

DAFTAR PUSTAKA

- Abraham, M. R., & Williamson, V. M. (1994). A Cross-Age Study of Five Chemistry Concept. *Journal of Research in Science Teaching*, 31(2), 147-165.
- Acar, B., & Tarhan, L. (2008). Effects of Cooperative Learning on Students' Understanding of Metallic Bonding. *Research in Science Education*, 38(4), 401-420.
- Al-Balushi, S.M., Ambusaidi, A.K., Al-Shuaili, A.H., & Taylor, N. (2012). Omani Twelfth Grade Students' Most Common Misconceptions in Chemistry. *Science Education International*, 23(3), 221-240.
- Arifin, M. (2000). *Strategi Belajar Mengajar Kimia Prinsip dan Aplikasinya Menuju Pembelajaran yang Efektif*. Bandung: Jurusan Pendidikan Kimia FPMIPA UPI.
- Arikunto, S. (2010). *Dasar-Dasar Evaluasi Pendidikan*. Jakarta: Bumi Aksara.
- Barke, H.D., Hazari, A., & Yitbarek, S. (2009). *Misconceptions in Chemistry*. German: Springer.
- Berg, V.D.E. (1991). *Miskonsepsi Fisika dan Remediasi*. Salatiga: Universitas Kristen Satya Wacana.
- Bodner, G. M., & Domin, D. S. (2000). Mental Models: The Role of Representations in Problem Solving in Chemistry. *Chemistry Education*, 4(1), 24-30.
- Bouayad, A., Kaddari, F., Lachkar, M., & Elachwar, A. (2015). Conception of The First-Year License Students on The Concept "Chemical Bond". *Journal of Modern Education Review*, 5, 686-93.
- Brandriet, A.R., & Bretz, S.L. (2014). Measuring Meta-Ignorance Through The Lens of Confidence : Examining Students' Redox Misconceptions about Oxidation Numbers, Charge, and Electron Transfer. *Chemistry Education Research And Practice*, 15,729-246.
- Brown, T. L., Lemay, H. E., Bursten, B. E., Murphy, C. J., & Woodward, P. M. (2012). *Chemistry : The Central Science 12th ed*. USA: Pearson.
- Chang, R. (2003). *Kimia Dasar Edisi Ketiga*. New York: McGraw-Hill.
- Chiang, W.W., & Chiu, M.H. (2015). Using an Online Assessment System to Diagnose Student' Mental Models in Chemistry Education. *The Turkish Online Journal of Educational Technology*, 14 (1), 163-178.

Meltafina, 2018

ANALISIS Miskonsepsi dan Threshold Concept pada Materi Ikatan Kimia Berdasarkan Profil Model Mental Siswa Menggunakan Tes Diagnostik Interview About Events (IAE)

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

- Chittleborough, G. D. (2004). *Phenomena*. Australia: Curtin University of Technology.
- Chittleborough, G.D., & Treagust, D. (2007). The Modelling Ability of Non Major Chemistry Students and Their Understanding of The Submicroscopic Level. *Chemistry Education Research and Practice*, 8 (3), 274-292.
- Creswell, J.W. (2014). *Research Design: Pendekatan Metode Kualitatif, Kuantitatif, dan Campuran*. Yogyakarta: Pustaka Pelajar.
- Cousin, G. (2006). An Introduction to Threshold Concepts. *Planet*, 17, 4-5.
- Cousin, G. (2009). *Researching Learning in Higher Education*. New York: Routledge.
- Coll, R. K., & Taylor, T. (2001). Alternative Conceptions of Chemical Bonding Held by Upper Secondary and Tertiary Students. *Research in Science and Technological Education*, 19, 171-191.
- Coll, R.K. & Treagust, D.F. (2003). Investigation of Secondary School, Undergraduate, and Graduate Learners' Mental Models of Ionic Bonding. *Journal of Research in Science Teaching*, 40 (5), 464-486.
- Davies, P. (2003). *Threshold Concepts: How Can We Recognize Them?* Paper presented at the EARLI Conference, Padova, Italy, August 26–30.
- Departemen Pendidikan Nasional. (2007). *Tes Diagnostik*. Jakarta: Dirjen Manajemen Pendidikan Dasar dan Menengah.
- de Posada, J. M. (1997). Conceptions of High School Students Concerning The Internal Structure of Metals and Their Electric Conduction: Structure and Evolution. *Sci. Educ*, 81(4), 445–467.
- Devetak, I. (2005). *Explaining The Latent Structure of Understanding Submicropresentations in Science*. (disertasi). University of Ljubljana, Slovenia.
- Dhindsa, H., & Treagust, D. (2009). Conceptual Understanding of Bruneian Tertiary Students: Chemical Bonding and Structure. *Brunai International Journal of Science & Mathematical Education*, 1(1), 33-51.
- Driver, R. (1988). *Changing Conceptions*. University of Leeds: Centre for Studies in Science and Mathematics Education.
- Entwistle, N. (2008). Threshold Concepts and Transformative Ways of Thinking Within Research into Higher Education. In R. Land, J.H.F. Meyer, and J. Smith (Eds.), *Threshold Concepts within The Disciplines*. Rotterdam, The Netherlands: Sense Publishers.

Meltafina, 2018

ANALISIS MISKONSEPSI DAN THRESHOLD CONCEPT PADA MATERI IKATAN KIMIA BERDASARKAN PROFIL MODEL MENTAL SISWA MENGGUNAKAN TES DIAGNOSTIK INTERVIEW ABOUT EVENTS (IAE)

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

- Firman, H. (2013). *Evaluasi Pembelajaran Kimia*. Bandung: Jurusan Pendidikan Kimia FPMIPA UPI.
- Fraenkel, J.R., Wallen, N.E., & Hyun, H.H. (2012). *How to Design and Evaluate Research in Education 8th Edition*. Newyork: McGraw-hil.
- Gurel, D.K., Eryilmaz, A. & McDemott, I. (2015). A Review and Comparasion of Diagnostic Instrument to Identify Student Misconception in Science Education. *Eurasia Journal of Mathematics, Science and Technology Education*, 11(5), 989-1008.
- Halim, N.D.A., Ali, M.B., Yahaya, N., & Said, M.N.H.M. (2013). Mental Model in Learning Chemical Bonding : A Preliminary Study. *Procedia-Social and Behavioral Sciences*, 97, 224 – 228.
- Hasanah, W. (2017). *Analisis Miskonsepsi dan Threshold Concept Menggunakan Tes Diagnostik Model Mental Two-Tier (TDM Two-Tier) pada Materi Reaksi Kimia*. (Tesis). Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Bandung.
- Jansoon, N., Coll, R.K., & Samsook, E. (2009). Understanding Mental Models of Dilution in Thai Students. *International Journal Of Environmental & Science Education*, 2(4), 147-168.
- Johnson-Laird, P. (1983). *Mental Models: Towards A Cognitive Science of Language, Inference and Consciousness*. Cambridge, MA: Harvard University Press.
- Johnstone, A.H. (1991). Why Science is Difficult to Learn? Things are Seldom What they Seem. *Journal of Computer Assisted Learning*, 7, 75-83.
- Karagoz, O., & Arslan, A. S. (2012) Analysis of Primary School Students' Mental Models Relating to The Structure of Atom. *Journal of Turkish Science Education* , 9(1), 143-145.
- Kiray, S. A. (2016). The Pre-service Science Teachers' Mental Models for Concept of Atoms and Learning Difficulties. *International Journal of Education in Mathematics, Science and Technology*, 4 (2), 147-162.
- Korhasan, N.D., & Wang, Lu. (2016). Students' Mental Models of Atomic Spectra. *Chem. Educ. Res. Pract.*
- Kurnaz, M. A., & Emen, A. Y .(2013).Mental Models of the High School Students Related to the Contraction of Matter. *International Journal of Educational Research and Technology*, 4 (1), 1-5.
- Land, R., Cousin, G., Meyer, J.H.F., & Davies, P. (2006). *Conclusions: Implications of Threshold Concepts for Course Design and Evaluation*. In:

Meltafina, 2018

ANALISIS MISKONSEPSI DAN THRESHOLD CONCEPT PADA MATERI IKATAN KIMIA BERDASARKAN PROFIL MODEL MENTAL SISWA MENGGUNAKAN TES DIAGNOSTIK INTERVIEW ABOUT EVENTS (IAE)

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

Overcoming Barriers to Student Understanding: Threshold Concepts and Troublesome Knowledge. London: Routledge.

- Larson, K. G., Long, G. R., & Briggs, M. W. (2012). Periodic Properties and Inquiry: Student Mental Models Observed During a Periodic Table Puzzle Activity. *J. Chem. Educ.*, 89, 1491–1498.
- Lin, J.W., Chiu, M. H., & Liang, J. C. (2004). Exploring Mental Models and Causes of Students' Misconceptions in Acids and Bases. *Project Report In National Science Council*, 1-12.
- Loertscher, J., Green, D., Lewis, J. E., Lin, S., & Minderhout, V. (2014). Identification of Threshold Concepts for Biochemistry. *Life Sciences Education*, 13, 516-528.
- Luxford, C. J., & Bretz, S. L. (2014). Development of The Bonding Representations Inventory to Identify Student Misconceptions about Covalent and Ionic Bonding Representations. *Journal of Chemical Education*, 91, 312-320.
- Maghwi, A. A. A. (2015). The Effectiveness of Probing Questions Strategy in The Development of Thinking Skills in The Islamic Education Courses Using A Sample of Intermediate School Students in Riyadh. *European Scientific Journal*, 2, 136-151.
- McMurry. (2003). *Chemistry Forth Edition*. Amerika: Prenticehall, inc.
- Male, S. A., & Baillie, C. A. (2011). Engineering Threshold Concept. *World Engineering Education*, September 27-30, 2011, Lisbon, Portugal.
- Meyer, J.H.F., & Land, R. (2003). *Threshold Concepts and Troublesome Knowledge*. In: *Improving Student Learning—Ten Years*. UK: Oxford Centre for Staff and Learning Development.
- Meyer, J.H.F, & Land, R. (2006). *Threshold Concepts and Troublesome Knowledge: An Introduction*. In: *Overcoming Barriers to Student Understanding: Threshold Concepts and Troublesome Knowledge*. London: Routledge.
- Nakhleh, M.B. (1992). Why Some Student Don't Learn Chemistry: Chemical Misconceptions. *Journal of Chemical Education*, 69 (3), 191-196.
- Nicoll, G. (2001). A Report of Undergraduates' Bonding Misconceptions. *Int. J. Sci. Educ.*, 23, 707–730.
- Park, E.J., & Light, G. (2009). Identifying Atomic Structure as A *Threshold Concept*: Student Mental Models and Troublesomeness. *International Journal of Science Education*, 31(2), 233–258.

Meltafina, 2018

ANALISIS MISKONSEPSI DAN THRESHOLD CONCEPT PADA MATERI IKATAN KIMIA BERDASARKAN PROFIL MODEL MENTAL SISWA MENGGUNAKAN TES DIAGNOSTIK INTERVIEW ABOUT EVENTS (IAE)

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

- Park, E.J. (2015). Impact of Teachers' Overcoming Experience of Threshold Concept in Chemistry on Pedagogical Content Knowledge (PCK) Development. *Journal of The Korean Chemical Society*, 59(4), 308-319.
- Perkins, D. (1999). The Many Faces of Constructivism. *Educ Leadersh*, 57, 6–11.
- Perkins, D. (2008). Beyond Understanding. In R. Land, J.H.F. Meyer, and J. Smith, (Eds.), *Threshold Concepts within The Disciplines* (pp. 3–19). Rotterdam, The Netherlands: Sense Publishers.
- Rahmi, C. (2016). *Miskonsepsi, Troublesome Knowledge, dan Threshold Concept Siswa Menggunakan Tes Diagnostik Model Mental Prediksi, Observasi, Eksplanasi (TDM-POE) pada Materi Kelarutan dan Hasil Kali Kelarutan Beserta Sumbernya*. (Tesis). Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Bandung.
- Ross, P.M., Taylor, C. E., Hughes, C., Kofod, M., Whitaker, N., Lutze-Mann, L., Tzioumis, V. (2010). Threshold Concepts: Challenging The Way We Think, Teach and Learn in Biology. In J.H.F. Meyer, R. Land, & C. Baillie (Eds.), *Threshold Concepts and Transformational Learning* (pp. 165–177). Rotterdam, The Netherlands: Sense Publishers.
- Silberberg, M. S. (2007). *Principles of General Chemistry*. New York: McGraw-Hill
- Stains, M., & Sevian, H. (2014). Uncovering Implicit Assumptions: a Large-Scale Study on Students' Mental Models of Diffusion. *Res Sci Educ*.
- Sunarya, Y. (2010). *Kimia Dasar I*. Bandung : Yrama Widya
- Supasorn, S. (2015). Grade 12 Students' Conceptual Understanding and Mental Models of Galvanic Cells Before and After Learning by Using Small-Scale Experiments in Conjunction With A Model Kit. *Chem. Educ. Res. Pract*, 16, 393-407.
- Taber, K. S. (1997). Student Understanding of Ionic Bonding: Molecular Versus Electrostatic Framework? *Sch. Sci. Rev*, 78(285), 85–95.
- Taber, K. S. (1998). An Alternative Conceptual Framework from Chemistry Education. *Int. J. Sci. Educ*, 20(5), 597–608.
- Taber, K. S. (2001). Building The Structural Concepts of Chemistry: Some Considerations from Educational Research. *Chem. Educ. Res. Pract*, 2(2), 123–158.
- Taber, K. S. (2003a). Mediating Mental Models of Metals: Acknowledging The Priority of The Learner's Prior Learning. *Sci. Educ*, 87(5), 732–758.

Meltafina, 2018

ANALISIS MISKONSEPSI DAN THRESHOLD CONCEPT PADA MATERI IKATAN KIMIA BERDASARKAN PROFIL MODEL MENTAL SISWA MENGGUNAKAN TES DIAGNOSTIK INTERVIEW ABOUT EVENTS (IAE)

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

- Taber, K. S. (2003b). The Atom in The Chemistry Curriculum: Fundamental Concept, Teaching Model or Epistemological Obstacle? *Found. Chem*, 5(1), 43–84.
- Taber, K. S., & Coll, R. (2002). Bonding. in J.Gilbert, O. De Jong, R. Justi R, D. Treagust, & J. Van Driel (Eds.), *Chemical Education: Towards Research-Based Practice* (pp. 213–234). Dordrecht: Kluwer Academic Publishers.
- Talanquer, V. (2011). Macro, Submicro, and Symbolic: The Many Faces of The Chemistry “Triplet”. *International Journal of Science Education*, 33(2),179-195.
- Tan, K.C.D., & Treagust, D. (1999). Evaluating Understanding of Chemical Bonding. *Sch. Sci. Rev*, 81 (294), 75–84.
- Tumay, H. (2014). Prospective Chemistry Teachers’ Mental Models of Vapor Pressure. *Chem. Educ. Res. Pract*, 15, 366-379.
- Vrabec, M., & Proksa, M. (2016). Identifying Misconception Related to Chemical Bonding Concepts in The Slovak School System Using The Bonding Representations Inventory as A Diagnostic Tool. *Journal of Chemical Education*
- Vosniadou, S. (1994). Capturing and Modelling The Process of Conceptual Change. *Learning and Instruction*, 4, 45-69.
- Wandersee, J. H., Mintzes, J. J., & Novak, J. D. (1994). Research on Alternative Conceptions in Science. In D. Gabel (Ed.), *Handbook of Research on Science Teaching and Learning* (pp. 177–202). Macmillan Publishing Co: New York.
- Wang, C.Y. (2007). *The Role of Mental-Modeling Ability, Content Knowledge, and Mental Models in General Chemistry Students’ Understanding about Molecular Polarity*. (Disertasi). Faculty of the Graduate School, University of Missouri, Columbia.
- Whitten, K. W., Davis, R. E., Peck, M. L., & Stanley, G. G. (2014). *Chemistry 10th Edition*. USA: Mary Finch.
- Wiji. (2014). *Pengembangan Desain Perkuliahan Kimia Sekolah Berbasis Model Mental untuk Meningkatkan Pemahaman Materi Subyek Mahasiswa Calon Guru Kima*. (Disertasi). Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Bandung.