and Career Prospects: A Comprehensive Analysis of Institutional Support for Students with Specific Learning Disabilities. *Online Submission*, *7*(1), 1–7.

Febrita, Y., & Ulfah, M. (2019). Peranan Media Pembelajaran untuk Meningkatkan Motivasi Belajar Siswa. *Diskusi Panel Nasional Pendidikan Matematika*, *5*(1). https://proceeding.unindra.ac.id/index.php/DPNPMunindra/article/view/571

Finckh, A., & Tramèr, M. R. (2008). Primer: strengths and weaknesses of meta-analysis. *Nature Clinical Practice Rheumatology*, *4*(3), 146–152.

Fitriatun, E., Febriyanti, B., Ariany, F., Sukarman, S., Irmasyah, J., & Subki, S. (2023). Program Kemitraan Masyarakat: Layanan Psikologi dalam Mendukung Perkembangan dan Penanganan Pertama Anak Berkebutuhan Khusus (ABK) di Bimbel Buah Hati. *Lumbung Inovasi: Jurnal Pengabdian Kepada Masyarakat*, *8*(2), 276–283.

Fragkos, K. C., Tsagris, M., & Frangos, C. C. (2017). Exploring the distribution for the estimator of Rosenthal's 'fail-safe' number of unpublished studies in meta-analysis. *Communications in Statistics - Theory and Methods*, *46*(11), 5672–5684. https://doi.org/10.1080/03610926.2015.1109664

Francisco, M. P. B., Hartman, M., & Wang, Y. (2020). Inclusion and Special Education. *Education Sciences 2020, Vol. 10, Page 238*, *10*(9), 238. https://doi.org/10.3390/EDUCSCI10090238

Gagne, R. M. (1970). *Learning Theory, Educational Media, and Individualized Instruction.*

Gainsburg, J. (2008). Real-world connections in secondary mathematics teaching. *Journal of Mathematics Teacher Education*, *11*, 199–219.

Gheysen, F., Loots, G., & Van Waelvelde, H. (2008). Motor development of deaf children with and without cochlear implants. *Journal of Deaf Studies and Deaf Education*, *13*(2), 215–224.

Glass, G., McGaw, B., & Smith, M. L. (1981). *Meta-Analysis in Social Research*. Sage Publications.

Glass, G. V. (1976). Primary, secondary, and meta-analysis of research. *Educational Researcher*, *5*(10), 3–8.

Glazer, E. M. (2001). *Using internet primary sources to teach critical thinking skills in mathematics*. Bloomsbury Publishing USA.

González, N., Moll, L. C., & Amanti, C. (2006). *Funds of knowledge: Theorizing practices in households, communities, and classrooms*. Routledge.

Greenfield, P. M., & Bruner, J. S. (1966). Culture and cognitive growth. *International Journal of Psychology*, *1*(2), 89–107.

Hallahan, D. P., Pullen, P. C., Kauffman, J. M., & Badar, J. (2020). Exceptional learners. In *Oxford Research Encyclopedia of Education*.

Hannafin, M. J., & Land, S. M. (1997). The foundations and assumptions of technology-enhanced student-centered learning environments. *Instructional Science*, *25*, 167–202.

Hannafin, M. J., & Peck, K. L. (1988). *The design, development, and evaluation of instructional software*. Macmillan. https://books.google.com/books/about/The_Design_Development_and_Evaluation_of.html?hl=id&id=ezxQAQAAIAAJ

Harwell, M. (2020). Growth in the Amount of Literature Reviewed in a Meta-Analysis and Reviewer Resources. *Mid-Western Educational Researcher*, *32*(1), 31–47.

Hattie, J., & Yates, G. C. R. (2013). *Visible learning and the science of how we learn*. Routledge.

Hegarty, M., Mayer, R. E., & Monk, C. A. (1995). Comprehension of Arithmetic Word Problems: A Comparison of Successful and Unsuccessful Problem Solvers. *Journal of Educational Psychology*, *87*(1), 18–32. https://doi.org/10.1037/0022-0663.87.1.18

Heinich, R., Molenda, M., & Russell, J. D. (1989). *Instructional media and the new technologies of instruction*.

Hembree, R. (1990). The nature, effects, and relief of mathematics anxiety. *Journal for Research in Mathematics Education*, *21*(1), 33–46.

Hiebert, J., & others. (1997). *Making sense: Teaching and learning mathematics with understanding.* ERIC.

Hillmayr, D., Ziernwald, L., Reinhold, F., Hofer, S. I., & Reiss, K. M. (2020). The potential of digital tools to enhance mathematics and science learning in secondary schools: A context-specific meta-analysis. *Computers & Education*, *153*, 103897.

Höffler, T. N., & Leutner, D. (2007). Instructional animation versus static pictures: A meta-analysis. *Learning and Instruction*, *17*(6), 722–738.

Hogg, R. V, Tanis, E. A., Zimmerman, D. L., Columbus, B., New, I., San, Y., Upper, F., River, S., Cape, A., Dubai, T., Madrid, L., Munich, M., Montreal, P., Delhi, T., São, M. C., Sydney, P., Kong, H., Singapore, S., & Tokyo, T. (2015). *Instructor's Solutions Manual Probability And Statistical Inference Ninth Edition*. https://testbankuniv.eu/Probability-and-Statistical-Inference-9th-Edition-Hogg-Solutions-Manual

Hunter, J. E., & Schmidt, F. L. (2004). *Methods of Meta-Analysis: Correcting Error and Bias in Research Findings* (Second Edition). Sage.

Ireland, R. (2010). *A dictionary of dentistry*. OUP Oxford.

Ismiyati, I., Pramusinto, H., Sholikah, M., & Yulianti, N. D. (2022). Meta-analysis of digital-based learning to improve learning outcomes. *Psychology, Evaluation, and Technology in Educational Research*, *4*(2), 53–62. https://doi.org/10.33292/PETIER.V4I2.114

Juandi, D., Kusumah, Y. S., Tamur, M., Perbowo, K. S., & Wijaya, T. T. (2021). A meta-analysis of Geogebra software decade of assisted mathematics learning: what to learn and where to go? *Heliyon*, *7*, e06953. https://doi.org/10.1016/j.heliyon.2021.e06953

Juandi, D., & Tamur, M. (2020). *Pengantar Analisis Meta*. UPI Press.

Kania, N., & Juandi, D. (2023). Does self-concept affect mathematics learning achievement? *Journal of Education and Learning (EduLearn)*, *17*(3), 455–461.

Kearsley, G., & Shneiderman, B. (1998). Engagement theory: A framework for technology-based teaching and learning. *Educational Technology*, *38*(5), 20–23.

Kelly, J. F., McKinney, E. L., & Swift, O. (2022). Strengthening teacher education to support deaf learners. *International Journal of Inclusive Education*, *26*(13), 1289–1307. https://doi.org/10.1080/13603116.2020.1806366

Khalid, M., Saad, S., Abdul Hamid, S. R., Ridhuan Abdullah, M., Ibrahim, H., & Shahrill, M. (2020). Enhancing creativity and problem solving skills through creative problem solving in teaching mathematics. *Creativity Studies*, *13*(2), 270–291. https://doi.org/10.3846/CS.2020.11027

Khasawneh, M. A. S. (2023). The use of video as media in distance learning for deaf students. *Contemporary Educational Technology*, *15*(2), ep418.

Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. *Educational Psychologist*, *41*(2), 75–86.

Koedinger, K. R., Corbett, A., & others. (2006). *Cognitive tutors: Technology bringing learning sciences to the classroom*. na.

Krippendorff, K. (2004). *Content Analysis: An Introduction to Its Methodology*. SAGE Publications, Inc. https://doi.org/10.4135/9781071878781

Krippendorff, K. (2011). *Computing Krippendorff's Alpha-Reliability* (Issue 43). https://repository.upenn.edu/handle/20.500.14332/2089

Kurniawati, K., Sitompul, S. S., Hamdani, H., Silitonga, H. T. M., & Habellia, R. C. (2023). Meta Analisis Pengaruh Model Direct Instruction Terhadap Hasil Belajar Fisika. *Jurnal Ilmiah Profesi Pendidikan*, *8*(1b), 886–891.

Kustyarini, K., Utami, S., & Koesmijati, E. (2020). The Importance Of Interactive Learning Media In A New Civilization Era. *European Journal of Open Education and E-Learning Studies*, *5*(2). https://doi.org/10.46827/EJOE.V5I2.3298

Kusumah, Y. S., Kustiawati, D., & Herman, T. (2020). The Effect of GeoGebra in Three-Dimensional Geometry Learning on Students' Mathematical Communication Ability. *International Journal of Instruction*, *13*(2), 895–908.

Kusumaningtyas, Y., Rahman, A., & others. (2023). The Use of Block Dienes Media for Improving Mathematics Learning Achievements of Deaf Students. *6th International Conference on Learning Innovation and Quality Education (ICLIQE 2022)*, 1260–1267.

Lailiyah, A. (2015). *Upaya Meningkatkan Hasil Belajar Matematika Anak Berkebutuhan Khusus (Abk) Kelas Viii Tunarungu Dengan Media Visual Di Slb Kemala Bhayangkari 1 …*. repo.iain-tulungagung.ac.id. http://repo.iain-tulungagung.ac.id/id/eprint/2527

Leary, H., & Walker, A. (2018). Meta-analysis and meta-synthesis methodologies: Rigorously piecing together research. *TechTrends*, *62*(5), 525–534.

Lederberg, A. R., & Everhart, V. S. (2000). Conversations between deaf children and their hearing mothers: Pragmatic and dialogic characteristics. *Journal of Deaf Studies and Deaf Education*, *5*(4), 303–322.

Lee, Y. H. (2019). Strengths and Limitations of Meta-Analysis. *The Korean Journal of Medicine*, *94*(5), 391–395. https://doi.org/10.3904/kjm.2019.94.5.391

Lestari, I. (2018). Pengembangan Bahan Ajar Matematika dengan Memanfaatkan Geogebra untuk Meningkatkan Pemahaman Konsep. *GAUSS: Jurnal Pendidikan Matematika*, *1*(1), 26–36. https://doi.org/10.30656/GAUSS.V1I1.634

Lestari, K. E., & Yudhanegara, M. R. (2019). *Penelitian pendidikan matematika*. https://ecampus-fip.umj.ac.id/repo/handle/123456789/7565

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P. A., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: explanation and elaboration. *BMJ (Clinical Research Ed.)*, *339*. https://doi.org/10.1136/bmj.b2700

Light, R. J., & Pillemer, D. B. (1984). *Summing Up: The Science of Reviewing Research*. Harvard University Press.

Lipsey, M., & Wilson, D. (2001). *Practical Meta-Analysis*. Sage.

Lisyawati, E., Halimah, N., Khairunnisa, K., & Mulyanto, A. (2024). Optimalisasi Pengelolaan Pendidikan Inklusif. *EduInovasi: Journal of Basic Educational Studies*, *4*(1), 671–687. https://doi.org/10.47467/EDUI.V4I1.5759

Lombard, M., Snyder-Duch, J., & Bracken, C. C. (2002). Content Analysis in Mass Communication: Assessment and Reporting of Intercoder Reliability. *Human Communication Research*, *28*(4), 587–604. https://doi.org/10.1111/j.1468-2958.2002.tb00826.x

Luckner, J. L., & Cooke, C. (2010). A summary of the vocabulary research with students who are deaf or hard of hearing. *American Annals of the Deaf*, *155*(1), 38–67.

Maksymchuk, B., Sarancha, I., Husak, A., Avramenko, O., Kuzmenko, I., Kuzmenko, V., Slyusarenko, N., Chepurna, L., Pankevych, V., Babii, I., & Maksymchuk, I. (2022). Implementing the Course "Human Rights" for Children with Special Needs under the Changed Socio-Educational Conditions. *Revista Romaneasca Pentru Educatie Multidimensionala*, *14*(3), 428–443. https://doi.org/10.18662/RREM/14.3/617

Mandalawati, I. S., Jihad, A., & Sugilar, H. (2024). Powtoon Media for the Understanding of Deaf Mathematics. *KnE Social Sciences*, 562–571.

Marschark, M., & Hauser, P. C. (2012). *How deaf children learn: What parents and teachers need to know*. OUP USA.

Marschark, M., & Knoors, H. (2012). Educating deaf children: Language, cognition, and learning. *Deafness & Education International*, *14*(3), 136–160.

Marschark, M., Morrison, C., Lukomski, J., Borgna, G., & Convertino, C. (2013). Are deaf students visual learners? *Learning and Individual Differences*, *25*, 156–162.

Martin, E. A. (2015). *Concise colour medical dictionary*. Oxford University Press.

Martin, E. A., & McFerran, T. A. (2003). *A dictionary of nursing*. Oxford University Press.

Marwandianto, M., & Nasution, H. A. (2020). Hak Atas Kebebasan Berpendapat dan Berekspresi dalam Koridor Penerapan Pasal 310 dan 311 KUHP. *Jurnal HAM*, *11*(1), 1. https://doi.org/10.30641/ham.2020.11.1-25

Mayer, R. E. (2009). Multimedia learning prinsip-prinsip dan aplikasi. *Yogyakarta: Pustaka Pelajar*, *64*, 116.

McHugh, M. L. (2012). Interrater reliability: the kappa statistic. *Biochemia Medica*, 276–282. https://doi.org/10.11613/BM.2012.031

Meece, J. L. (2023). The role of motivation in self-regulated learning. In *Self-regulation of learning and performance* (pp. 25–44). Routledge.

Meece, J. L., Wigfield, A., & Eccles, J. S. (1990). Predictors of math anxiety and its influence on young adolescents' course enrollment intentions and performance in mathematics. *Journal of Educational Psychology*, *82*(1), 60.

Meix-Cereceda, P. (2020). Educational Values in Human Rights Treaties: UN, European, and African International Law. *Human Rights Review*, *21*(4), 437–461. https://doi.org/10.1007/S12142-020-00599-6/METRICS

Mowbray, F. I., Manlongat, D., & Shukla, M. (2022). Sensitivity Analysis: A Method to Promote Certainty and Transparency in Nursing and Health Research. *Canadian Journal of Nursing Research*, *54*(4), 371–376. https://doi.org/10.1177/08445621221107108

Muhaimin, L. H., & Juandi, D. (2023). The Role of Learning Media in Learning Mathematics: a Systematic Literature Review. *Journal of Mathematics and Mathematics Education*, *13*(1), 85–107.

Mullen, B., Muellerleile, P., & Bryant, B. (2001). Cumulative Meta-Analysis: A Consideration of Indicators of Sufficiency and Stability. *Personality and Social Psychology Bulletin*, *27*(11), 1450–1462. https://doi.org/10.1177/01461672012711006

Mulyadi, I. (2016). Peningkatan hasil belajar matematika melalui penggunaan lembar kegiatan siswa (LKS) pada pokok bahasan bilangan bulat siswa. *Jurnal Ilmu Pendidikan LPMP Kalimantan Timur*, *10*(1), 55–66.

Mulyah, S., Khoiri, Q., Fatmawati Sukarno Bengkulu, U., Dewa, P., Selebar, K., & Bengkulu, K. (2023). Kebijakan Pemerintah terhadap Pendidikan Inklusif. *Journal on Education*, *5*(3), 8270–8280. https://doi.org/10.14710/JPHI.V1I2.237-249

Martínez, Y.M., & Porter, G. L. (2020). Planning for all students: promoting inclusive instruction. *International Journal of Inclusive Education*, *24*(14), 1552–1567. https://doi.org/10.1080/13603116.2018.1544301

Mursidi, A., & others. (2019). Identifikasi Dini Guna Mengoptimalkan Kemampuan Bahasa pada Anak Tuna Rungu Usia Pra Sekolah. *Jurnal Psikologi: Jurnal Ilmiah Fakultas Psikologi Universitas Yudharta Pasuruan*, *6*(1), 39–53.

Musna, R. R., Juandi, D., & Jupri, A. (2021). A meta-analysis study of the effect of Problem-Based Learning model on students' mathematical problem solving skills. *Journal of Physics: Conference Series*, *1882*(1). https://doi.org/ 10.1088/ 1742-6596/1882/1/012090

Nadhiroh, U., & Ahmadi, A. (2024). Pendidikan Inklusif: Membangun Lingkungan Pembelajaran Yang Mendukung Kesetaraan Dan Kearifan Budaya. *Ilmu Budaya: Jurnal Bahasa, Sastra, Seni, Dan Budaya*, *8*(1), 11–22. https://doi.org/10.30872/jbssb.v8i1.14072

Nagendrababu, V., Dilokthornsakul, P., Jinatongthai, P., Veettil, S. K., Pulikkotil, S. J., Duncan, H. F., & Dummer, P. M. H. (2020). Glossary for systematic reviews and meta-analyses. *International Endodontic Journal*, *53*(2), 232–249. https://doi.org/10.1111/iej.13217

Nindrea, R. D. (2016). Pengantar langkah-langkah praktis studi meta analisis. *Yogyakarta: Gosyen Publishing*.

Nunes, T. (2004). *Teaching mathematics to deaf children*. John Wiley & Sons.

Nunes, T. (2020). Deaf Children, Special Needs, and Mathematics Learning. *Encyclopedia of Mathematics Education*, 181–183. https://doi.org/ 10.1007/978-3-030-15789-0_42

Nuryadi, N., & Khuzaini, N. (2016). *Evaluasi hasil dan proses pembelajaran matematika*. LutikaPro.

Osta, I. (2020). Mathematics Curriculum Evaluation. *Encyclopedia of Mathematics Education*, 576–582. https://doi.org/10.1007/978-3-030-15789-0_168

Papadakis, S., Kalogiannakis, M., & Zaranis, N. (2021). Teaching mathematics with mobile devices and the Realistic Mathematical Education (RME)

approach in kindergarten. *Advances in Mobile Learning Educational Research*, *1*(1), 5–18.

Pearson, K. (1904). Antityphoid inoculation. *British Medical Journal*, *2*(2294), 1667.

Piaget, J. (1970). *Science of education and the psychology of the child. Trans. D. Coltman.*

Pigott, T. D., & Polanin, J. R. (2020). Methodological Guidance Paper: High-Quality Meta-Analysis in a Systematic Review. *Review of Educational Research*, *90*(1), 24–46. https://doi.org/10.3102/0034654319877153

Pratiwi, R. P., & Afin, M. (2013). Kiat Sukses Mengasuh Anak. *Berkebutuhan Khusus. Yogyakarta: AR-Ruzz Media*.

Pribadi, B. A., & Katrin, Y. (2004). Media Teknologi. *Jakarta: Universitas Terbuka*.

Prihandini, W. (2020). *Korupsi APBD: Sebuah Meta Analisis*. Deepublish.

Pring, R., & Thomas, G. (2004). *Evidence-based practice in education*. McGraw-Hill Education (UK).

Purnawanto, A. T. (2023). Pembelajaran berdiferensiasi. *Jurnal Pedagogy*, *16*(1), 34–54.

Qomario, Q., Tohir, A., & Mashari, A. (2020). The effect of realistic mathematical approaches towards the students' math learning outcomes. *Jurnal Prima Edukasia*, *8*(1), 78–85.

Rahayu, D. S. (2019). *Pencapaian pemahaman matematis siswa tunarungu SMALB-B melalui pengembangan multimedia pembelajaran matematika: Penelitian dan Pengembangan pada Siswa Kelas XI di SMALB-B Cicendo Kota Bandung*. UIN Sunan Gunung Djati Bandung.

Ramatea, M. A., & Khanare, F. P. (2021). Improving The well-being of learners with visual impairments in rural Lesotho schools: an asset-based approach. *International Journal of Qualitative Studies on Health and Well-Being*, *16*(1). https://doi.org/10.1080/17482631.2021.1890341

Ramos, R. (2014). Meta-analysis. In *Encyclopedia of Quality of Life and Well-Being Research* (pp. 3999–4002). Springer Netherlands. https://doi.org/10.1007/978-94-007-0753-5_1794

Retnawati, H., Apino, E., Kartianom, Djidu, H., & Anazifa, R. D. (2018). Pengantar meta analisis. *Pengantar Analisis Meta.* Yogyakarta: Parama Publishing.

Roschelle, J., Kaput, J., Stroup, W., & Kahn, T. (1998). Scaleable integration of educational software: Exploring the promise of component architectures. *Journal of Interactive Media in Education*, *1998*(2).

Rosenthal, R. (1978). Combining results of independent studies. *Psychological Bulletin*, *85*(1), 185–193. https://doi.org/10.1037/0033-2909.85.1.185

Rosenthal, R. (1979). The file drawer problem and tolerance for null results. *Psychological Bulletin*, *86*(3), 638.

Rosenthal, R. (1991). *Effect sizes: Pearson's correlation, its display via the BESD, and alternative indices.*

Rothstein, H. R., Sutton, A. J., & Borenstein, M. (2005). *Publication Bias in Meta-Analysis* (H. R. Rothstein, A. J. Sutton, & M. Borenstein, Eds.). Wiley. https://doi.org/10.1002/0470870168

Ruswana, A. (2005). Meta Analisis. *Bandung: Fakultas Kedokteran UNPAD.*

Sabaruddin, S., Mansor, R., Rusmar, I., & Husna, F. (2020). Student with special needs and mathematics learning: A case study of an autistic student. *JRAMathEdu (Journal of Research and Advances in Mathematics Education)*, *5*(3), 317–330. https://doi.org/10.23917/jramathedu.v5i3.11192

Sadiman Arief, S., & others. (2009). Media pendidikan. *Jakarta: PT. Raja Grafindo Persada*.

Saettler, L. P. (2004). *The Evolution of American Educational Technolgy*. IAP. https://books.google.com/books/about/The_Evolution_of_American_Educational_Te.html?hl=id&id=s1ThX561Z58C

Salend, S. J. (2010). *Creating inclusive classrooms*. Pearson Education.

Salim, M., & Soemarsono, S. (1984). Pendidikan anak tunarungu. *Jakarta: Depdikbud*.

Salomon, G. (1979). Media and symbol systems as related to cognition and learning. *Journal of Educational Psychology*, *71*(2), 131.

Santoso, E. (2020). Pendidikan Karakter Melalui Pembelajaran Matematika. *Jurnal Didactical Mathematics*, *2*(2), 35–41.

Selwyn, N. (2009). The ‘new’connectivities of digital education. In *The Routledge international handbook of the sociology of education* (pp. 90–98). Routledge.

Setiawan, I. (2020). *A to Z anak Berkebutuhan Khusus*. CV Jejak (Jejak Publisher).

Shadish, W. R., & Haddock, C. K. (1994). Combining estimates of effect size. *The Handbook of Research Synthesis*, *236*, 280–281.

Shernoff, D. J., Csikszentmihalyi, M., Shneider, B., & Shernoff, E. S. (2003). Student engagement in high school classrooms from the perspective of flow theory. *School Psychology Quarterly*, *18*(2), 158.

Silva, S. A. dos S., & Pedroza, R. L. S. (2023). Math education and the human right to inclusion: the expectations of the teacher acting with deaf pupils in a public school in the Distrito Federal. *Cuadernos de Educación y Desarrollo*, *15*(10), 10955–10984. https://doi.org/10.55905/cuadv15n10-054

Simpson, E. J. (1972). *The classification of educational objectives in the psychomotor domain* (Vol. 3). Washington, DC: Gryphon House.

Siregar, D. S., & Ananda, R. (2023). Pengembangan Media Pembelajaran Board Game Matematika Ular Tangga untuk Siswa Tunarungu. *Jurnal Cendekia: Jurnal Pendidikan Matematika*. https://www.j-cup.org/index.php/cendekia/ article/ view/2340

Skinner, B. F. (1958). Teaching machines. *Science*, *128*(3330), 969–977. https://doi.org/10.1126/science.128.3330.969/asset/9be505c1-05c3-4b58-845a-b7ebeb672dba/assets/science.128.3330.969.fp.png

Smaldino, S. E., Lowther, D. L., & Mims, C. (2019). *Instructional Technology and Media for Learning 12th Edition*. https://lccn.loc.gov/2017015584

Smaldino, S. E., Lowther, D. L., & Russell, J. D. (2015). *Instructional Technology and Media for Learning (11th Editi)*. Boston: Pearson Education.

Somantri, S. (2007). Extraordinary Child Psychology. *Bandung: Refika Aditama*.

Stahl, G., Çakir, M. P., Weimar, S., Weusijana, B. K., & Ou, J. X. (2016). 10. Enhancing Mathematical Communication for Virtual Math Teams. *Essays in Computer-Supported Collaborative Learning*, 155.

Sterne, J. A. C., Becker, B. J., & Egger, M. (2005). The Funnel Plot. In *Publication Bias in Meta-Analysis* (pp. 73–98). Wiley. https://doi.org/10.1002/0470870168.ch5

Sterne, J. A. C., & Egger, M. (2001). Funnel plots for detecting bias in meta-analysis: guidelines on choice of axis. *Journal of Clinical Epidemiology*, *54*(10), 1046–1055.

Sterne, J. A. C., & Egger, M. (2005). Regression methods to detect publication and other bias in meta-analysis. *Publication Bias in Meta-Analysis: Prevention, Assessment and Adjustments*, 99–110.

Suarsana, I. M. (2021). Developing Interactive Digital Mathematics Book with Multi Representation Approach for Deaf Students. *International Journal of Emerging Technologies in Learning*, *16*(13), 128–141. https://doi.org/10.3991/IJET.V16I13.22459

Sudihartinih, E., Wilujeng, S., & Rachmatin, D. (2021). Desain Media Pembelajaran Matematika Topik Faktor Persekutuan Terbesar (FPB) Berbasis Aplikasi Scratch. *Jurnal Pendidikan Matematika Universitas Lampung*, *9*(4), 456–466.

Sugiyono. (2021). Metode Penelitian Kuantitatif, Kualitatif dan R&D. In *Bandung:Alfabeta.* Alfabeta.

Sumarwati, S., Fitriyani, H., Setiaji, F. M. A., Amiruddin, M. H., & Jalil, S. A. (2020). Developing mathematics learning media based on elearning using moodle on geometry subject to improve students' higher order thinking skills. *International Journal of Interactive Mobile Technologies*, *14*(4), 182–191. https://doi.org/10.3991/IJIM.V14I04.12731

Suryadi, I., Misbahul, S., Gumawang, U., Timur, O., & Selatan, S. (2023). Dampak Pendidikan Inklusif Terhadap Partisipasi dan Prestasi Siswa dengan Kebutuhan Khusus. *Jurnal Pendidikan West Science*, *1*(08), 517–527. https://doi.org/10.58812/JPDWS.V1I08.597

Sweller, J., van Merriënboer, J. J. G., & Paas, F. (2019). Cognitive architecture and instructional design: 20 years later. *Educational Psychology Review*, *31*, 261–292.

Tamur, M., Juandi, D., & Adem, A. M. G. (2020). Realistic Mathematics Education in Indonesia and Recommendations for Future Implementation: A Meta-Analysis Study. *JTAM | Jurnal Teori Dan Aplikasi Matematika*, *4*(1), 17. https://doi.org/10.31764/jtam.v4i1.1786

Tang, J.-L., & Liu, J. L. Y. (2000). Misleading funnel plot for detection of bias in meta-analysis. *Journal of Clinical Epidemiology*, *53*(5), 477–484.

Tasrif, E., Intan, I. W., & Annisa, L. (2023). Meta-Analisis Media Pembelajaran Mobile Learning Berbasis Android Terhadap Hasil Belajar Peserta Didik. *Jurnal PTI (Pendidikan Dan Teknologi Informasi) Fakultas Keguruan Ilmu Pendidikan Universita Putra Indonesia" Yptk" Padang*, 17–22.

Thalheimer, W., & Cook, S. (2002). How to calculate effect sizes from published research: A simplified methodology. *Work-Learning Research*. www.work-learning.com

Tsou, Y.-T., Li, B., Eichengreen, A., Frijns, J. H. M., & Rieffe, C. (2021). Emotions in deaf and hard-of-hearing and typically hearing children. *Journal of Deaf Studies and Deaf Education*, *26*(4), 469–482.

Tumangkeng, Y. W., Yusmin, E., & Hartoyo, A. (2018). Meta-analisis pengaruh media pembelajaran terhadap hasil belajar matematika siswa. *Jurnal Pendidikan Dan Pembelajaran Khatulistiwa (JPPK)*, *7*(6).

Tuohilampi, L., Hannula, M. S., Laine, A., & others. (2014). Examining Mathematics-Related Affect and its Development during Comprehensive School Years in Finland. *North American Chapter of the International Group for the Psychology of Mathematics Education*.

Turnbull, A. P., & others. (1995). *Exceptional lives: Special education in today's schools.* ERIC.

Valentine, J. C., Pigott, T. D., & Rothstein, H. R. (2010). How Many Studies Do You Need? *Journal of Educational and Behavioral Statistics*, *35*(2), 215–247. https://doi.org/10.3102/1076998609346961

Vygotsky, L. S., & Cole, M. (1978). *Mind in society: Development of higher psychological processes*. Harvard university press.

Wahyuningsih, H., Novitasari, R., & Kusumaningrum, F. A. (2022). Emotional and psychological well-being in Indonesian adolescents: Translation and construct validation of the Stirling Children's Well-being Scale in a college student sample. *Cogent Education*, *9*(1), 2060165.

Wardany, O. F., & Ulfa, D. A. (2022). Efektivitas Game Quizziz dalam Meningkatkan Hasil Belajar Matematika Materi Jam pada Siswa Tunarungu. *Jurnal Ortopedagogia*, *8*(1), 19–26. http://journal2.um.ac.id/index.php/jo

Weluk, K., Leton, S., & Lakapu, M. (2020). Pengembangan Bahan Ajar Matematika Berbasis Visual untuk Peserta Didik Tunarungu. *Journal of Honai Math*. http://www.journalfkipunipa.org/index.php/jhm/article/view/137

Winarji, B. (2016). *Pendidikan dan pelatihan teknis kegiatan belajar mengajar bagi pamong belajar: modul 04-pemanfaatan media pembelajaran*.

Wolbers, K., Dostal, H., Graham, S., Branum-Martin, L., & Holcomb, L. (2022). Specialized writing instruction for deaf students: A randomized controlled trial. *Exceptional Children*, *88*(2), 185–204.

Wolf, F. M. (1986). *Meta-Analysis Quantitative Methods for Research Synthesis* (First Edition). Sage Publication, Inc.

Yohannes, Y., Juandi, D., & Diana, N. (2020). The evaluation of problem-based learning model towards high school students' critical thinking skills: A meta-Analysis study in indonesia. *ACM International Conference Proceeding Series*, 199–204. https://doi.org/10.1145/3436756.3437045

Yoshinaga-Itano, C. (2003). From screening to early identification and intervention: Discovering predictors to successful outcomes for children with significant hearing loss. *Journal of Deaf Studies and Deaf Education*, *8*(1), 11–30.

Yuliani, W., & Supriatna, E. (2023). *Metode Penelitian Bagi Pemula*. https://repository.penerbitwidina.com/publications/563082/

Zaw, Y. Z., & Lwin, K. K. (2020). The effect of mastery learning strategy on students' mathematics achievement at the middle school level. *Journal of the Myanmar Academy of Arts and Science*, 303–319.

Zhang, C., & Kuncel, N. R. (2020). Moving Beyond the Brag Sheet: A Meta-Analysis of Biodata Measures Predicting Student Outcomes. *Educational Measurement*, *00*(0), 1–16.