

**PENGARUH LATIHAN PUSH DAN CHOP DENGAN MODIFIKASI
COLOUR PAPER DAN MULTIBAL TERHADAP KEMAMPUAN
FOREHAND TENIS MEJA**

SKRIPSI

Diajukan Untuk Memenuhi Syarat Memperoleh Gelar Sarjana
Program Studi Pendidikan Jasmani



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**PROGRAM STUDI PENDIDIKAN GURU
SEKOLAH DASAR PENDIDIKAN JASMANI
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UNIVERSITAS PENDIDIKAN INDONESIA
2024**

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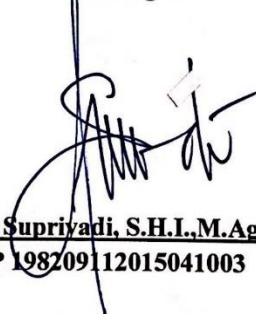
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ABSTRAK

- Dalam pembelajaran tenis meja penguasaan terhadap teknik dasar yaitu unsur pokok terutama dalam cara memukul bola, akan tetapi pada anak sekolah dasar masih ditemukannya cara memukul bola dengan gerakan forehand yang masih belum benar. Maka dari itu penelitian ini bertujuan untuk menerapkan sebuah treatment dengan modifikasi colour paper dan multiball terhadap push dan chop forehand tenis meja. Penelitian ini menggunakan pendekatan kuantitatif dengan design eksperimen, yang partisipannya berjumlah 22 peserta didik. Dengan demikian penelitian ini menghasilkan 3 temuan. Pada pre-test peserta didik diminta untuk melakukan teknik push dan chop forehand tenis meja, setelah melakukan pre-test peserta didik akan diberikan treatment modifikasi colour paper dan multiball. Lalu post-test yang dilakukan peserta didik melakukan teknik push dan chop forehand. Berdasarkan temuan temuan tersebut dapat disimpulkan bahwa penelitian ini meningkatkan forehand tenis meja dengan menggunakan modifikasi colour paper dan multiball. Oleh karena itu penelitian ini dapat menjadi pedoman untuk guru dalam pembelajaran forehand tenis meja pada anak sekolah dasar.

Kata Kunci: Tenis Meja, Forehand, Multiball, Colour Paper

ABSTRACT

In table tennis, mastery of the basic technique is a basic element, mainly in the way to hit the ball, but in elementary school, kids still found a way to beat the ball with the movement of the forehand that is still not correct. So this study aims to apply a treatment with color paper and multiball modifications to the push and chop forehand table tennis. The study uses a quantitative approach to the design of the experiment, in which 22 pupils participated. Thus, this study yielded three findings. At the pre-test, students are asked to do push and chop forehand table tennis techniques. After the pre-tests, students will be given treatment with color paper and multiball modifications. Based on the findings, it can be concluded that the study improves table tennis forehand by using color paper and multiball modifications. Therefore, this research can be a guideline for teachers in learning table tennis forehand with elementary schoolchildren.

Keywords: *Table Tennis, Forehand, Multiball, Colour Paper*

DAFTAR PUSTAKA

- Aditiany, V., & Pratiwi, R. T. (2021). Pengaruh Media Pembelajaran Macromedia Flash Terhadap Hasil Belajar Siswa (Studi Quasi Eksperimen Pada Mata Pelajaran IPS Kelas VIII di SMP Negeri 3 Kuningan). *Equilibrium: Jurnal Penelitian Pendidikan Dan Ekonomi*, 18(02), 102–109. <https://doi.org/10.25134/equi.v18i2.4420>
- Apostu, P., Nut, R. A., & Baciú, A. M. (2018). Multi Ball Training Method. *Studia Universitatis Babeş-Bolyai Educatio Artis Gymnasticae*, 35–42.
- Barčík, Š., Gašparík, M., & Razumov, E. Y. (2015). Effect of thermal modification on the colour changes of oak wood. *Wood Research*, - 60(3), 385–396.
- Basuki, S. (2017). Pembentukan Karakter Melalui Modifikasi Permainan Dalam Pembelajaran Pendidikan Jasmani. *Multilateral Jurnal Pendidikan Jasmani Dan Olahraga*, 15(2), 188–197. <https://doi.org/10.20527/multilateral.v15i2.2746>
- Can, S., Kilit, B., Arslan, E., & Suveren, S. (2014). *The comparison of reaction time of male tennis players, table tennis players and the ones who don't exercise at all in 10 to 12 age groups*.
- Cao, Z., Xiao, Y., Lu, M., Ren, X., & Zhang, P. (2020). The impact of eye-closed and weighted multi-ball training on the improvement of the stroke effect of adolescent table tennis players. *Journal of Sports Science & Medicine*, 19(1), 43.
- Djollong, A. F. (2014). Teknik Pelaksanaan Penelitian Kuantitatif (Technique of Quantitative Research). *Istiqra'*, 2(1), 86–100.
- Dzurenda, L. (2018). Colour modification of Robinia pseudoacacia L. During the processes of heat treatment with saturated water steam. *Acta Facultatis Xylogiae*, 60(1), 61–70. <https://doi.org/10.17423/afx.2018.60.1.07>
- Editors, A., Hospital, H., Editor, A., & Kahn, J. (2014). Editorial_Board. *Journal of Deaf Studies and Deaf Education*, 19(4), NP-NP. <https://doi.org/10.1093/deafed/ent071>
- Fatmala, A. (2015). Pengaruh Metode Latihan Multi Ball Terhadap Keterampilan Drive Tennis Meja Siswa Sd Negeri 15 Lubuk Alung Kabupaten Padang Pariaman. *Jurnal pendidikan*

jasmani kesehatan dan rekreasi, 1(1).

- Febrianti, M. A., Safari, I., & Fauzi, R. A. (2022). Perkembangan Multiple Intelligences siswa SD dengan Modifikasi Bola dan Lapangan pada Pembelajaran Tenis Meja. *Journal of SPORT*, 6(2).
- Fkip, P., Bengkulu, U., & Sutisyana, A. (2019). *KINESTETIK : Jurnal Ilmiah Pendidikan Jasmani*, 3 (1) 2019 ISSN:2477-331X. 3(1), 95–98.
- Gomez-Gonzalez, S., Nemmour, Y., Schölkopf, B., & Peters, J. (2019). Reliable real-time ball tracking for robot table tennis. *Robotics*, 8(4), 1–13. <https://doi.org/10.3390/ROBOTICS8040090>
- Gu, Y., Yu, C., Shao, S., & Baker, J. S. (2019). Effects of table tennis multi-ball training on dynamic posture control. *PeerJ*, 6, e6262.
- Guo, Y. W., Liu, G. Z., Huang, B. Y., Zhao, G. R., Mei, Z. Y., & Wang, L. (2010). A pilot study on quantitative analysis for table tennis block using a 3D accelerometer. *Proceedings of the IEEE/EMBS Region 8 International Conference on Information Technology Applications in Biomedicine, ITAB, November*. <https://doi.org/10.1109/ITAB.2010.5687806>
- Gutierrez, D. (2016). Full Issue PDF, Volume 87, Supplement 1. *Research Quarterly for Exercise and Sport*, 87(sup1), Si-S120. <https://doi.org/10.1080/02701367.2016.1213610>
- Hegazy, H., Abdelsalam, M., Hussien, M., Elmosalamy, S., Hassan, Y. M. I., Nabil, A. M., & Atia, A. (2020). Online detection and classification of in-corrected played strokes in table tennis using IR depth camera. *Procedia Computer Science*, 170, 555–562.
- Hodges, L., & Nasution, E. D. (1996). *Tenis meja: tingkat pemula*. PT RajaGrafindo Persada.
- Katsikadelis, M., PILIANIDIS, T., Mantzouranis, N., FATOUROS, I., & AGELOUSIS, N. (2014). Heart rate variability of young Table Tennis players with the use of the Multiball training. *Biology of Exercise*, 10(2).
- Kulkarni, K. M., & Shenoy, S. (2021). Table tennis stroke recognition using two-dimensional human pose estimation. *IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops*, 4571–4579. <https://doi.org/10.1109/CVPRW53098.2021.00515>

- Larry, H. (2007). *Tenis Meja Tingkat Pemula*. Jakarta: PT Raja Grafindo Persada.
- Li, H., Wu, H., Lou, L., Kühnlenz, K., & Ravn, O. (2012). Ping-pong robotics with high-speed vision system. *2012 12th International Conference on Control, Automation, Robotics and Vision, ICARCV 2012*, 106–111. <https://doi.org/10.1109/ICARCV.2012.6485142>
- M.buck. (2008). *M. Buck dkk (2007 : 15) dalam buku guru pendidikan jasmani olahraga dan kesehatan (2014 : 2)*. 27–28.
- Maksum, A. (2012). *Metodologi penelitian dalam olahraga*. Surabaya: unesa university press.
- Mahyudi, A. P., & Donie, D. (2019). Pengaruh Metode Latihan Multiball Terhadap Ketepatan Pukulan Forehand Drive. *Jurnal Patriot*, 1(2), 472-481.
- McAfee, R. (2009). *Table tennis: Steps to success*. Human Kinetics.
- Mülling, K., Kober, J., Kroemer, O., & Peters, J. (2013). Learning to select and generalize striking movements in robot table tennis Cited by me DMP reactive_motion_gen... *The International Journal of Robotics* ..., 1–24.
- Nasirudin, N., Setiawan, I., & Yani, A. (2016). Modul Guru Pembelajar kurikulum. *Journal Education*, 2016.
- Nurhadi, A. (2022). Meningkatkan Hasil Belajar Keterampilan Bermain Tennis Meja Menggunakan Dinding Pantul Kelas V Sd Negeri 002 Babulu. *ELEMENTARY: Jurnal Inovasi Pendidikan Dasar*, 2(1), 66–75. <https://doi.org/10.51878/elementary.v2i1.1025>
- Pratama, L., Harmaman, H., & Roby, S. (2023). Pengaruh Latihan Multiball Terhadap Kemampuan Servis Permainan Tennis Meja Pada Mahasiswa Pendidikan Jasmani Unimuda Sorong. *Unimuda Sport Jurnal*, 4(1), 37–43.
- Published, Gaskell, P. H., Jimack, P. K., Sellier, M., & Thompson, H. M. (2006). *White Rose Consortium ePrints Repository*. <http://eprints.whiterose.ac.uk/1783/>
- Raab, M., Masters, R. S. W., & Maxwell, J. P. (2005). Improving the “how” and “what” decisions of elite table tennis players. *Human Movement Science*, 24(3), 326–344. <https://doi.org/10.1016/j.humov.2005.06.004>
- Reza, A., & Kartiko, D. (n.d.). C.(2019). Pengaruh Modifikasi Permainan Colours Paper Terhadap

- Keterampilan Pukulan Forehand Tenis Meja. *Jurnal Pendidikan Olahraga Dan Kesehatan*, 7(2), 171–174.
- Reza Abdul Rohman, A. (2019). Pengaruh Modifikasi Permainan Colours Paper Terhadap Keterampilan Pukulan Forehand Tenis Meja. *Jurnal Pendidikan Olahraga Dan Kesehatan*, 7(2), 171–174.
- Safari, I. (2016a). *Pengaruh Metode Latihan Dan Koordinasi Mata Tangan Terhadap Akurasi Pukulan Forehand Topspin Tenis Meja*. Universitas Pendidikan Indonesia.
- Safari, I. (2016b). Perbandingan Hasil Belajar Teknik Dasar Pukulan Pada Permainan Tenis Meja Antara Yang Langsung Menggunakan Net Dengan Tanpa Menggunakan Net Terlebih Dahulu. *EduHumaniora / Jurnal Pendidikan Dasar Kampus Cibiru*, 1(2). <https://doi.org/10.17509/eh.v1i2.2731>
- Safari, I., & Saptani, E. (2019). Metode latihan dan koordinasi mata tangan meningkatkan akurasi forehand sidespin service tenis meja. *Jurnal Keolahragaan*, 7(2), 174–181. <https://doi.org/10.21831/jk.v7i2.26788>
- Saleh, S. F. (2015). Effects of Training with Multi-Balls on Some Visual Abilities and Counter-Attack Skills for Junior Table Tennis Players. *Journal of Applied Sports Science*, 5(2), 170–180. <https://doi.org/10.21608/jass.2015.84503>
- Saleh, S. F., & El-gawad, M. E. A. (2017). Designing and Validating Tests for Measuring the Performance Level of Some Basic Skills for Table Tennis Juniors. *Journal of Applied Sports Science*, 7(3), 9–18. <https://doi.org/10.21608/jass.2017.84621>
- Santos, D. P. R., Barbosa, R. N., Vieira, L. H. P., Santiago, P. R. P., Zagatto, A. M., & Gomes, M. M. (2017). Training level does not affect auditory perception of the magnitude of ball spin in table tennis. *Journal of Human Kinetics*, 55(1), 19–27.
- Suharta, A. (2007). Pendekatan pembelajaran bola voli mini sebuah gagasan konseptual. *Jurnal IPTEK Olahraga*, 9(2), 139–152.
- Sujarwadi, D. S. (2010). Pendidikan jasmani olahraga dan kesehatan. *Jakarta: Pusat Perbukuan Kementerian Pendidikan Nasional*.

- Tabrizi, S. S., Pashazadeh, S., & Javani, V. (2020). Data acquired by a single object sensor for the detection and quality evaluation of table tennis forehand strokes. *Data in Brief*, 33. <https://doi.org/10.1016/j.dib.2020.106504>
- Tabrizi, S. S., Pashazadeh, S., & Javani, V. (2021). A Deep Learning Approach for Table Tennis Forehand Stroke Evaluation System Using an IMU Sensor. *Computational Intelligence and Neuroscience*, 2021. <https://doi.org/10.1155/2021/5584756>
- TH, P. (2017). The influence of 10 weeks high-intensity interval Multiball training on aerobic fitness in adolescent table tennis players. *Biology of Exercise*, 13(1).
- Tie, L. (2015). Table tennis course teaching methods. *2015 International Conference on Social Science and Technology Education*, 213–215.
- Tolvaj, L., Molnar, S., Nemeth, R., & Varga, D. (2010). Color modification of black locust depending on the steaming parameters. *Wood Research (Bratislava)*, 55(2), 81–88.
- Tomoliyus, M. S. (2017). *Sukses melatih keterampilan dasar permainan tenis meja dan penilaian*. Penerbit CV. SARNU UNTUNG.
- Wong, K. (2011). Tracking Table Tennis Balls in Real Match Scenes for Umpiring Applications. *British Journal of Mathematics & Computer Science*, 1(4), 228–241. <https://doi.org/10.9734/bjmcs/2011/623>
- Yulianto, F. R. P. (2015). Study analisis keterampilan teknik bermain cabang olahraga permainan tenis meja. *Jurnal Kesehatan Olahraga*, 3(1), 201–206.
- Zagatto, a M., Papoti, M., Reis, I. G. M., & Gobatto, C. a. (2011). Comparison of anaerobic threshold , oxygen uptake and heart rate between specific table tennis procedure and conventional ergometers. *The 12th ITTF Sports Science Congress, September, 24–29*.
- Zheng, W., & Jin, K. (2016). *Multi Ball Training Method: A New Attempt of Table Tennis Training in Colleges and Universities*. *Ssehr*, 261–264. <https://doi.org/10.2991/ssehr-16.2016.55>
- Zhou, H., He, Y., Yang, X., Ren, F., Ugbolue, U. C., & Gu, Y. (2021). Comparison of kinetic characteristics of footwork during stroke in table Tennis: Cross-step and chasse step. *Journal of Visualized Experiments*, 2021(172). <https://doi.org/10.3791/62571>

