

DAFTAR PUSTAKA

- Anderson, O. R. (1993). A Flow-Map Method of Representing Cognitive Structures Based on Respondents' Narrative Using Science Content. *Journal of Research in Science Teaching*, 953-969.
- Andrianie, D., Sudarmin, & Wardani, S. (2018). Representasi Kimia untuk Mereduksi Miskonsepsi Siswa pada Materi Redoks melalui Penerapan Model Pembelajaran Inkuiiri Terbimbing Berbantuan LKS. *Chemistry in Education*, 69-76.
- Atkin , J. M., & Karplus, R. (1962). The Learning Cycle Model for Science Teaching. *The Science Teacher*, 45-51.
- Bischoff, P. J., Avery, L., Golden , C. F., & French, P. (2010). An Analysis of Knowledge Structure, Diversity and Diagnostic Abilities Among Pre-Service Science Teachers Within the Domain of Oxidation and Reduction Chemistry. *Journal Science Teacher Education*, 411–429.
- Bishop, M. L., Fody, E. P., & Schoeff, L. E. (2010). *Clinical Chemistry Principles, Techniques, and Correlations*. China: Lippincott Williams and Wilkins.
- Bodner, G. M. (1986). Constructivism: A theory of knowledge. *Journal of Chemical Education*, 873-878..
- Brown, P. L., & Abell, S. K. (2007). Examining the Learning Cycle . *Research and tips to support science education*, 58-59.
- Brown , T. L., Lemay, H. E., Bursten , B. E., Murph, C. J., & Woodwar, P. M. (2012). *Chemistry The Central Science Tweleifth Edition*. United States of America: Pearson Prentice Hall.
- Ceylan, O., & Yigit, A. E. (2018). Analyzing the Effect of Concept Cartoon Usage on Students' Cognitive Structures Developments and Science Achievements through Flow Maps. *International Council of Association for Science Education*, 238-249.
- Chang, R. (2005). *Kimia Dasar Konsep-Konsep Inti*. Jakarta: Erlangga.
- Chittleborough, G. (2014). The Development of Theoretical Frameworks for Understanding the Learning of Chemistry. In I. Devetak, & S. A. Glazar, *Learning with Understanding in the Chemistry Classroom* (pp. 26-38). Melbourne: Springer Science & Business Media.
- Chittleborough, G., & Treagust, D. F. (2007). The modeling ability of non major chemsity student and their understanding of submicroscopic level. *Royal Society of Chemsity*, Volume 8, Issu no 3, pp 274-292.

- Ciascai, L., & Haiduc, L. (2011). Metacognitive strategies that Romanian pupils use when reading science textbooks. *International Conference on Social and Humanity* (pp. 389-392). Singapore: IACSIT Press.
- Cracolie, M. S., Deming, J. C., & Ehlert , B. (2008). Concept learning versus problem solving: A cognitive difference. *Journal of Chemical Education*, 873-878.
- Creswell, J. W. (2009). *Research Design Qualitative, Quantitative, and Mix Methods Approaches*. Los Angeles: SAGE Publications, Inc.
- Darmiyanti, W., Rahmawati, Y., Kurniadewi, F., & Ridwan, A. (2017). Analisis Model Mental Siswa dalam Penerapan Model Pembelajaran Learning Cycle 8E pada Materi Hidrolisis Garam. *Jurnal Riset Pendidikan Kimia* , Vol. 1, No. 1, pp.38-51.
- Ganer, B. K. (2007). *Getting to "Got it!"; Helping Struggling Syudents Learn How to Learn*. Sydney: ASCD.
- Garnett, P., & Treagust, D. F. (1992). Conceptual difficulties experienced by senior high school of electrochemistry; Electric circuit and oxidation-reduction. *Journal of Research in Science Teaching*, 121-142.
- Guba, E. G., & Lincoln, Y. S. (1985). *Fourth Geeneration Evaluation*. Nuwbury Park: Sage Publication.
- Jaber, L. Z., & BouJaoude, S. (2012). A Macro-Micro-Symbolic Teaching to Promote Relational Understanding of Chemical Reactions. *International Journal of Science Education*, 973-998.
- Jack , G. U. (2017). The effect of learning cycle constructivist-based approach on students' academic achievement and attitude towards chemistry in secondary schools in north-eastern part of Nigeria. *Educational Research and Reviews*, 456-466.
- Jespersen, N. D., Brady, J. E., & Hyslop, A. (2012). *Chemistry the molecular nature and matter*. United State of America: Wiley and Sons, Inc.
- Johnstone, A. H. (1991). Why is science difficult to Learn? Things are seldom what the seem. *Journal of Computer Assisted Learning*, volume 7, issue 2, pp 75-83.
- Kahyaoğlu, M., & Çatak, M. (2017). A Research on the Cognitive Structure of Middle School Students Regarding Concepts of Nature and Environment . *US-China Education*, Vol. 7, No. 3, 115-125 .
- Li, W. S., & Arshad, M. Y. (2014). Application of Multiple Representation Levels in Redox Reactions among Tenth Grade Chemistry Teachers . *Journal of Turkish Science Education* , 35-52.

- Lipsitz, K., Cisterna, D., & Hanuscin, D. (2017). What's the Story? Using the 5E learning cycle to create coherent storylines. *Science and Children*, 76-80.
- Mahardika, E., Nurbait, Ridwan, A., & Rahmawati, Y. (2018). Analisis Struktur Kognitif Siswa dengan Metode Flow map dalam Materi Asam Basa Menggunakan Model Learning Cycle 8E. *EduChemia*, Vol.3, No.1, pp 51-65.
- Maier, S. J., & Marek, E. A. (2016). The Learning Cycle: A Reintroduction. *The Physics Teacher*, 109-113.
- Marek, E. (2008). Why the Learning Cycle? *Journal of Elementary Science Education*, pp. 63-69.
- McMurry, J. E., Fay , R. G., & Robinson, J. K. (2016). *Chemistry seventh edition*. United State of America: Pearson Education.
- Miles, M., & Huberman, A. (1994). *Qualitative Data Analysis: An expanded Source Book second edition*. Sage: Thousand Oaks.
- Pendley, B. D., Bretz, R. L., & Novak, J. D. (1994). Concept Maps as a Tool to Assess Learning in Chemistry. *Journal of Chemical Education*, 9-15.
- Petrucci, R. H., Herring, F. G., Madura, J. D., & Bissonnette , C. (2010). *General Chemistry Principles and Modern Applications Tenth Edition*. Toronto: Pearson Canada.
- Rahmawati, Y. (2018). Peranan Transformative Learning dalam Pendidikan Kimia: Pengembangan Karakter, Identitas Budaya, dan Kompetensi Abad ke-21. *Jurnal Riset Pendidikan Kimia*, 1-16.
- Ridwan, A., & Rahmawati, Y. (2016). Studi Tentang Penerapan Model Learning Cycle 8E pada Pembelajaran Kimia. *Jurnal Pendidikan dan Pembelajaran*
- Rodriguez, S., Allen, K., Jason, H., & Qadri, S. A. (2019). Making and the 5E Learning Cycle. *Science Teacher*, pp. 48-55.
- Rosenthal, D.P., & Sanger, M.J. (2012). Student misinterpretations and misconceptions based on their explanations of two computer animations of varying complexity depicting the same oxidation-reduction reaction. *Chemistry Education Research and Practice*, 471-483.
- Saunders, N., & Saunders, A. (2007). *Chemistry*. New York: Oxford University Press.
- Sedikides, C., & Skowronski, J. J. (1991). The Law of Cognitive Structure Activation. *Psychological Inquiry*, 169-184.

- Shavelson, R. (1972). Some aspects of the correspondence between content structure and cognitive structure in physics education. *Journal of Educational Psychology*, 225–234.
- Suardana , I. N., Redhana , I. W., Sudiatmika , A. A., & Selamat , I. N. (2017). Students' Critical Thinking Skills in Chemistry Learning Using Local Culture-Based 7E Learning Cycle Model. *International Journal of Instruction*, Vol.11, No.2, pp 399-412.
- Taber, K. S. (2001). Shifting Sand: A Case Study of Conceptual Development as Competition Between Alternative Conceptions. *International Journal of Science Education*, 731-753.
- Temel, S. (2016). An analysis of prospective chemistry teachers' cognitive structures through flow map method: The subject of oxidation and reduction . *Asia-Pacific Forum on Science Learning and Teaching*, Volume 17, Issue 2, Article 18 .
- Temel, S., & Özcan, Ö. (2016). The Analysis of Prospective Chemistry Teachers' Cognitive Structure: The Subject of Covalent and Ionic Bonding. *Eurasia Journal of Mathematics, Science & Technology Education*, 1953-1969 .
- Treagust, D. F., Chittleborough, G., & Mamiala, T. L. (2003). The role of submicroscopic and symbolic representation in chemical explanations. *International Journal of Science education*, 1353-1368.
- Tsai, C. C. (2001). Probing Students' Cognitive Structures in Science: The Use of A Flow Map Method Coupled with Meta-Listening Thecnique. *Studies in Educational Evaluation*, 257-268.
- Tsai, C.C., & Huang, C.M. (2002). Exploring Students' Cognitive Structures in Learning Science: a review a relevant methods. *Journal of Biological Education*, 163-169.
- Ucak, N. O., & Guzeldere, S. O. (2006). The Impact of cognitive structure and processes on information seeking. *Turkish librarianship*, 7-28.
- Willson, S. (2012). *Psychological Theories*. Delhi: College Publishing House.
- Withers, M. (2016). The College Science Learning Cycle: An Instructional Model for Reformed Teaching. *CBE—Life Sciences Education*, 1-12.
- Zhou, Q., Wang , T., & Zheng, Q. (2015). Probing high school students' cognitive structures and key areas of learning difficulties on ethanoic acid using the flow map method. *Chemistry Education Research and Practice*.
- Zumdahl, S. S., & Zumdahl , S. A. (2010). *Chemistry Eight Edition*. United State of America: Charles Hartford.