

DAFTAR PUSTAKA

- Abubakar, R. (2021). *Pengantar Metodologi Penelitian*. Yogyakarta: SUKA-Press UIN Sunan Kalijaga.
- Abulibdeh, A., Zaidan, E. A., & Abulibdeh, R. (2024). Navigating the Confluence of Artificial Intelligence and Education for Sustainable Development in The Era of Industry 4.0: Challenges, Opportunities, and Ethical Dimensions. *Journal of Cleaner Production*, 437(1).
- Akimov, N., Kurmanov, N., Uskelenova, A., Aidargaliyeva, N., Mukhiyayeva, D., Rakhimova, S., . . . Utegenova, Z. (2023). Components of education 4.0 in open innovation competence frameworks: Systematic review. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(2).
- Alatas, F., & Fauziah, L. (2020). Model Problem Based Learning (PBL) untuk Meningkatkan Kemampuan Literasi Sains Pada Konsep Pemanasan Global. *JIPVA (Jurnal Pendidikan IPA Veteran)*, 3(1), 102-113.
- Aldoobie, N. (2015). ADDIE Model. *American International Journal of Contemporary Research*, 5(6), 68-72.
- Alenezi, M., Wardat, S., & Akour, M. (2023). The Need of Integrating Digital Education in Higher Education: Challenges and Opportunities. *Sustainability*, 15(6), 4782.
- Amimah, Leksono, S. M., & Taufik, A. N. (2023). Pengembangan E-Modul IPA Berbasis Google Slide Dengan Tema Global Warming Untuk Menumbuhkan Minat Belajar Siswa. *PENDIPA Journal of Science Education*, 7(3), 416-422.
- Ananda, E. R., I'zaati, L., & Susilawati, S. (2024). Kajian Literature: Peran Penting Konsep Komunikasi dalam Penggunaan Media dan Bahan Ajar Sekolah Dasar. *Jurnal of Education Research*, 5(1), 267-275.
- Anggraena, Y., Felicia, N., Ginanto, D. E., Pratiwi, I., Utama, B., Alhapip, L., & Widiaswati, D. (2021). *Kajian Akademik: Kurikulum untuk Pemulihan Pembelajaran*. Pusat Kurikulum dan Pembelajaran. Badan Standar, Kurikulum, dan Asesmen Pendidikan. Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi.
- Ardianti, R., Sujarwanto, E., & Surahman, E. (2021). Problem-Based Learning: Apa dan Bagaimana. *DIFFRACTION: Journal for Physics Education and Applied Physics*, 3(1), 24-35.
- Arends, R. I. (2012). *Learning to Teach Ninth Edition*. New York: McGraw-Hill.
- Argaw, A. S., Haile, B. B., Ayalew, B. T., & Kuma, S. G. (2017). The Effect of Problem Based Learning (PBL) Instruction on Students' Motivation and Problem Solving Skills of Physics. *EURASIA Journal of Mathematics Science and Technology Education*, 13(3), 857-871.
- Arikunto, S. (2019). *Prosedur Penelitian: Suatu Pendekatan Praktik (Edisi Revisi)*. Jakarta: Rineka Cipta.

- Barrows, H. S., & Tamblyn, R. M. (1980). *Problem Based Learning*. New York: Springer.
- Basri, H. (2015). *Paradigma Baru Sistem Pembelajaran*. Bandung: Pustaka Setia.
- Borg, W. R., & Gall, M. D. (1983). *Educational Research: An Introduction Fourth Edition*. New York: Longman.
- Branch, R. M. (2009). *Instructional Design: The ADDIE Approach*. USA: Springer.
- Budiarso, A. (2019). *Kebijakan Pembiayaan Perubahan Iklim: Suatu Pengantar*. Bogor: IPB Press.
- Chen, Y., Hmelo-Silver, C. E., Lajoie, S. P., Zheng, J., Huang, L., & Bodnar, S. (2021). Using Teacher Dashboards to Access Group Collaboration in Problem Based Learning. *The Interdisciplinary Journal of Problem Based Learning*, 15(2).
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. SAGE Publications.
- Cutter-Mackenzie, A., & Rousell, D. (2018). Education for what? Shaping the field of climate change education with children and young people as co-researchers. *Children's Geographies*, 1-15.
- Delita, F., Berutu, N., & Nofrion. (2022). Online Learning: The Effects of Using Modul elektronikes on Self-Efficacy, Motivation and Learning Outcomes. *Turkish Online Journal of Distance Education*, 23(4), 93-107.
- Depdiknas. (2003). *Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional*. Jakarta: Dirjen Pendidikan Dasar dan Menengah.
- Depdiknas. (2008). *Panduan Pengembangan Bahan Ajar*. Jakarta: Direktorat Jenderal Manajemen Pendidikan Dasar dan Menengah.
- Diab, H., Daher, W., Rayan, B., Issa, N., & Rayan, A. (2024). Transforming Science Education in Elementary Schools: The Power of PhET Simulations in Enhancing Student Learning. *Multimodal Technologies and Interaction*, 8(105).
- Eldis, E. N., Suban, M. E., & Riong, M. B. (2024). The Analysis of Phase E Students' Problem-Solving Skills on Global Warming Materials with the Help of the Problem-Based Electronic Module. *Journal of Innovative Science Education*, 13(1), 29-36.
- Fajrin, V. P., Wibowo, F. C., Nasbey, H., Bunyamin, M. A., & Khamis, N. B. (2024). Development of an Interactive Digital Physics Module (IDPM) on The Concept of Global Warming to Improve Students' Problem Solving Skills (PSS). *Gravity: Jurnal Ilmiah Penelitian dan Pembelajaran Fisika*, 10(2), 127-140.
- Febrianti, V. P. (2023). Bagaimana Cara Mengajarkan Pemanasan Global pada Siswa Sekolah Menengah Atas? *SIPITEK: Seminar Nasional Inovasi dan Pengembangan Teknologi Pendidikan*, 1(1).

- Fitri, M. N., Asrizal, Amnah, R., Hidayati, Emiliannur, & Helma. (2024). Development of Global Warming E-Module Integrated with PBL Model and Ethnoscience to Promote Students' Environmental Literacy . *Journal of Research in Science Education*, 10(11), 8276-8289.
- Fitriyah, I. J., Zulfa, N. I., & Saputri, W. E. (2024). Development of an Integrated Science E-Module with The Theme of Global Warming Based on Problem-Based Learning to Improve Understanding of Class VII Junior High School Students. *AIP Conf. Proc*, 3106(1).
- Fletcher, C., Ripple, W. J., Newsome, T., Barnard, P., Beamer, K., Behl, A., . . . M, C. (2024). Earth at risk: An urgent call to end the age of destruction and forge a just and sustainable future. *PNAS Nexus*, 3(4), 1-20.
- Freije, A. M., Hussain, T., & Salman, E. A. (2017). Global Warming Awareness Among The University of Bahrain Science Students. *Journal of the Association of Arab Universities for Basic and Applied Sciences*, 22, 9-16.
- Gumartifa, A., Syahri, I., Siroj, R. A., Nurrahmi, M., & Yusof, N. (2023). Perception of Teachers Regarding Problem-Based Learning and Traditional Method in the Classroom Learning Innovation Process. *Indonesian Journal on Learning and Advanced Education (IJOLAE)*, 5(2), 151-166.
- Hadira, Sari, M. S., & Sulisetijoni. (2024). Development of E-Modules Based on Problem-Based Learning to Enhance Problem-Solving Skills and Student Self-Efficacy. *Jurnal Penelitian dan Pengkajian Ilmu Pendidikan: e-Saintika*, 8(1), 86-101.
- Hamzah, R. A., Mesra, R., Karo, K. B., Alifah, N., Hartini, A., Agusta, H. G., . . . Larekeng, S. H. (2023). *Strategi Pembelajaran Abad 21*. Deli Serdang: PT. Mifandi Mandiri Digital.
- Haque, N. (2014). A Brief Study on Needs Analysis. *Express, an International Journal of Multi Disciplinary Research*, 1(1).
- Harun, N. F., Yusof, K. M., Jamaludin, M. Z., & Hassan, S. A. (2012). Motivation in Problem-based Learning Implementation. *Procedia-Social and Behavioral Sciences*, 56, 233-242.
- Hashim, M. A., Tlemsani, I., & Matthews, R. (2022). Higher Education Strategy in Digital Transformation. *Education and Information Technologies*, 27, 3171-3195.
- Hasibuan, R. N., Azmi, S. S., & Savana, H. (2022). Upaya Meningkatkan Hasil Belajar Siswa dengan Menerapkan Model Problem Based Learning (PBL) pada Materi Pemanasan Global Kelas VII SMP Swasta Dr. Wahidin Sudirohusodo Medan. *ACTION: Jurnal Inovasi Penelitian Tindakan Kelas dan Sekolah*, 2(2), 205-213.
- Houghton, J. (2023). Learning Modules: Problem Based Learning, Blended Learning, and Flipping the Classroom. *The Law Teacher*, 57(3), 271-294.
- Iftitah, S. L. (2023). Designing Effective Instructional Media in Early Childhood Education: A Comparative Review of the ADDIE and Dick and Carey

- Instructional Design Models. *Advances in Educational Technology*, 2(1), 49-70.
- Irwansyah, F. S., Lubab, I., Farida, & Ramdhani, M. A. (2017). Designing Interactive Electronic Module in Chemistry Lessons. *Journal of Physics: Conference Series*, 895(1).
- Istiqoma, M., Prihatni, T. N., & Anjarwati, R. (2023). Modul Elektronik Sebagai Media Pembelajaran Mandiri. *SENIATI: Seminar Nasional Inovasi dan Aplikasi Teknologi di Industri*, 301-305.
- Johnson, A. M., Jacovina, M. E., Russell, D. G., & Soto, C. M. (2016). Challenges and Solutions When Using Technologies in The Classroom . In S. A. Crossley, & D. S. McNamara, *Adaptive Educational Technologies for Literacy Instruction* (pp. 13-29). New York: Taylor & Francis.
- Kain, C., Koschmieder, C., Matischek-Jauk, M., & Bergner, S. (2024). Mapping the Landscape: A Scoping Review of 21st Century Skills Literature in Secondary Education. *Teaching and Teacher Education*, 151(11).
- Karimi, R. (2011). Interface Between Problem-Based Learning and a Learner-Centered Paradigm. *Advances in Medical Education and Practice*, 2, 117-125.
- Karunarathna, I., Gunasena, P., Hapuarachchi, T., Ekanayake, U., Rajapaksha, S., Gunawardana, K., . . . Gunathilake, S. (2024). The Crucial Role of Data Collection in Research: Techniques, Challenges, and Best Practices. *Uva Clinical Research*, 1-24.
- Khasanova, G. (2023). Problem-Based Learning Technology. *Journal of Pedagogical Inventions and Practices*, 19, 137-139.
- Kinasih, R. A., Prahani, B. K., Wibowo, F. C., & Costu, B. (2023). Profile of students' Physics Problem Solving Skills and Implementation PBL Model Assisted by 3D Digital Module to Improve Problem Solving Skills. *JPPPF (Jurnal Penelitian dan Pengembangan Pendidikan Fisika)*, 9(2), 245-256.
- Kosasih. (2020). *Pengembangan Bahan Ajar*. Jakarta Timur: PT Bumi Aksara.
- Krzic, M., Brown, S., & Bomke, A. A. (2020). Combining Problem-based Learning and Team-based Learning in a Sustainable Soil Management Course. *Natural Sciences Education*, 49(1), 208-215.
- Kurup, P. M., Levinson, R., & Li, X. (2021). Informed-Decision Regarding Global Warming and Climate Change Among High School Students in the United Kingdom. *Canadian Journal of Science Mathematics and Technology Education*, 21(1).
- Larasati, S. (2018). Desain Pengembangan Modul Pemahaman Konsep Berbasis Metode Penemuan Terbimbing. *UNION: Jurnal Pendidikan Matematika*, 6(2), 185-196.
- Li, C. L., & Abidin, M. J. (2024). Instructional Design of Classroom Instructional Skills Based on the ADDIE Model. *Technium Social Sciences Journal*, 55, 167-178.

- Liliana, R. A., Raharjo, W., Jauhari, I., & Sulisworo, D. (2020). Effects of the Online Interactive Learning Media on Student's Achievement and Interest in Physics. *Universal Journal of Educational Research*, 8(3B), 59-68.
- Marcinauskas, L., Iljinas, A., Cyviene, J., & Stankus, V. (2024). Problem-Based Learning versus Traditional Learning in Physics Education for Engineering Program Students. *Education Sciences*, 14(2), 154.
- Mathew, M. D. (2022). Nuclear Energy: A Pathway Towards Mitigation of Global Warming. *Progress in Nuclear Energy*, 143.
- Mayer, R. E., & Fiorella, L. (2022). *The Cambridge Handbook of Multimedia Learning Third Edition*. United Kingdom : Cambridge University Press.
- Mudlofir, A., & Rusydiyah, E. F. (2016). *Desain Pembelajaran Inovatif Dari Teori ke Praktik*. Jakarta: Raja Grafindo Persada.
- Muldiyana, Ibrahim, N., & Muslim, S. (2018). Pengembangan Modul Cetak pada Mata Pelajaran Produktif Teknik Komputer dan Jaringan di SMK Negeri 2 Watampone. *Jurnal Teknologi Pendidikan*, 20(1), 43-59.
- Musyawir, Ansori, S., Irani, U., Kartika, M., Delimayanti, Surwuy, G. S., . . . Elvianasti, M. (2022). *Model-Model Pembelajaran Inovatif*. Deli Serdang: PT Mifandi Mandiri Digital.
- Najaah, L. S., & Amrulloh, M. (2022). Application of Global Warming Interactive Learning Media Based on Blended Learning to Improve Knowledge and Environmental Care Attitude of High School Students. *Jurnal Jaringan Penelitian Pengembangan Penerapan Inovasi Pendidikan (Jarlitbang)*, 8(2), 137-146.
- Nilyani, K., & Ratnawulan. (2023). Needs Analysis of Physics E-Module Based on Problem Based Learning Model Integrated 21st Century Learning. *International Journal of Advanced Research (IJAR)*, 11(9), 14-23.
- Nuraeni, W. (2021). Pengembangan Bahan Pembelajaran Berbasis Modul Elektronik Berbantuan Flipbook Maker Pada Mata Pelajaran Fisika SMA. *Instruksional*, 3(1).
- Okpatrioka. (2023). Research And Development (R&D) Penelitian yang Inovatif dalam Pendidikan. *DHARMA ACARIYA NUSANTARA: Jurnal Pendidikan, Bahasa, dan Budaya*, 1(1), 86-100.
- Ornek, F., Robinson, W. R., & Haugan, M. P. (2008). What Makes Physics Difficult? *International Journal of Environmental & Science Education*, 3(1), 30-34.
- Özcan, H., Çetin, G., & Koştur, H. İ. (2020). The Effect of PhET Simulation-based Instruction on 6th Grade Students' Achievement Regarding the Concept of Greenhouse Gas. *Science Education International*, 31(4), 348-355.
- Ozer, F., & Dogan, N. (2024). Improving Middle School Students' Understanding about Scientific Inquiry through Creative Problem-Solving Modules enriched with the History of Science. *Education and Science*, 49(217), 159-200.

- Prastowo, A. (2011). *Panduan Kreatif Membuat Bahan Ajar Inovatif*. Yogyakarta: DIVA Press.
- Pratama, R. (2019). Efek Rumah Kaca Terhadap Bumi. *Buletin Utama Teknik*, 14(2), 120-126.
- Pratiwi, S. N., Cari, C., & Aminah, N. S. (2024). Pembelajaran IPA Abad 21 dengan Literasi Sains Siswa. *Jurnal Materi dan Pembelajaran Fisika (JMPF)*, 9(1), 34-42.
- Pugu, M. R., Riyanto, S., & Haryadi, R. N. (2024). *Metodologi Penelitian: Konsep, Strategi, dan Aplikasi*. Jambi: Sonpedia Publishing Indonesia.
- Purwana, D., Effendi, M. S., Adha, M. A., Andini, F. A., Ma'ruf, M. R., & Azzahro, H. (2024). Pendampingan Penyusunan Bahan Ajar Berbasis Microlearning Guna Memfasilitasi Kemerdekaan Belajar Siswa. *Jurnal Pengabdian kepada Masyarakat Nusantara*, 6(1), 2560-2568.
- Puspaningsih, A. R., Tjahjardarmawan, E., & Krisdianti, N. R. (2021). *Buku Panduan Guru Ilmu Pengetahuan Alam untuk SMA Kelas X*. Jakarta Pusat: Pusat Kurikulum dan Perbukuan Badan Penelitian dan Pengembangan dan Perbukuan Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi.
- Puspaningsih, A. R., Tjahjardarmawan, E., & Krisdianti, N. R. (2021). *Ilmu Pengetahuan Alam untuk SMA Kelas X*. Jakarta: Pusat Kurikulum dan Perbukuan Badan Penelitian dan Pengembangan dan Perbukuan Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi.
- Qolbiyah, A., Budi, A. S., & Wibowo, F. C. (2024). Unveiling the Problem Based Learning Approach in Developing Interactive Digital Physics Modules (2014-2024): A Bibliometric Analysis. *Prosiding Seminar Nasional Fisika & International Physics Conference*, 3(1), 235-248.
- Qotimah, I., & Mulyadi, D. (2021). Kriteria Pengembangan E-Modul Interaktif dalam Pembelajaran Jarak Jauh. *Indonesian Journal of Learning Education and Counseling*, 4(2), 125-131.
- Reinbold, S. (2013). Using the ADDIE Model in Designing Library Instruction. *Medical Reference Services Quarterly*, 32(3), 244-256.
- Reiser, R. A., & Dempsey, J. V. (2018). *Trends and Issues in Instructional Design and Technology 4th Edition*. New York: Routledge.
- Rohmatin, I. A., Racmayani, A., & Jumadi. (2022). Development of E-Module based on Flipbook Learning Model Problem Based Learning (PBL) to Improve Critical Thinking Ability. *Berkala Ilmiah Pendidikan Fisika*, 10(3), 342-351.
- Rustamana, A., Sahl, K. H., Ardianti, D., & Solihin, A. H. (2024). Penelitian dan Pengembangan (Research & Development) dalam Pendidikan. *Jurnal Bima: Pusat Publikasi Ilmu Pendidikan bahasa dan Sastra*, 2(3), 60-69.
- Salvador, R., Barros, M. V., Barreto, B., Pontes, J., Yoshino, R. T., Piekarski, C. M., & Francisco, A. C. (2023). Challenges and Opportunities for Problem-based Learning in Higher Education: Lessons From a Cross-Program Industry 4.0 Case. *Industry and Higher Education*, 37(1), 3-21.

- Serrano, D. R., Dea-Ayuela, M. A., Gonzalez-Burgos, E., Serrano-Gil, A., & Lalatsa, A. (2019). Technology-Enhanced Learning in Higher Education: How to Enhance Student Engagement Through Blended Learning. *European Journal of Education Research, Development, and Policy*, 54(2), 1-14.
- Setiawan, H., & Rahayu, E. S. (2024). Development of E-Modules Based on Problem Based Learning Assisted by Flipbook on Environmental Change Material in High School to Improve Problem Solving Ability. *Journal of Biology Education*, 13(1), 29-35.
- Sinaga, A. V. (2023). Peranan Teknologi dalam Pembelajaran untuk Membentuk Karakter dan Skill Peserta Didik Abad 21. *Journal on Education*, 6(1), 2836-2846.
- Situmorang, M., Yustina, & Syafii, W. (2020). E-Module Development using Kvisoft Flipbook Maker through the Problem Based Learning Model to Increase Learning Motivation. *Journal of Educational Sciences*, 4(4), 834-848.
- Sugianto, D., Abdullah, A. G., Elvyanti, S., & Muladi, Y. (2013). Modul Virtual: Multimedia Flipbook Dasar Teknik Digital. *Innovation of Vocational Technology Education*, 9(2), 101-116.
- Sugiyono. (2023). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.
- Suhendra, A., & Kurniawan, A. (2024). Implementasi Problem Based Learning dengan Strategi Reading Guide untuk Meningkatkan Pemahaman Konsep Fisika Siswa. *SCIENCE: Jurnal Inovasi Pendidikan Matematika dan IPA*, 4(3), 164-175.
- Sukarno, B. B. (2020). *Pemanasan Global*. Jakarta.
- Sukawirya, G. B., Arthana, I. K., & Sugihartini, N. (2017). Pengembangan E-Modul Pada Mata Pelajaran Pemrograman Perangkat Bergerak Kelas XII Rekayasa Perangkat Lunak Berbasis Problem Based Learning di SMK Negeri 2 Tabanan. *KARMAPATI: Kumpulan Artikel Mahasiswa Pendidikan Teknik Informatika*, 6(1), 203-213.
- Sukmadinata, N. S. (2011). *Metode Penelitian Pendidikan*. Bandung: Remaja Rosdakarya.
- Sunantri, A., Suyatna, A., & Rosidin, U. (2016). Pengembangan Modul Pembelajaran Menggunakan Learning Content Development System Materi Usaha dan Energi. *Jurnal Pembelajaran Fisika*, 4(1), 107-117.
- Sunaryo, Kushermawati, A., & Delina, M. (2020). E-Modules on Problem Based Learning to Improve Students' Higher Order Thinking Skills (HOTS). *International Journal of Innovation, Creativity, and Change*, 11(1), 444-457.
- Surakusumah, W. (2011). *Perubahan Iklim dan Pengaruhnya Terhadap Keanekaragaman Hayati*. Universitas Pendidikan Indonesia.

- Syahfitri, J., & Safitri, D. (2024). The Effect of Digital-Based Interactive Modules to Improve Student's Critical Thinking Skills and Learning Motivation on Biology Learning. *Journal of Research in Science Education*, 10(5), 2495-2502.
- Taber, K. S. (2020). Mediated Learning Leading Development. In B. Akpan, & T. Kennedy, *Science Education in Theory and Practice: An Introductory Guide to Learning Theory*. Springer.
- Türel, Y. K., & Şanal, S. Ö. (2018). The effects of an ARCS based e-book on student's achievement, motivation and anxiety. *Computers & Education*, 127(3).
- Waruwu, M. (2024). Metode Penelitian dan Pengembangan (R&D): Konsep, Jenis, Tahapan, dan Kelebihan. *Jurnal Ilmiah Profesi Pendidikan*, 9(2), 1220-1230.
- Wilson, J., Mole, P. N., & Riong, M. B. (2023). The Use of Problem-Based Learning Physics E-Module on Global Warming Material: High School Students Perception. *Journal of Innovative Science Education*, 12(3), 361-368.
- Wulansari, E. T., Masuroh, R., Muzammil, M. H., & Bektiarso, S. (2024). Analisis Penerapan Metode Pembelajaran Problem Based Learning (PBL) Meningkatkan Pemahaman Siswa dalam Pelajaran Fisika. *Journal Innovation in Education*, 3(1), 8-12.
- Yazdanparast, T., Salehpour, S., Masjedi, M. R., Seyedmehdi, S. M., Boyes, E., Stanisstreet, M., & Attarchi, M. (2013). Global Warming: Knowledge and Views of Iranian Students. *Acta Medica Iranica*, 51(3), 178-184.
- Zahara, L., Suastra, I. W., Atmaja, A. W., & Tika, I. N. (2024). Perspektif Filsafat Pendidikan Dalam Mengembangkan Pemahaman Konsep Fisika. *CONSILIUM: Journal Education and Counseling*, 5(1), 257-267.
- Zhu, C. (2023). An Adaptive Agent Decision Model Based on Deep Reinforcement Learning and Autonomous Learning. *Journal of Logistics, Informatics, and Service Science*, 10(3), 107-118.
- Zulhaini, Halim, A., & Mursal. (2016). Pengembangan Modul Fisika Kontekstual Hukum Newton untuk Meningkatkan Pemahaman Konsep Fisika Siswa di MAN Model Banda Aceh. *Jurnal Pendidikan Sains Indonesia*, 4(1), 196-207.
- Zulkiffli, N. S., Fadzil, A. F., Noor, N. H., Johari, N. A., Othman, E. S., & Nazri, N. A. (2024). Exploring The Students' Difficulties in Physics Subject among Secondary School Students During Learning in Class. *International Journal of Academic Research in Business and Social Sciences*, 14(4), 407-417.