EFEKTIVITAS *JOYFUL LEARNING* TERHADAP KETERAMPILAN BERPIKIR KOMPUTASI SISWA DI SMPN 1 PURWAKARTA

SKRIPSI

Diajukan untuk memenuhi salah satu syarat dalam memperoleh gelar Sarjana Pendidikan di Program Studi Pendidikan Sistem dan Teknologi Informasi

Oleh:

Muhammad Hijaz Khoirulzzabadi

NIM. 2101999

PROGRAM STUDI S1

PENDIDIKAN SISTEM DAN TEKNOLOGI INFORMASI

KAMPUS DI PURWAKARTA

UNIVERSITAS PENDIDIKAN INDONESIA

2025

EFEKTIVITAS *JOYFUL LEARNING* TERHADAP KETERAMPILAN BERPIKIR KOMPUTASI SISWA DI SMPN 1 PURWAKARTA

Oleh:

Muhammad Hijaz Khoirulzzabadi

Sebuah skripsi yang diajukan untuk memenuhi salah satu syarat memperoleh gelar Sarjana Pendidikan di Universitas Pendidikan Indonesia Kampus Purwakarta

Universitas Pendidikan Indonesia

Agustus 2025

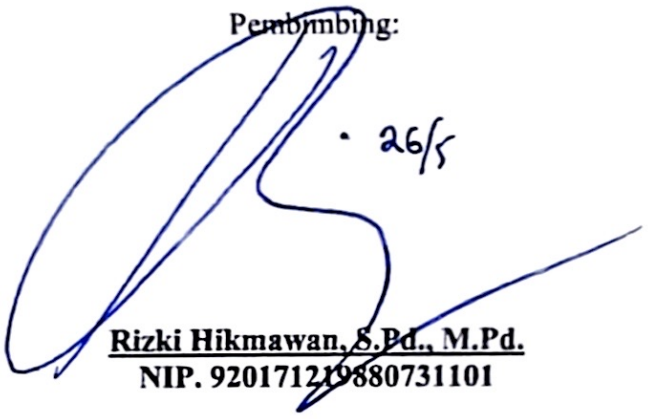
LEMBAR PENGESAHAN

Muhammad Hijaz Khoirulzzabadi

EFEKTIVITAS *JOYFUL LEARNING* TERHADAP KETERAMPILAN BERPIKIR KOMPUTASI SISWA DI SMPN 1 PURWAKARTA

Disetujui dan disahkan oleh:

Pembimbing:



Rizki Hikmawan, S.Pd., M.Pd.
NIP. 920171219880731101

Mengetahui,

Ketua Program Studi Pendidikan Sistem dan Teknologi Informasi

Universitas Pendidikan Indonesia Kampus Purwakarta

Ir. Nuur Wachid Abdulmajid, S.Pd., M.Pd.
NIPT. 9201712199106251

EFEKTIVITAS *JOYFUL LEARNING* TERHADAP KETERAMPILAN BERPIKIR KOMPUTASI SISWA DI SMPN 1 PURWAKARTA

ABSTRAK

Penelitian ini bertujuan mengkaji efektivitas *Joyful Learning* dalam meningkatkan keterampilan *Computational Thinking* (CT) siswa kelas 9 di SMPN 1 Purwakarta. Menggunakan pendekatan kuantitatif dengan desain kuasi-eksperimental (*pretest-posttest nonequivalent group design*), penelitian melibatkan 34 siswa kelompok eksperimen (*Joyful Learning*) dan 32 siswa kelompok kontrol (pembelajaran konvensional). Data dikumpulkan melalui *pre-test*, *post-test* CT, serta kuesioner *Computational Thinking Scales* (CTS). Hasil menunjukkan *Joyful Learning* secara signifikan meningkatkan CT siswa, dibuktikan *gain score* rata-rata +16.88 pada eksperimen, kontras dengan -15.00 pada kontrol. Model *Joyful Learning* dalam empat tahapan (Pemanasan, Studi Kasus, Kolaborasi Proyek dengan *Scratch*, Apresiasi) efektif tingkatkan *Algorithmic Thinking* (M=4.12 vs M=3.75), *Cooperativity* (M=4.21 vs M=4.05), dan *Problem Solving* (M=4.05 vs M=3.81). Namun, tidak ada perbedaan signifikan pada *Critical Thinking* dan *Creativity*. Penelitian menyimpulkan *Joyful Learning* efektif kembangkan CT, khususnya *Algorithmic Thinking*, dan sarankan optimalisasi model untuk stimulasi dimensi CT lain secara holistik.

Kata Kunci: Metode Pembelajaran, *Computational Thinking*, *Joyful Learning*, Efektivitas, SMPN 1 Purwakarta.

Effectiveness of Joyful Learning on Students' Computational Thinking Skills at SMPN 1 Purwakarta

ABSTRACT

This study aims to examine the effectiveness of Joyful Learning in improving the Computational Thinking (CT) skills of 9th-grade students at SMPN 1 Purwakarta. Using a quantitative approach with a quasi-experimental design (pretest-posttest nonequivalent group design), the research involved 34 students in the experimental group (Joyful Learning) and 32 students in the control group (conventional learning). Data were collected through a CT pre-test, post-test, and the Computational Thinking Scales (CTS) questionnaire. The results show that Joyful Learning significantly improved students' CT, evidenced by an average gain score of +16.88 in the experimental group, in contrast to -15.00 in the control group. The Joyful Learning model, in four stages (Warm-up, Case Study, Project Collaboration with Scratch, Appreciation), was effective in enhancing Algorithmic Thinking (M=4.12 vs M=3.75), Cooperativity (M=4.21 vs M=4.05), and Problem Solving (M=4.05 vs M=3.81). However, there were no significant differences in Critical Thinking and Creativity. The study concludes that Joyful Learning is effective in developing CT, particularly Algorithmic Thinking, and suggests optimizing the model to holistically stimulate other dimensions of CT.

***Keywords**: Learning Methods, Computational Thinking, Joyful Learning, Effectiveness, SMPN 1 Purwakarta.*

DAFTAR ISI

DAFTAR GAMBAR

DAFTAR TABEL

DAFTAR PUSTAKA

Amabile, T. M. (1996). *Creativity in context: Update to the social psychology of creativity*. Westview Press. https://doi.org/10.4324/9780429501234

Barrows, H. S. (1996). Problem-based learning in medicine and beyond: A brief overview. *New Directions for Teaching and Learning*, *1996*(68), 3–12. https://doi.org/10.1002/tl.37219966804

Cahdriyana, R. A. (2017). Berpikir komputasi dalam pembelajaran matematika. In S. C. Kong, J. Sheldon, & K. Y. T. Li (Eds.), *Emerging research, practice, and policy on computational thinking* (pp. 205–220). Springer International Publishing. https://doi.org/10.1007/978-3-319-52691-1_13

Coletta, V. P., & Steinert, J. J. (2020). Why normalized gain should continue to be used in analyzing preinstruction and postinstruction scores on concept inventories. *Physical Review Physics Education Research*, *16*(1), 010108. https://doi.org/10.1103/PhysRevPhysEducRes.16.010108

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.https://spada.uns.ac.id/pluginfile.php/510378/mod_resource/content/1/creswell.pdf

Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives*, *8*(1). https://doi.org/10.14507/epaa.v8n1.2000

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Fagerlund, J., Häkkinen, P., Vesisenaho, M., & Viiri, J. (2021). Computational thinking in programming with Scratch in primary schools: A systematic review. *Computer Applications in Engineering Education*, *29*(1), 12–28. https://doi.org/10.1002/cae.22255

Grover, S., & Pea, R. (2013). Computational thinking in K–12: A review of the state of the field. *Educational Researcher*, *42*(1), 38–43. https://doi.org/10.3102/0013189X12463051

Hmelo-Silver, C. E., Duncan, R. G., & Chinn, C. A. (2007). Scaffolding and achievement in problem-based and inquiry learning: A response to Kirschner, Sweller, and Clark (2006). *Educational Psychologist*, *42*(2), 99–107. https://doi.org/10.1080/00461520701263368

Jensen, E. (2005). *Teaching with the brain in mind* (2nd ed.). Association for Supervision and Curriculum Development. https://eric.ed.gov/?id=ED509033

Kafai, Y. B., & Burke, Q. (2014). *Connected code: Why children need to learn programming*. The MIT Press. DOI: https://doi.org/10.7551/mitpress/9992.001.0001

Kapp, K. M. (2012). *The gamification of learning and instruction: Game-based methods and strategies for training and education*. Pfeiffer. https://books.google.co.id/books/about/The_Gamification_of_Learning_and_Instruc.html?id=M2Rb9ZtFxccC&redir_esc=y

Korkmaz, Ö., Çakır, R., & Özden, M. Y. (2017). A validity and reliability study of the computational thinking scales (CTS). *Computers in Human Behavior*, *72*, 558–569. https://doi.org/10.1016/j.chb.2017.01.005

Lee, L. K., Cheung, T. K., Ho, L. T., Yiu, W. H., & Wu, N. I. (2019). Learning computational thinking through gamification and collaborative learning. In S. K. S. Cheung, L. K. Lee, I. Simonova, T. Kozel, & L. F. Kwok (Eds.), *Blended Learning: Educational Innovation for Personalized Learning. ICBL 2019. Lecture Notes in Computer Science* (Vol. 11546, pp. 211-222). Springer, Cham. https://doi.org/10.1007/978-3-030-21562-0_28

Li, C., & Lalani, F. (2020, April 29). *The COVID-19 pandemic has changed education forever. This is how*. World Economic Forum. https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/

Lye, S. Y., & Koh, J. H. L. (2014). Review on teaching and learning of computational thinking through programming: What is next for K-12? *Computers in Human Behavior*, *41*, 51–61. https://doi.org/10.1016/j.chb.2014.09.012

Maharani, P. P., Juandi, D., & Nurlaelah, E. (2024). Analisis kemampuan computational thinking peserta didik SMP dalam menyelesaikan masalah matematika ditinjau dari mathematical habits of mind. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, *8*(1), 115-129. https://ejournal.upi.edu/index.php/SIGMADIDAKTIKA/article/view/72518

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). SAGE Publications. https://vivauniversity.wordpress.com/wp-content/uploads/2013/11/milesandhuberman1994.pdf

Nicholson, S. (2015). A RECIPE for meaningful gamification. In T. Reiners & L. C. Wood (Eds.), *Gamification in education and business* (pp. 1–14). Springer, Cham. https://doi.org/10.1007/978-3-319-10208-5_1

Novak, E., & Tassell, J. L. (2017). Studying preservice teacher math anxiety and mathematics performance in geometry, word, and non-word problem solving.

Learning and Individual Differences, *54*, 20–29. https://doi.org/10.1016/j.lindif.2017.01.005

Permatasari, A. I., Mulyani, B., & Nurhayati, N. D. (2014). Efektivitas penggunaan model pembelajaran joyful learning dengan metode pemberian tugas terhadap prestasi belajar siswa pada materi pokok koloid siswa kelas XI IPA SMA Negeri 1 Simo. *Jurnal Pendidikan Kimia*, *3*(2), 104-111. https://media.neliti.com/media/publications/125668-ID-none.pdf

Putri, S. R. P. (2019). *Efektivitas penerapan strategi joyfull learning terhadap hasil belajar ips murid kelas iii sd inpres mangga tiga kota makassar* [Skripsi tidak dipublikasikan]. Universitas Muhammadiyah Makassar. https://digilibadmin.unismuh.ac.id/upload/8165-Full_Text.pdf

Resnick, M., Maloney, J., Monroy-Hernández, A., Rusk, N., Eastmond, E., Brennan, K., Millner, A., Rosenbaum, E., Silver, J., Silverman, B., & Kafai, Y. (2009). Scratch: Programming for all. *Communications of the ACM*, *52*(11), 60–67. https://doi.org/10.1145/1592761.1592779

Rosenshine, B. (2012). Principles of instruction: Research-based strategies that all teachers should know. *American Educator*, *36*(1), 12–19, 39. https://www.aft.org/sites/default/files/Rosenshine.pdf

Sari, I. R. (2015). *Efektivitas model joyful learning pada jam akhir pelajaran terhadap minat dan keaktifan peserta didik kelas XI IPA di MAN Yogyakarta II tahun ajaran 2014/2015* [Skripsi tidak dipublikasikan]. UIN Sunan Kalijaga Yogyakarta. https://digilib.uin-suka.ac.id/id/eprint/17902

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books. https://doi.org/10.4324/9781315237473

Slavin, R. E. (2018). *Educational psychology: Theory and practice* (12th ed.). Pearson. https://books.google.co.id/books/about/Educational_Psychology.html?hl=id&id=iKUatAEACAAJ&redir_esc=y

Taherdoost, H. (2018). Validity and reliability of the research instrument; How to test the validation of a questionnaire/survey in a research. *International Journal of Academic Research in Management*, *5*(3), 28-36. DOI:10.2139/ssrn.3205040

Thomas, J. W. (2000). *A review of research on project-based learning*. The Autodesk Foundation. http://www.bobpearlman.org/BestPractices/PBL_Research.pdf

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press. https://www.jstor.org/stable/j.ctvjf9vz4

Wing, J. M. (2006). Computational thinking. *Communications of the ACM*, *49*(3), 33–35. https://dl.acm.org/doi/10.1145/1118178.1118215

Yadav, A., Hong, H., & Stephenson, C. (2016). Computational thinking for all: Pedagogical approaches to embedding 21st century problem solving in K-12 classrooms. *TechTrends*, *60*(6), 565–568. https://doi.org/10.1007/s11528-016-0087-7

Yuniarti, R. D., Situmorang, R. P., & Krave, A. S. (2018). Efektivitas model joyful learning dalam meningkatkan pemahaman konsep siswa smp dengan memperhatikan domain soal. *Jurnal Ilmiah Pendidikan Vokasi dan Kejuruan*, *1*(2), 85-92. https://e-journal.ivet.ac.id/index.php/jipva/article/view/540