

**PENGARUH PENDEKATAN *SELF REGULATED LEARNING* DAN
MOTOR ABILITY TERHADAP KETERAMPILAN PUKULAN *TOPSPIN*
PERMAINAN TENIS MEJA**

(Studi Eksperimen Pada Atlet Binaan PTMSI Kabupaten Cirebon)

TESIS

Diajukan untuk memenuhi sebagian dari syarat untuk
memperoleh gelar Magister pendidikan
Departemen Pendidikan Olahraga



Oleh:

Muhammad Hafizh Maulana

1906687

**KONSENTRASI PENDIDIKAN JASMANI DAN OLAHRAGA
DEPARTEMEN PENDIDIKAN OLAHRAGA
SEKOLAH PASCASARJANA
UNIVERSITAS PENDIDIKAN INDONESIA
BANDUNG
2021**

HAK CIPTA

**PENGARUH PENDEKATAN *SELF REGULATED LEARNING* DAN
MOTOR ABILITY TERHADAP KETERAMPILAN PUKULAN *TOPSPIN*
PERMAINAN TENIS MEJA**

Oleh,

MUHAMMAD HAFIZH MAULANA

Sebuah Tesis yang diajukan untuk memenuhi salah satu syarat memperoleh gelar
Magister pada Fakultas Pascasarjana

Universitas Pendidikan Indonesia

Juli 2021

©MUHAMMAD HAFIZH MAULANA 2021

Hak Cipta dilindungi undang-undang.

Dilarang memperbanyak, mengutip sebagian ataupun seluruh isi skripsi ini dalam
bentuk apapun, dengan cara apapun, tanpa seizin tertulis dari penulis.

LEMBAR PENGESAHAN

Muhammad Hafizh Maulana

1906687

**PENGARUH PENDEKATAN *SELF REGULATED LEARNING* DAN
MOTOR ABILITY TERHADAP KETERAMPILAN PUKULAN *TOPSPIN*
PERMAINAN TENIS MEJA**

(Studi Eksperimen Pada Atlet binaan PTMSI Kabupaten Cirebon)

Disetujui dan Disahkan oleh :

Pembimbing I

Prof. Dr. Nurlan Kusmaedi, M.Pd.

NIP. 195301111980031002

Pembimbing II

Dr. Yudy Hendrayana, M.Kes. AIFO

NIP. 196007181988031004

Mengetahui

Ketua Departemen Pendidikan Olahraga,

Prof. Dr. H. Amung Ma'mun, M.Pd

NIP. 19600119198603

LEMBAR PERNYATAAN KEASLIAN TESIS

Dengan ini saya menyatakan bahwa tesis dengan judul “**Pengaruh Pendekatan *Self Regulated Learning* dan *Motor Ability* Terhadap Keterampilan Pukulan *Topspin* Permainan Tenis Meja**” ini beserta seluruh isinya adalah benar-benar karya sendiri. Saya tidak melakukan penjiplakan atau pengutipan dengan cara-cara yang tidak sesuai dengan etika ilmu yang berlaku dalam masyarakat keilmuan. Atas pernyataan ini, saya siap menanggung resiko/sanksi apabila di kemudian hari ditemukan adanya pelanggaran etika keilmuan atau ada klaim dari pihak lain terhadap keaslian karya saya ini.

Bandung, Agustus 2021

Muhammad Hafizh Maulana
NIM. 1906687

UCAPAN TERIMA KASIH

Dalam penyusunan dan penulisan tesis ini penulis banyak menemui hambatan-hambatan, namun berkat rahmat serta karunia Allah Subhanu Wa Ta'ala serta bantuan semua pihak, akhirnya penulis dapat menyelesaikan tesis ini. Oleh karena itu, dalam kesempatan yang baik ini penulis ingin menyampaikan ucapan terima kasih kepada semua pihak yang telah banyak membantu dalam proses penyusunan tesis ini, yaitu :

1. Bapak Prof. Dr. Syihabuddin, M.Pd. selaku Direktur Sekolah Pasca Sarjana. Bapak Prof. Dr. Nurlan Kusmaedi, M.Pd. sebagai dosen pembimbing I yang telah membimbing peneliti.
2. Bapak Prof. Dr. Amung Ma'mun, M.Pd. selaku ketua Program Studi Pendidikan Olahraga. Bapak **Dr. Yudy Hendrayana, M.Kes. AIFO** sebagai dosen pembimbing II yang telah membimbing peneliti.
3. Dr. Nurlan Kusmaedi, M.Pd. sebagai dosen pembimbing I yang telah membimbing peneliti.
4. Bapak **Dr. Yudy Hendrayana, M.Kes. AIFO** sebagai dosen pembimbing II yang telah membimbing peneliti.
5. Seluruh Dosen Program Studi Pendidikan Olahraga yang telah memberi ilmu pengetahuan kepada peneliti.

Akhir kata semoga dengan segala kebaikan dan bantuan dari semua pihak yang telah diberikan kepada penulis mendapat balasan pahala yang berlipat ganda dari Allah SWT. Amin. Sebagai penutup, penulis berharap semoga Allah SWT. menjadikan tesis ini sebagai hasil karya yang dapat bermanfaat bagi diri sendiri dan orang lain.

Bandung, Agustus 2021

Muhammad Hafizh Maulana

ABSTRAK

Pengaruh Pendekatan *Self Regulated Learning* Dan *Motor Ability* Terhadap Keterampilan Pukulan *Topspin* Permainan Tenis Meja

(Studi Eksperimen Pada Atlet binaan PTMSI Kabupaten Cirebon)

¹Muhammad Hafizh Maulana, ²Prof. Dr. Nurlan Kusmaedi, M.Pd., ³Dr. Yudy Hendrayana, M.Kes. AIFO

Departemen Pendidikan Olahraga, Pascasarjana, Universitas Pendidikan Indonesia,
Bandung, Indonesia.

Muhammadhafizhmaulana770@gmail.com

Pada waktu melaksanakan observasi di GOR Tenis Meja Kabupaten Cirebon dilihat dari latihan tenis meja pada pukulan *topspin*, atlet kurang dalam latihan pukulan *topspin* dalam regulasi diri, sehingga ketepatan bola dalam pukulannya belum terarah dan juga atlet kurang dalam kelincahan. Tujuan Peneliti ini Untuk mengetahui pengaruh pendekatan *self regulated learning* dan *motor ability* terhadap keterampilan pukulan *topspin* permainan tenis meja. Penelitian dilakukan sebanyak 6 kali pertemuan dalam seminggu 3 kali, latihan dimulai pada pukul 09.00 s/d 11.00. Olahraga ini membutuhkan kemampuan mengantisipasi waktu yang baik untuk melakukan gerak kaki yang diperlukan, untuk mengambil posisi yang tepat, dan bersiap-siap untuk mengembalikannya. Penelitian ini dilakukan di GOR Tenis Meja Kabupaten Cirebon. Penelitian ini menggunakan eksperimen dengan desain Penelitian *factorial 2 x 2* ini akan menggunakan *pretest-posttest*. Populasi dalam penelitian ini adalah atlet binaan PTMSI Kabupaten Cirebon. Jumlah sampel sebanyak 17 sampel menggunakan *non random sampling*, dengan menggunakan sampel jenuh dibagi menjadi dua, 8 orang di kelompok latihan berpasangan dan 9 orang di kelompok *multiball*. Lalu dibagi ke setiap sel menggunakan *purposive sampling*. Instrumen yang digunakan untuk mengukur tes akurasi pukulan *topspin* menggunakan robot. Berdasarkan pengolahan data bahwa pendekatan *self regulated learning* dan *motor ability* berpengaruh terhadap keterampilan pukulan *topspin* permainan tenis meja. Terdapat interaksi *self regulated learning* dengan *motor ability* terhadap keterampilan pukulan *topspin* permainan tenis meja. *Self regulated learning* berpengaruh terhadap keterampilan pukulan *topspin* pada kelompok *motor ability* tinggi dan rendah.

Kata Kunci : *Self regulated Learning*, *Motor Ability*, *Topspin* tenis meja.

ABSTRACT

The Effect of Self-Regulated Learning Approach and Motor Ability on Topspin Stroke Skills in Table Tennis

(Experimental Study on Table Tennis Athletes in Cirebon)

¹**Muhammad Hafizh Maulana**, ²**Prof. Dr. Nurlan Kusmaedi, M.Pd.**, ³**Dr. Yudy Hendrayana, M.Kes. AIFO**

Department of Sports Education, Postgraduate, Indonesian Education University,
Bandung, Indonesia

Muhammadhafizhmaulana770@gmail.com

At the time of carrying out observations at the Cirebon City Table Tennis Gymnasium, it was seen from table tennis training on topspin strokes, athletes were lacking in topspin training in self-regulation so that the accuracy of the ball in their strokes had not been directed and also athletes lacked agility. The purpose of this study was to determine the effect of the self-regulated learning approach and motor ability on topspin hitting skills in table tennis. The study was conducted 6 times a week 3 times, the exercise started at 09.00 to 11.00. This sport requires the ability to anticipate a good time to perform the necessary footwork, to take the right position, and to be ready to return it. This research was conducted at the Table Tennis, Cirebon City. This study uses an experiment with a 2 x 2 factorial research design. This research will use a pretest-posttest. The population in this study were athletes assisted by PTMSI Cirebon City. The number of samples was 17 samples using non-random sampling, using a saturated sample divided into two, 8 people in the pair practice group and 9 people in the multiball group. Then divided into each cell using purposive sampling. The instrument used to measure the accuracy of the topspin test is using a robot. Based on data processing, the self-regulated learning approach and motor ability affect the topspin hitting skills of the table tennis game. There is an interaction of self-regulated learning with motor ability on topspin hitting skills in table tennis. Self regulated learning has an effect on topspin skills in the high and low motor ability groups.

Keywords : *Self regulated, Motor ability, Topspin stroke in table tennis.*

DAFTAR ISI

LEMBAR PENGESAHAN.....	ii
HAK CIPTA.....	iii
HALAMAN PERNYATAAN.....	iv
UCAPAN TERIMAKASIH.....	v
ABSTRAK.....	vi
ABSTRACT.....	vii
DAFTAR ISI.....	viii
DAFTAR TABEL.....	x
DAFTAR GAMBAR.....	xi
BAB I PENDAHULUAN.....	1
1.1 Latar Belakang Penelitian.....	1
1.2 Rumusan Masalah.....	4
1.3 Tujuan Penelitian.....	4
1.4 Manfaat Penelitian.....	4
1.4.1 Manfaat Teoritis.....	4
1.4.2 Manfaat Praktis.....	4
1.5 Struktur Organisasi Tesis.....	5
BAB II KAJIAN TEORI.....	7
2.1 Konsep dan Teori yang Relevan.....	7
2.1.1 <i>Self Regulated Learning</i>	7
2.1.2 <i>Motor Ability</i>	15
2.1.3 Tinjauan Tentang Kondisi Fisik.....	18
2.2 Tinjauan Tentang Tenis Meja.....	19
2.2.1 Hakikat Tenis Meja.....	19
2.2.2 <i>Topsin</i> Tenis Meja.....	24
2.2.3 Gerakan Kaki (<i>Footwork</i>).....	26
2.3 Penelitian Terdahulu.....	27
2.4. Kerangka Berfikir.....	36
2.5 Hipotesis Penelitian.....	38
BAB III METODE PENELITIAN.....	39
3.1 Desain Penelitian.....	39
3.2 Partisipan.....	40
3.3 Populasi dan Sampel.....	40
3.3.1 Populasi.....	40
3.3.2 Sampel.....	41
3.4 Variabel Penelitian.....	42
3.4.1 Variabel Bebas.....	42
3.4.2 Variabel Terikat.....	43
3.5 Instrumen Penelitian.....	43
3.5.1 Performance Index.....	44
3.6 Prosedur Penelitian.....	45
3.7 Analisis Pengolahan Data.....	45
3.8 Program Penelitian.....	47
BAB IV TEMUAN DAN PEMBAHASAN.....	55
4.1 Temuan.....	55
4.1.1 Uji Homogenitas.....	56

Muhammad Hafizh Maulana, 2021

**PENGARUH PENDEKATAN SELF REGULATED LEARNING DAN MOTOR ABILITY TERHADAP
KETERAMPILAN PUKULAN TOPSPIN PERMAINAN TENIS MEJA**

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

4.1.2 Uji Normalitas.....	57
4.1.3 Uji Independent Sample t-test	58
4.1.4 Uji Hipotesis	59
4.2 Hasil Hipotesis	61
4.3 Pembahasan Penelitian	62
4.4 Kelemahan Peneliti.....	67
BAB V PENUTUP	69
5.1 Simpulan	69
5.2 Implikasi	69
5.3 Rekomendasi.....	70
DAFTAR PUSTAKA	71
LAMPIRAN	79

DAFTAR PUSTAKA

- Ak, E., & Koçak, S. (2010). Coincidence-Anticipation Timing and Reaction Time in Youth Tennis and Table Tennis Players. *Perceptual and Motor Skills*, *110*(3), 879–887. <https://doi.org/10.2466/pms.110.3.879-887>
- Akpinar, S., Devrilmez, E., & Kirazci, S. (2012). Coincidence-Anticipation Timing Requirements are Different in Racket Sports. *Perceptual and Motor Skills*, *115*(2), 581–593. <https://doi.org/10.2466/30.25.27.PMS.115.5.581-593>
- Asnaldi, A. (2019). PANDUAN PELATIHAN KOMPONEN MOTOR ABILITY BAGI PELATIH LEMKARI, (April).
- Bandura, A. (2008). Longitudinal Analysis of the Role of Perceived Self-Efficacy for Self-Regulated Learning in Academic Continuance and Achievement. *Journal of Educational Psychology*, *100*(3), 525–534. <https://doi.org/10.1037/0022-0663.100.3.525>
- Bańkosz, Z., & Szumielewicz, P. (2014). Proprioceptive ability of fencing and table tennis practioners. *Human Movement*, *15*(3), 128–133. <https://doi.org/10.1515/humo-2015-0001>
- Barrow, H. M., College, W. F., & Forest, W. (2013). Research Quarterly . American Association for Health , Physical Education and Recreation Test of Motor Ability for College Men. *Routledge*, (March 2015), 37–41. <https://doi.org/10.1080/10671188.1954.10624966>
- Brandmo, C., Panadero, E., Hopfenbeck, T. N., & Brandmo, C. (2020). Bridging classroom assessment and self-regulated learning Bridging classroom assessment and self-regulated learning. *Assessment in Education: Principles, Policy & Practice*, *27*(4), 319–331. <https://doi.org/10.1080/0969594X.2020.1803589>
- Budiana, D. Hidayat, Y. Budiman, D. and Sumarno, G. (2017). Self-Regulated Learning Concepts and Application in Physical Education. *Faculty of Sport*

Muhammad Hafizh Maulana, 2021

PENGARUH PENDEKATAN SELF REGULATED LEARNING DAN MOTOR ABILITY TERHADAP KETERAMPILAN PUKULAN TOPSPIN PERMAINAN TENIS MEJA

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

and Health Education, Universitas Pendidikan Indonesia, Jl. Dr. Setiabudhi

No. 229, Bandung, Indonesia Dianbudiana@upi.Edu, (229), 857–860.

Budiana, D., Hidayat, Y., & Hambali, B. (2020). Blended Learning-Based Self-Regulated Learning in Table Tennis Learning. *Advances in Health Sciences, 21(Icsshpe 2019)*, 289–291.

Dabbagh, N., & Kitsantas, A. (2012). Personal Learning Environments, social media, and self-regulated learning: A natural formula for connecting formal and informal learning. *The Internet and Higher Education, 15*(1), 3–8.
<https://doi.org/10.1016/j.iheduc.2011.06.002>

Delfino, M., Dettori, G., & Persico, D. (2008). Self - regulated learning in virtual communities, (August 2013), 37–41.
<https://doi.org/10.1080/14759390802383785>

Duckworth, K., Akerman, R., Macgregor, A., Salter, E., & Vorhaus, J. (2009). Self-regulated learning: a literature review. *Leading Education and Social Research, 20*(Research Report No.33), 1–82.
<https://doi.org/10.3109/02699206.2011.561398>

Efklides, A. (2018). Gifted students and self-regulated learning : The MASRL model and its implications for SRL Gifted students and self-regulated learning : The MASRL model and its implications for SRL. *High Ability Studies, 00*(00), 1–24. <https://doi.org/10.1080/13598139.2018.1556069>

Ellianiawati, & Wahyuni, S. (2010). Pemanfaatan model self regulated learning sebagai upaya peningkatan kemampuan belajar mandiri pada mata kuliah optik. *Jurnal Pendidikan Fisika Indonesia, 6*, 35–39.

Faber, I. R., Elferink-Gemser, M. T., Faber, N. R., Oosterveld, F. G. J., & Nijhuis-Van Der Sanden, M. W. G. (2016). Can perceptuo-motor skills assessment outcomes in young table tennis players (7-11 years) predict future competition participation and performance? An observational prospective study. *PLOS ONE, 11*(2), 1–13.
<https://doi.org/10.1371/journal.pone.0149037>

Muhammad Hafizh Maulana, 2021

PENGARUH PENDEKATAN SELF REGULATED LEARNING DAN MOTOR ABILITY TERHADAP KETERAMPILAN PUKULAN TOPSPIN PERMAINAN TENIS MEJA

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

Fellows, R., & Liu, A. (2003). *Research Methods for Construction*. Quarterly

Journal of Economics. <https://doi.org/10.11113/jt.v70.2804>

Fraenkel, J. ., Wallen, N. E., & Hyun, H. H. (2013a). *DESIGN AND*

EVALUATED RESEARCH IN EDUCATION (EIGHT EDIT). The McGraw-Hill.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2013b). *BIBLIYOGRAFISI*

Bulunacak. Climate Change 2013 - The Physical Science Basis (Vol. 53).

<https://doi.org/10.1017/CBO9781107415324.004>

Geske, K. (2014). *About the authors. Alkyl Polyglucosides*.

<https://doi.org/10.1016/B978-1-907568-65-7.50011-1>

Girard, O., & Millet, G. P. (2009). Neuromuscular Fatigue in Racquet Sports.

Physical Medicine and Rehabilitation Clinics of North America, 20(1), 161–

173. <https://doi.org/10.1016/j.pmr.2008.10.008>

Glen Tepper, Alois Rosario, W. P. (2002). “*Table Tennis I N Schools Program.*”

Victoria.

Hardman, K. (2012). THE KINESTHETIC DIFFERENTIATION ABILITY OF

TABLE TENNIS PLAYERS doi: *HUMAN MOVEMENT*, 13(1), 16–21.

<https://doi.org/10.2478/v10038-011-0049-z>

Hodges, L. (2000). Instructor’s Guide to Table Tennis. *Tennis*, 1–36.

Iino, Y., & Kojima, T. (2009). Kinematics of table tennis topspin forehands:

Effects of performance level and ball spin. *Journal of Sports Sciences*,

27(12), 1311–1321. <https://doi.org/10.1080/02640410903264458>

Iino, Y., & Kojima, T. (2011). Kinetics of the upper limb during table tennis

topspin forehands in advanced and intermediate players. *Sports*

Biomechanics, 10(4), 361–377.

<https://doi.org/10.1080/14763141.2011.629304>

Iqbal,Mansur, M. N. (2015). HUBUNGAN MOTOR ABILITY DENGAN

Muhammad Hafizh Maulana, 2021

PENGARUH PENDEKATAN SELF REGULATED LEARNING DAN MOTOR ABILITY TERHADAP
KETERAMPILAN PUKULAN TOPSPIN PERMAINAN TENIS MEJA

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

KETERAMPILAN BERMAIN SEPAKBOLA PADA KLUB HIMADIRGA

UNSYIAH Iqbal^{1*}, Mansur¹,. *Jurnal Ilmiah Mahasiswa Pendidikan
Jasmani, Kesehatan Dan Rekreasi*, 1(Februari), 1–10.

Ivan, M. L., Roberto, L., & Franco, M. (2010). Footwork in Relationship with Strokes and Efficacy during the 29 th Olympic Games Table Tennis Final. *International Journal of Table Tennis Sciences*, 6(6), 60–64.

Kaplan, A., Neuber, A., & Garner, J. K. (2019). An identity systems perspective on high ability in self-regulated learning. *High Ability Studies*, 00(00), 1–26.
<https://doi.org/10.1080/13598139.2019.1568830>

Lees, A. (2003). Science and the major racket sports: A review. *Journal of Sports Sciences*, 21(9), 707–732. <https://doi.org/10.1080/0264041031000140275>

Liao, C., & Masters, R. S. W. (2010). Analogy learning : A means to implicit motor learning Analogy learning : A means to implicit motor learning, (November 2012), 37–41.

Liu, W., Zhou, C., Ji, L., & Watson, J. C. (2012). The Effect of Goal Setting Difficulty on Serving Success in Table Tennis and the Mediating Mechanism of Self-regulation by. *Journal of Human Kinetics*, 33(June), 173–185.
<https://doi.org/10.2478/v10078-012-0056-y>

Lucieer, S. M., Jonker, L., Visscher, C., Rikers, R. M. J. P., & Themmen, A. P. N. (2015). Self-regulated learning and academic performance in medical education. *Medical Teacher*, 00(00), 1–9.
<https://doi.org/10.3109/0142159X.2015.1073240>

Lun, T., Chu, A., Zhang, T., & Hung, T. (2018). Motivational profiles in table tennis players : Relations with performance anxiety and subjective vitality and subjective vitality. *Journal of Sports Sciences*, 00(00), 1–13.
<https://doi.org/10.1080/02640414.2018.1488517>

M., K. A., T. H., P., N., M., F., B., N., A., & I., F. (2017). The influence of 10 weeks high-intensity interval Multiball training on aerobic fitness in

Muhammad Hafizh Maulana, 2021

PENGARUH PENDEKATAN SELF REGULATED LEARNING DAN MOTOR ABILITY TERHADAP KETERAMPILAN PUKULAN TOPSPIN PERMAINAN TENIS MEJA

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

adolescent table tennis players. *Biology of Exercise*, 13(1), 1–13.

M. Sahib Saleh, & M. Syahrul Saleh. (2020). PERBANDINGAN METODE LATIHAN MULTI BALL DENGAN METODE LATIHAN BERPASANGAN DALAM KETERAMPILAN BERMAIN TENIS MEJA PADA SISWA SMU NEGERI 8 MAKASSAR. *Pendidikan Kepelatihan Olahraga*, 12(2), 41–47.

Malagoli Lanzoni, I., Di Michele, R., & Merni, F. (2014). A notational analysis of shot characteristics in top-level table tennis players. *European Journal of Sport Science*, 14(4), 309–317.

<https://doi.org/10.1080/17461391.2013.819382>

Mansec, Y. Le, Dorel, S., Nordez, A., & Jubeau, M. (2016). Sensitivity and Reliability of a Specific Test of Stroke Performance in Table Tennis, 678–684.

Maxwell, J. P., Capio, C. M., Masters, R. S. W., Maxwell, J. P., Capio, C. M., & Interaction, R. S. W. M. (2017). Interaction between motor ability and skill learning in children : Application of implicit and explicit approaches.

European Journal of Sport Science, 0(0), 1–10.

<https://doi.org/10.1080/17461391.2016.1268211>

McAfee, R. (2015). *Table tennis Steps to Success*.

Mccardle, L., Young, B. W., Baker, J., & Mccardle, L. (2017). Self-regulated learning and expertise development in sport : current status , challenges , and future opportunities current status , challenges , and future opportunities.

International Review of Sport and Exercise Psychology, 0(0), 1–27.

<https://doi.org/10.1080/1750984X.2017.1381141>

Mori, S., Ohtani, Y., & Imanaka, K. (2002). Reaction times and anticipatory skills of karate athletes. *Human Movement Science*, 21(2), 213–230.

[https://doi.org/10.1016/S0167-9457\(02\)00103-3](https://doi.org/10.1016/S0167-9457(02)00103-3)

Nikoli, I., Furjan-mandi, G., & Kondri, M. (2014). The Relationship of

Muhammad Hafizh Maulana, 2021

PENGARUH PENDEKATAN SELF REGULATED LEARNING DAN MOTOR ABILITY TERHADAP KETERAMPILAN PUKULAN TOPSPIN PERMAINAN TENIS MEJA

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

Morphology and Motor Abilities to Specific Table Tennis Tasks in

Youngsters, 38, 241–245.

Oja, L., & Jurimae, T. (2002). PHY SICK ACTIVITY, MOTOR ABILITY, AND SCHOOL READINESS OF 6-YR.-OLD CHILDREN, 407–415.

Pfeiffer, M., Zhang, H., & Hohmann, A. (2010). A Markov Chain Model of Elite Table Tennis Competition. *International Journal of Sports Science & Coaching*, 5(2), 205–222. <https://doi.org/10.1260/1747-9541.5.2.205>

Pintrich, P. R., & Groot, E. V. De. (1990). Motivational and Self-Regulated Learning Components of Classroom Academic Performance, 82(1), 33–40.

Pluta, B., Galas, S., Krzykała, M., & Andrzejewski, M. (2020). The motor and leisure time conditioning of young table tennis players' physical fitness. *International Journal of Environmental Research and Public Health*, 17(16), 1–14. <https://doi.org/10.3390/ijerph17165733>

Ponnusamy, B., Yong, W. F., & Ahmad, Z. (2015). A low cost automated table tennis launcher. *ARPJ Journal of Engineering and Applied Sciences*, 10(1), 291–296.

Radwan, S. G. (2014). The impact of development of the special coordination abilities on the general skill ability for table tennis juniors under 12 years old 1, 2(June), 24–26.

Rola, F., Rahmawati, A, S., & Debby, A, D. (2018). Self-Regulated Learning Differences between Obese and Non- Obese Adolescents : A Comparative Study of Senior High School Students in Medan City, 136(Icosop 2017), 276–279.

Rota, S., Morel, B., Saboul, D., Rogowski, I., & Hautier, C. (2013). Influence of fatigue on upper limb muscle activity and performance in tennis.

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).

Muhammad Hafizh Maulana, 2021

PENGARUH PENDEKATAN SELF REGULATED LEARNING DAN MOTOR ABILITY TERHADAP KETERAMPILAN PUKULAN TOPSPIN PERMAINAN TENIS MEJA

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

Schaefer, S., & Scornaienchi, D. (2020). Table Tennis Experts Outperform

Novices in a Demanding Cognitive-Motor Dual-Task Situation. *Journal of Motor Behavior*, 52(2), 204–213.

<https://doi.org/10.1080/00222895.2019.1602506>

Schmidt, M., Blum, M., Valkanover, S., & Conzelmann, A. (2015). Motor ability and self-esteem : The mediating role of physical self-concept and perceived social acceptance. *Psychology of Sport & Exercise*, 17, 15–23.

<https://doi.org/10.1016/j.psychsport.2014.11.006>

Schunk, D. H. (1990). Goal Setting and Self-Efficacy During Self-Regulated Learning, 71–86.

Semarayasa, I. K. (2016). PENGARUH STRATEGI PEMBELAJARAN DAN TINGKAT MOTOR ABILITY TERHADAP KETERAMPILAN SERVIS ATAS SEPAK, 12(1 April).

Silva, P., Lott, R., Wickrama, K. a S., Mota, J., & Welk, G. (2011). Note : This article will be published in a forthcoming issue of the Journal of Physical Activity & Health . This article appears here in its accepted , peer-reviewed form ; it has not been copy edited , proofed , or formatted by the publisher . Psychosoci. *International Journal of Sport Nutrition and Exercise Metabolism*, 32, 1–44. <https://doi.org/10.1123/ijsp.2015-0012>

Sugiyono. (2014). Metode Penelitian Pendidikan pendekatan Kuantitatif, Kualitatif dan R&D. In *METODE PENELITIAN ILMIAH*.

THE USE OF FOREHAND TOP SPIN IN MODERN TABLE TENNIS Prof . Zoran Djokic – Table Tennis Association of Montenegro. (2014), (January 2007).

Vrieling, E., Stijnen, S., & Bastiaens, T. (2017). Successful learning : balancing self-regulation with instructional planning. *Teaching in Higher Education*, 0(0), 1–16. <https://doi.org/10.1080/13562517.2017.1414784>

Wolf, S., Brölz, E., Keune, P. M., Wesa, B., Hautzinger, M., Birbaumer, N., &

Muhammad Hafizh Maulana, 2021

PENGARUH PENDEKATAN SELF REGULATED LEARNING DAN MOTOR ABILITY TERHADAP KETERAMPILAN PUKULAN TOPSPIN PERMAINAN TENIS MEJA

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

Strehl, U. (2015). Motor skill failure or flow-experience? Functional brain asymmetry and brain connectivity in elite and amateur table tennis players.

Biological Psychology, 105, 95–105.

<https://doi.org/10.1016/j.biopsycho.2015.01.007>

Y.Yudiana, H. Subardjah, dan T. J. (n.d.). Latihan fisik.

Yulianto, F. R. P. (2015). Study Analisis Keterampilan Teknik Bermain Cabang Olahraga Permainan Tenis Meja. *Jurnal Kesehatan Olahraga*, 3(1), 201–206.

Zainal Abidin. (2014). HUBUNGAN MOTOR ABILITY, KONSEP DIRI DAN KEPERCAYAAN DIRI DENGAN KETERAMPILAN BOLA VOLI. *Jurnal Sport Pedagogy*, 4(1 April), 44–47.

Zeidner, M., & Stoeger, H. (2019). Self-Regulated Learning (SRL): A guide for the perplexed. *High Ability Studies*, 00(00), 1–43.

<https://doi.org/10.1080/13598139.2019.1589369>

Zheng, L., Li, X., & Chen, F. (2016). Effects of a mobile self-regulated learning approach on students' learning achievements and self-regulated learning skills. *Innovations in Education and Teaching International*, 3297(November), 1–9. <https://doi.org/10.1080/14703297.2016.1259080>

Zheng, W., & Jin, K. (2016). Multi Ball Training Method : A New Attempt of Table Tennis Training in Colleges and Universities, (SSEHR), 261–264.

Zimmerman, B. J. (2002). Becoming a Self-Regulated Learner : An Overview, 41(2), 64–70.

Zimmerman, B. J., & Martinez-pons, M. (1990). Student Differences in Self-Regulated Learning - Relating Grade, Sex, and Giftedness to SE and Strategy Use. *Journal of Educational Psychology*, 82(1), 51–59. Retrieved from https://www.researchgate.net/profile/Manuel_Martinez-Pons/publication/232583872_Student_Differences_in_Self-Regulated_Learning_Relating_Grade_Sex_and_Giftedness_to_Self-

Muhammad Hafizh Maulana, 2021

*PENGARUH PENDEKATAN SELF REGULATED LEARNING DAN MOTOR ABILITY TERHADAP
KETERAMPILAN PUKULAN TOPSPIN PERMAINAN TENIS MEJA*

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

Efficacy_and_Strategy_Use/links/09e41512c2ef708a73000000/Student-

Differences-in-Self-R