

## DAFTAR PUSTAKA

- Acar, O. (2008). *Argumentation Skills And Conceptual Knowledge Of Undergraduate Students In A Physics By Inquiry Class*. Disertasi Doctor Pada Ohio State University. Tidak Diterbitkan.
- Adadan, E. Trundle, K. & Irving, K. (2010). *Exploring Grade 11 Students' Conceptual Pathways Of The Particulate Nature Of Matter In The Context Of Multirepresentational Instruction*. K@ta: Journal Of Research In Science Teaching Vol. 47, No. 8, Pp. 1004–1035
- Adadan, E. (2013). *Using Multiple Representations To Promote Grade 11 Students' Scientific Understanding Of The Particle Theory Of Matter*. K@ta: Research In Science Education. Volume 43 pp:1079-1105
- Ainsworth, S. (1999). *The Functions of Multiple Representations*. Computers & Education, 33, 131-152.
- Ainsworth, S. (2008). *The Educational Value Of Multiple-Representations When Learning Complex Scientific Concepts*. J.K. Gilbert Et Al (2008.) *Visualization: Theory And Practice In Science Education*, 191–208. Springer
- Akkus, R., Gunel, M., & Hand, B. (2007). *Comparing An Inquiry Based Approach Known As The Science Writing Heuristic To Traditional Science Teaching Practices: Are There Differences?* K@ta: International Journal of Science Education, 29, 1745–1765.
- Akkus, O dan Cakiroglu, E. (2009). *The Effects of Multiple Representations-Based Instruction on Seventh Grade Students' Algebra Performance*. Proceedings of CERME.
- Alfiani. (2015). *Pengaruh Penerapan Cmaptools pada Model Pembelajaran Elicit-Confront-Identify-Resolve-Reinforce (Ecirr) terhadap Konsistensi Konsepsi Siswa SMA dan Penurunan Kuantitas Siswa Miskonsepsi pada Materi Suhu dan Kalor*. [Tesis, Universitas Pendidikan Indonesia, 2015, Tidak Diterbitkan]
- Arikunto, S. (2010). *Dasar-Dasar Evaluasi Pendidikan*. Jakarta: Bumi Aksara.
- Arikunto, S. (2010). *Prosedur Penelitian*. Jakarta: Rineka Cipta.

- Choi, A. (2010). *Argument Structure In The Science Writing Heuristic (SWH) Approach*. K@ta : Journal Korea Association Science Education Vol 3, Pp 323-336
- Choi, A. Klein, V. & Hershberger, S. (2014). *Success, Difficulty, And Instructional Strategy To Enact An Argument-Based Inquiry Approach: Experiences Of Elementary Teachers*. K@ta: International Journal Of Science Mathematics Education.
- Cock, M. (2012). *Representation Use and Strategy Choice in Physics Problem Solving*. K@ta: Physical Review Special Topics - Physics Education Research.
- Coe, R. (2002). *What Effect Size is And Why it is Important*. British Educational Research Association annual conference.
- Cohen, J. (1992). *Statistical Power Analysis*. Association for Psychological Science. Sage Publication.
- Collins, A. (2011). *Representational Competence: A Commentary on the Greeno Analysis of Classroom Practice*. K@ta: Theories of Learning and Studies of Instructional Practice.
- Creswell, J. (2014). *Research Design: Pendekatan Kualitatif, Kuantitatif, dan Mixed*. Yogyakarta: Pustaka Pelajar
- Demirbag, M, & Gunel, M. (2014). *Integrating Argument-Based Inquiry With Modal Representation: Impact On Science Achievement, Argumentation, And Writing Skills*. K@ta: Educational Science, Theory And Practice 4 Pp 386-391
- Disessa, A. (2004). *Metarepresentation: Native Competence and Targets for Instruction*. K@ta: Cognition And Instruction, 22(3), 293–331
- Driver, R., Newton, P., & Osborne, J. (2000). *Establishing the Norms of Scientific Argumentation in Classrooms*. K@ta: Science Education, 84, 287-312
- Duschl, R. A. (1990). *Restructuring Science Education: The Importance of Theories and Their Development*. Teacher's College Press, New York.
- Dvorakova, I. (2012). *Electric Circuits in The Heureka Project: Multiple Representations*. Proceedings of The World Conference on Physics Education

lin Suminar, 2016

**PENERAPAN MODEL ARGUMENT-BASED INQUIRY MENGGUNAKAN PENDEKATAN MULTI REPRESENTASI UNTUK MENINGKATKAN KEMAMPUAN TRANSLASI ANTAR MODUS REPRESENTASI DAN KEMAMPUAN BERARGUMENTASI SISWA SMA PADA MATERI FLUIDA STATIS**

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

- Eskin, H. & Bekiroglu, F. (2012). *Examination Of The Relationship Between Engagement In Scientific Argumentation And Conceptual Knowledge*. K@ta: International Journal Of Science And Mathematics Education, 10: 1415-1443
- Etkina, E, Heuvelen, A. & Rosengrant, D. (2008). *Using Multiple Representations to Improve Student Learning in Mechanics*. College Board
- Ford, M. (2008). *Disciplinary Authority and Accountability in Scientific Practice and Learning*. K@ta : Science Education, 92, 404–421.
- Ford, M., & Forman, E. A. (2006). *Refining Disciplinary Learning in Classroom Contexts*. K@ta : Review of Research in Education, 30, 1–33.
- Fraenkel, J. R. And Wallen, N. E., Hyun, H (2008). *How to Design and Evaluate Research In Education, 7<sup>th</sup> Edition*. Singapore: McGraw-Hill.
- Hake, R. (1999). *Analyzing Change/Gain Scores*. K@ta : American Educational Research Association.
- Hake, R. (2002). *Relationship of Individual Student Normalized Learning Gains in Mechanics with Gender, High-School Physics, and Pretest Scores on Mathematics and Spatial Visualization*. K@ta: American Educational Research Association.
- Hand, B. & Cavagnetto, A. (2012). [Review Of The Book *Perspective On Scientific Argumentation: The Importance Of Embedding Argument Within Science Classroom*] Pp 39-53
- Hand, B. & Choi, A. (2010). *Examining the Impact of Student Use of Multiple Modal Representation in Constructing Arguments in Organic Chemistry Laboratory Class*. K@ta : Research Science Education, 40:29-44
- Hand, B. & Mcdermott, M. (2013). *The Impact Embedding Multiple Modes Of Representation Within Writing Tasks on High School Student's Chemistry Understanding*. K@ta : Instructional Science, 41:217-246
- Hewitt, P. (2001). *Conceptual Physics*. Addison Wesley.
- Hohenshell, L & Hand, B. (2006). *Writing To Learn Strategies In Secondary School Cell Biology: A Mixed Method Study*. K@ta: International Journal Of Science Education Vol. 28, Pp. 261–289

- Hubber, P, Tytler, R dan Haslam, F. (2010). *Teaching and Learning about Force with a Representational Focus: Pedadogy and Teacher Change*. K@ta: Research Science Education. 40 pp 5-28.
- Katchevich, D, Hofstein, A, & Naaman, R. (2013). *Argumentation In The Chemistry Laboratory: Inquiry And Confirmatory Experiments*. K@ta: Res Sci Educ 43:317–345
- Kingir, S, Grban, O, & Gunel, M. (2013). *Using The Sciencewriting Heuristic Approach To Enhance Student Understanding In Chemical Change And Mixture*. K@ta: Res Sci Educ 43:1645–1663
- Kohl, P. & Finkelstein, N. (2006). *Effects of Representation on Students Solving Physics Problems: a Fine-Grained Characterization*. K@ta: Physics Education Research.
- Kohl, P., Rosengrant, D., & Finkelstein, N. (2007). *Strongly and Weakly Directed Approaches to Teaching Multiple Representation Use in Physics*. K@ta: Physical Review Special Topics - Physics Education Research, 3(1)
- Konstantinidou, A. & Macagno, F. (2013). *Understanding Students' Reasoning: Argumentation Schemes as an Interpretation Method in Science Education*. K@ta: Sci & Educ (2013) 22:1069–1087
- Kozma, R. B. (2003). *The Material Features of Multiple Representations and Their Cognitive and Social Affordances for Science Understanding*. K@ta: Learning and Instruction, 13(2), 205-226.
- Kuhn, D. (1993). *Science as Argument: Implications for Teaching and Learning Scientific Thinking*. K@ta: Science Education, 77, 319-337.
- Kurnaz. M, & Arslan, A. (2014). *Effectiveness Of Multiple Representation For Learning Energy Concept : Case Of Turkey*. K@ta: Procedia-Social And Behavioral Sciences 116
- Lakens, D. (2013). *Calculating and Reporting Effect Size to Facilitate Cumulative Science: a Practical Primer for t-test and ANOVAs*. Human Technology Interaction Group, Eindhoven University of Technology, Eindhoven, Netherlands.
- Madden, S, Jones, L. & Rahm, J. (2011). *The role of multiple representations in the understanding of ideal gas problems*. K@ta: Chem. Educ. Res. Pract. 283–293

lin Suminar, 2016

**PENERAPAN MODEL ARGUMENT-BASED INQUIRY MENGGUNAKAN PENDEKATAN MULTI REPRESENTASI UNTUK MENINGKATKAN KEMAMPUAN TRANSLASI ANTAR MODUS REPRESENTASI DAN KEMAMPUAN BERARGUMENTASI SISWA SMA PADA MATERI FLUIDA STATIS**

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

- Muslim. (2014). *Pengembangan Program Perkuliahan Fisika Sekolah Beroientasi Kemampuan Berargumentasi Calon Guru Fisika*. [Disertasi, Universitas Pendidikan Indonesia, 2014, Tidak Diterbitkan]
- Nam, J, Choi, A, Hand, B. (2011). *Implementation Of The Science Writing Heuristic (Swh) Approach In 8th Grade Science Classrooms Jeonghee Nam, Aeran Choi And Brian Hand*. K@ta: International Journal Of Science And Mathematics Education 9: 1111-1133
- Ngyuen, D. & Rebello, N. (2011). *Students' Difficulties With Multiple Representations in Introductory Mechanics*. K@ta: US-China Education Review, Vol. 8, No. 5, 559-569
- Nichols, K. Hanan, J. & Ranasinghe, M. (2013). *Transforming the Social Practices of Learning with Representations: A Study of Disciplinary Discourse*. K@ta: Res Sci Educ (2013) 43:179–208
- Nichols, K. Gillies, R. Hedberg, J. (2015). *Argumentation-Based Collaborative Inquiry In Science Through Representational Work: Impact On Primary Student's Representational Fluency*. K@ta: Reasearch Science Education.
- Osborne, J. (2010). *Arguing to Learn in Science: The Role of Collaborative, Critical Discourse*. K@ta: Science, 328, 463–466.
- Peraturan Menteri Pendidikan Dan Kebudayaan, No. 103 Tahun 2014, Pembelajaran Pada Pendidikan Dasar Dan Pendidikan Menengah.
- Peraturan Menteri Pendidikan Dan Kebudayaan, No. 59 Tahun 2014, Kurikulum 2013 Sekolah Menengah Atas/Madrasah Aliyah
- Postlethwaite, T. (2005). *Educational Research: Some Basic Concepts And Terminology*. UNESCO
- Prain, V. & Tytler (2013). *Learning Through the Affordances of Representation Construction*. Tytler, R, Prain, V, Hubber, P & Waldrip, B (2013). *Constructing Representations to Learn in Science*. Sense Publisher
- Prain, V. & Tytler, R. (2013). *Representing and Learning In Science*. Tytler, R, Prain, V, Hubber, P & Waldrip, B (2013). *Constructing Representations to Learn in Science*. Sense Publisher
- Prain, V. Tytler, R. (2013). *Learning Through The Affordances Of Representation Construction*. Tytler, R, Prain, V, Hubber, P & Waldrip, B (2013).

lin Suminar, 2016

**PENERAPAN MODEL ARGUMENT-BASED INQUIRY MENGGUNAKAN PENDEKATAN MULTI REPRESENTASI UNTUK MENINGKATKAN KEMAMPUAN TRANSLASI ANTAR MODUS REPRESENTASI DAN KEMAMPUAN BERARGUMENTASI SISWA SMA PADA MATERI FLUIDA STATIS**

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

*Constructing Representations to Learn in Science*. Sense Publisher.  
Sense Publisher

- Prain, V., & Tytler, R. (2012). *Learning through constructing representations in science: A framework of representational construction affordances*. International Journal of Science Education
- Rosengrant, D. (2007). *Multiple Representations And Free-Body Diagrams: Do Students Benefit From Using Them?*. Disertasi Doktor Pada State Univerisity Of Jersey.
- Rosengrant, D. Etkina, E. Van Heuvelen, A. Brahmia, S. Brookes, D. Gentile, M. Murthy, S. & Waren, A. (2006). *Scientific Abilities and Their Asessment*. K@ta: Physics Education Research 2, 020103.
- Rosengrant, D., Van Heuvelen, A., & Etkina, E. (2009). *Do Students Use and Understand Free-Body Diagrams?* Physical Review Special Topics - Physics Education Research, 5
- Rudd, II, J. A., Greenbowe, T. J., & Hand, B. M. (2007). *Using The Science Writing Heuristic To Improve Students' Understanding Of General Equilibrium*. K@ta: Journal of Chemical Education, 84
- Ruxton, G. (2006). *The Unequal Variance t-test is an Underused Alternative to Student's t-test And the Mann–Whitney U Test*. Oxford University Press on behalf of the International Society for Behavioral Ecology.
- Serway, R & Jewett, J. (2004). *Physiscs for Scientist and Engineers 6<sup>th</sup> Edition*. Thomson Brooks.
- Simon, S., Erduran, S., & Osborne, J. (2006). *Learning to Teach Argumentation: Research and Development in the Science Classroom*. K@ta: International Journal of Science Education, 28 (2/3), 235–260.
- Sinaga, P. Suhandi, A. & Liliasari. (2014). *The Effectiveness Of Learning To Represent Physics Concept Approach: Preparing Pre-Service Physics Teachers To Be Good Teachers*. K@ta : International Journal of Research in Applied, Natural and Social Sciences, pp: 127-136
- Siswanto. (2014). *Pembelajaran Pembangkit Argument Menggunakan Metode Sainifik Untuk Meningkatkan Kemampuan Kognitif Dan Keterampilan Berargumentasi Siswa SMA*. [Tesis, Universitas Pendidikan Indonesia, 2014, Tidak diterbitkan]

lin Suminar, 2016

**PENERAPAN MODEL ARGUMENT-BASED INQUIRY MENGGUNAKAN PENDEKATAN MULTI REPRESENTASI UNTUK MENINGKATKAN KEMAMPUAN TRANSLASI ANTAR MODUS REPRESENTASI DAN KEMAMPUAN BERARGUMENTASI SISWA SMA PADA MATERI FLUIDA STATIS**

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

- Stieff, M. Hegarty, M. & Deslongchamps, G. (2011). *Identifying Representational Competence With Multi-Representational Displays*. K@ta: Cognition and Instruction, 29(1), 123–145, 2011
- Sudjana. (2013). *Metoda Statistika*. Tarsito: Bandung
- Tyler, R. Hubber, P. & Prain, V. (2013). *Structuring Learning Sequences*. Tytler, R, Prain, V, Hubber, P & Waldrip, B (2013). *Constructing Representations to Learn in Science*. Sense Publisher
- Tytler, R, Hubber, P, Prain, V, & Waldrip, B. (2013). *A Representation Construction Approach*. Tytler, R, Prain, V, Hubber, P & Waldrip, B (2013). *Constructing Representations to Learn in Science*. Sense Publisher. Sense Publisher
- Tytler, R. Prain, V. Hubber, P. & Haslam, F. (2013). *Reasoning in Science Through Representation*. Tytler, R, Prain, V, Hubber, P & Waldrip, B (2013). *Constructing Representations to Learn in Science*. Sense Publisher
- Tytler, R., & Prain, V. (2010). *A Framework for Re-Thinking Learning in Science From Recent Cognitive Science Perspectives*. *International Journal of Science Education*, 32(15), 2055–2078.
- Vrain, P. Tytler, R. & Peterson, S. (2009). *Multiple Representation in Learning About Evaporation*. K@ta: International Journal of Science Education Vol. 31, No. 6, 1 April 2009, pp. 787–808
- Waldrip (Personal Communication, 12 Agustus 2015)
- Waldrip, B & Sutopo. (2014). *Impact Of Representational Approach On Students' Reasoning And Conceptual Understanding In Learning Mechanics*. K@ta: International Journal Of Science And Mathematics Education. 12 Pp: 741-765
- Waldrip, B, & Prain, V. (2013). *Teachers' Initial Response To A Representational Focus*. Tytler, R, Prain, V, Hubber, P & Waldrip, B (2013). *Constructing Representations to Learn in Science*. Sense Publisher
- Waldrip, B, Prain, V dan Carolan, J. (2010). *Using Multi-Modal Representation to Improve Learning in Junior Secondary Science*. K@ta : *Research Science Education*. 40, 65-80.

- Waldrip, B, Prain, V & Sellings, P. (2013). *Explaining Newton's Laws Of Motion : Using Student Reasoning Through Representations To Develop Conceptual Understanding*. K@ta: Instructional Science. 41 Pp: 165-189
- Waldrip, B. Hubber, P. & Prain, V. (2013). *Assessment*. Tyler, R, Prain, V, Hubber, P & Waldrip, B (2013). *Constructing Representations to Learn in Science*. Sense Publisher
- Waldrip, B. & Prain, V. (2012). [Review Of The Book *Second International Handbook Of Science Education: Learning From And Through Representations In Science*]. Pp 145-155
- Wong, D. Sng, P. Ng, H. & Wee, L. (2011). *Learning With Multiple Representations: An Example Of A Revision Lesson In Mechanics*. K@ta: Physics Education 46 (2)