

## BIBLIOGRAPHY

- Ansari, M. T., Rahman, S. A., Badgular, V. B., Sami, F., & Abdullah, M. S. (2015). Problem Based Learning (PBL): A Novel and Effective Tool of Teaching and Learning. *Indian Journal of Pharmaceutical Education and Research*, 49, 258-265. <https://doi.org/10.5530/ijper.49.4.3>
- Arends, R. I. (2012). *Learning to teach 9th ed.* New York: McGraw-Hill.
- Arikunto, S. (2014). *Prosedur Penelitian Suatu Pendekatan Praktik*, Jakarta: Rineka Cipta.
- Baharuddin., & Wahyuni,E.N. (2016). *Teori Belajar dan Pembelajaran*. Yogyakarta: Ar-ruz Media.
- Bahri, A. & Aloysius, D. C. (2015). The Contribution Of Learning Motivation And Metacognitive Skill On Cognitive Learning Outcome Of Students Within Different Learning Strategies. *Journal of Baltic Science Education*, 14 (4): 487-500.
- Bilgin, I., Şenocak, E., & Sözbilir, M. (2009). The Effects of Problem-Based Learning Instruction on University Students' Performance of Conceptual and Quantitative Problems in Gas Concepts. *Eurasia Journal of Mathematics, Science and Technology Education*, 5, 153-164. <https://doi.org/10.12973/ejmste/75267>
- Dole, S, Bloom, L. & Doss, K. K. (2017). Engaged Learning: Impact of PBL and PjBL with Elementary and Middle Grade Students. *Interdisciplinary Journal of Problem-Based Learning*, 11(2)
- Fadliana, H.N., Redjeki, T. dan Nurhayati, D. (2013). Studi Komperasi Penggunaan Metode PBL (Problem Based Learning) Dilengkapi Dengan Macromedia Flash Dan LKS (Lembar Kerja Siswa) Terhadap Prestasi Belajar Ditinjau Dari Motivasi Belajar Siswa Materi Asam, Basa Dan Garam Kelas VII SMP Negeri 1 Jaten Karanganyar Tahun Pelajaran 2012/2013, *Jurnal Pendidikan Kimia*, 2(3) : 158 – 165.
- Febriko,J.N.,Mariati.P.S.,Johan.(2019).The Effect of Problem Based Learning model on student learning result and students problem solving skills.*Indonesian Science Education Research(ISER)*.
- Funa, A. A., & Prudente, M. S. (2021). Effectiveness of problem-based learning on secondary students' achievement in science: A meta-analysis. *International Journal of Instruction*, 14(4), 69-84. <https://doi.org/10.29333/iji.2021.1445a>.
- Glazer, E. (2001). *Problem Based Instruction*. In M. Orey (ED),*Emerging Perspective on learning, teaching and technology*. <http://www.coe.uga.edu/epltt/ProblemBasedInstruct.htm>.
- Jex, Steve M. (2002). *Organizational Psychology: A scientist Practitioner Approach*. New York: John wiley & sons.
- Joyce, B. & Weil. (2009). *Model Model Pengajaran.Edisi 8 . terjemahan A. Fuwaid&A.Mirza*. Yogyakarta : Pustaka Pelajar.

- Karyatin, K. (2017). Penerapan Modified Problem Based Learning (PBL) Dengan Gallery Walk (GW) Untuk Meningkatkan Keterampilan Menyusun Peta Pikiran Dan Hasil Belajar IPA. *Jurnal Penelitian Pendidikan IPA*, 1(2), 42–51.
- Kemendikbud. (2014). *Peraturan Menteri Pendidikan dan kebudayaan, Nomor 103 tentang Pembelajaran pada Pendidikan Dasar dan Menengah*. Kementerian Pendidikan dan Kebudayaan, Jakarta.
- Koesoema, D. A. (2009). *Pendidik karakter di zaman keblinger (Character education in crazy era)*. Jakarta, Indonesia: Grasindo.
- Kristiyanto, W., Gunarhadi, & Indriayu, M. (2020). The effect of the Science Technology Society and the Quantum Teaching Models on learning outcomes of students in the natural science course in relation with their critical thinking skills. *International Online Journal of Education and Teaching (IOJET)*, 7(1). 177-191.
- Pitri, K. (2018). Pengaruh model problem based learning terhadap hasil belajar siswa pada materi pokok momentum dan impuls kelas X semester II SMA Negeri 12 Medan. *Skripsi, Fisika, Universitas Negeri Medan*.
- Purwanto. (2014). *Evaluasi hasil Belajar*. Yogyakarta: Pustaka Belajar.
- Purnomo, H., Santosa, B., & Tentama, F. (2019). Implementation of Problem Based Learning and Group Investigation (PBL Go-In) to Improve Vocational Students' Competence. *Journal of Vocational Education Studies*, 2(1), 47-54. DOI: <https://doi.org/10.12928/joves.v2i1.750>.
- Rusman. (2012). *Model-Model Pembelajaran :Mengembangkan Profesionalisme Guru*. Jakarta: PT Raja Grafindo Persada.
- Sagala.(2012). *Konsep dan Makna Pembelajaran*. Bandung: Alfabeta.
- Saleh, M. (2013). Strategi Pembelajaran Fiqh dengan Problem-Based-Learning, *Jurnal Ilmiah DIDAKTIKA*, XIV(1): 190-220.
- Sani, A. R. (2015). *Pembelajaran Sainifik untuk Implementasi Kurikulum 2013*. Jakarta: Bumi Aksara.
- Sardiman,A.M.(2011). *Interaksi dan Motivasi Belajar*. Jakarta: Rajawali pers.
- Sarya, I. W., Suarni, Adnyana and Suastra. (2019). The effect of problem based learning and authentic assessment on students' natural science learning out-come by controlling achievement motivation. *IOP Conf. Series: Journal of Physics: Conf. Series 1318(012095)*,1-7 doi:10.1088/1742-6596/1318/1/012095.
- Savery, J. R. (2006). *Overview of Problem-based Learning: Definitions and Distinctions*. *Interdisciplinary Journal of Problem-Based Learning*, 1(1).
- Slavin, Robert E.(2005) *Cooperative Learning*. Bandung: Nusa Media
- Strobel, J., & van Barneveld, A. (2009). When is PBL more effective? A meta synthesis of meta-analyses comparing PBL to conventional classrooms. *Interdisciplinary Journal of Problem-Based Learning*, 3(1), 44–58. <https://doi.org/10.7771/1541-5015.1046>.

- Sudini, A. (2018). Pengaruh Penerapan Model Problem Based Learning (PBL) Terhadap Hasil Belajar Siswa Kelas V Muatan Pelajaran IPA Tentang Sistem Pernapasan Manusia. *Skripsi*, Universitas Sanata Dharma Yogyakarta.
- Sudjana. (2015). *Metoda Statistika*. Bandung: PT.Tarsito
- Sugiyono. (2015). *Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif dan R&D)*. Bandung: Alfabeta.
- Supriyono, A. (2009). *Copperative learning, Teori & Aplikasi PAIKEM*. Surabaya: Pustaka Pelajar.
- Tambunan,L.,Rusdi.,Miarsyah,M.(2018).Effectiveness of Problem Based Learning models by using E-Learning and learning motivation toward students learning outcomes on subject circulation systems.*Indonesian Journal of Science and Education*,2(1).96-104
- Trianto. (2010). *Mendesain Model Pembelajaran inovatif-progresif*. Jakarta: PT. Kencana.
- Wahyuni,D.,Suciati,D.,Sugiyarto.(2014). Efektivitas Implementasi Pembelajaran Model Problem based Learning (PBL )Diintegrasikan dengan Predict-observe-explain(POE) Terhadap Prestasi belajar Siswa ditinjau dari kreativitas dan kemampuan inferensi siswa.*BIOEDUKASI*. 7(1). 10-2
- Zakaria, M. I., Maat, S. M., & Khalid, F. (2019). A Systematic Review of Problem Based Learning in Education. *Creative Education*. 10.2671-2688