

## DAFTAR PUSTAKA

- Abd Majid, F., & Mohd Shamsudin, N. (2019). Identifying factors affecting acceptance of virtual reality in classrooms based on technology acceptance model (TAM). *Asian Journal of University Education*, 15(2), 1-10. <http://dx.doi.org/10.24191/ajue.v15i2.7556>
- Abdi, A. (2014). The effect of inquiry-based learning method on students' academic achievement in science course. *Universal journal of educational Research*, 2(1), 37-41.
- Ahmedi, V., Kurshumlja, A., & Ismajli, H. (2023). Teachers attitudes towards constructivist approach to improving learning outcomes: The case of Kosovo. *International Journal of Instruction*, 16(1), 441-454.
- Aliev, R., Asueva, L., & Yudina, A. (2023). Enhancing chemistry education's relevance and comprehension through immersive virtual reality. In *Bio Web of Conferences* (Vol. 76, p. 09006). EDP Sciences. <https://doi.org/10.1051/bioconf/20237609006>
- Alifteria, F. A., Prastowo, T., & Suprpto, N. (2023). Analysis of students' critical thinking skills on virtual reality learning media. *IJORER: International Journal of Recent Educational Research*, 4(1), 59-67. <https://doi.org/10.46245/ijorer.v4i1.275>
- Aliyu, H., Ebikabowei, M., & Kola, A. J. (2023). Problem-based learning in remote learning scenario utilizing climate change virtual reality video in mobile application to train critical thinking. *International Journal of Essential Competencies in Education*, 2(2), 144-159. <https://doi.org/10.36312/ijece.v2i2.1612>
- Alkhabra, Y. A., Ibrahim, U. M., & Alkhabra, S. A. (2023). Augmented reality technology in enhancing learning retention and critical thinking according to STEAM program. *Humanities and Social Sciences Communications*, 10(1), 1-10. <http://dx.doi.org/10.1057/s41599-023-01650-w>
- Allcoat, D., & von Mühlenen, A. (2018). Learning in virtual reality: Effects on performance, emotion and engagement. *Research in Learning Technology*, 26. <https://doi.org/10.25304/rlt.v26.2140>
- Almanasreh, E., Moles, R., & Chen, T. F. (2019). Evaluation of methods used for estimating content validity. *Research in social and administrative pharmacy*, 15(2), 214-221. <https://doi.org/10.1016/j.sapharm.2018.03.066>
- Al-Said, K., Berestova, A., Ismailova, N., & Pronkin, N. (2024). The impact of video-based virtual reality training on critical thinking and cognitive load. *International Journal of Evaluation and Research in Education*, 13(5), 3239-3247. <http://doi.org/10.11591/ijere.v13i5.28109>
- Al-Shehri, E. K., & Alaudan, R. (2024). Teacher-Centered or student-Centered learning approach to promote learning. *Journal of Language and Linguistic Studies*, 20(1).

- Amirbekova, E., Shertayeva, N., & Mironova, E. (2024, January). Teaching chemistry in the metaverse: the effectiveness of using virtual and augmented reality for visualization. In *Frontiers in Education* (Vol. 8, p. 1184768). Frontiers Media SA. <https://doi.org/10.3389/feduc.2023.1184768>
- Anderson, L.W., Krathwohl, D.R. (2001) A Taxonomy for Learning, Teaching, and Assesing: A Revision of Bloom's Taxonomy of Educatioanl Objectives. New York: Addison Wesley Longman, Inc.
- Andriyanto, A., Nunaki, J. H., & Damopolii, I. (2021). Inquencing-Based Learning Potential to Practice Metacognitive Skills. *Paedagoria: Jurnal Kajian, Penelitian Dan Pengembangan Kependidikan*, 12(1), 54-60.
- Arifin, Z., Saputro, S., & Kamari, A. (2025). The effect of inquiry-based learning on students' critical thinking skills in science education: A systematic review and meta-analysis. *Eurasia Journal of Mathematics, Science and Technology Education*, 21(3), em2592. <https://doi.org/10.29333/ejmste/15988>
- Arthi, M. P., & Gandhimathi, S. N. S. (2025). Research trends and network approach of critical thinking skills in English Language Teaching—A bibliometric analysis implementing R studio. *Heliyon*, 11(2). <https://doi.org/10.1016/j.heliyon.2025.e42080>
- Ayre, C., & Scally, A. J. (2014). *Critical values for Lawshe's content validity ratio: Revisiting the original methods of calculation. Measurement and Evaluation in Counseling and Development*, 47(1), 79–86. <https://doi.org/10.1177/0748175613513808>
- Aytaç, T., & KULA, S. S. (2022). The effect of student-centered approaches on students' creative thinking skills: a meta-analysis study. *International Journal of Contemporary Educational Research*, 7(2), 62–80. <https://doi.org/10.33200/ijcer.723894>
- Battipede, E., Giangualano, A., Boffi, P., Clerici, M., Calvi, A., Cassenti, L., ... & Gallace, A. (2024, November). Physics Playground: Insights from a Qualitative-Quantitative Study About VR-Based Learning. In *International Conference on Intelligent Human Computer Interaction* (pp. 97-108). Cham: Springer Nature Switzerland. <http://dx.doi.org/10.48550/arXiv.2412.12941>
- Becker, N., Stanford, C., Towns, M., & Cole, R. (2015). Translating across macroscopic, submicroscopic, and symbolic levels: The role of instructor facilitation in an inquiry-oriented physical chemistry class. *Chemistry Education Research and Practice*, 16(4), 769–785. <https://doi.org/10.1039/c5rp00064e>
- Begam, A. A. A., & Tholappan, A. (2018). Psychomotor domain of Bloom's taxonomy in teacher education. *Shanlax International Journal of Education*, 6(3), 11–14. <https://doi.org/10.5281/zenodo.1299766>
- Bhardwaj, V., Zhang, S., Tan, Y. Q., & Pandey, V. (2025). Redefining learning: student-centered strategies for academic and personal growth. In *Frontiers in Education* (Vol. 10). Frontiers Media SA. <https://doi.org/10.3389/feduc.2025.1518602>

- Cai, W., & Sankaran, G. (2015). Promoting critical thinking through an interdisciplinary study abroad program. *Journal of International Students*, 5(1), 38-49.
- Cardellini, L. (2012). Chemistry: Why the subject is difficult?. *Educación química*, 23, 305-310. [http://dx.doi.org/10.1016/S0187-893X\(17\)30158-1](http://dx.doi.org/10.1016/S0187-893X(17)30158-1)
- Chen, Y. C., Wilson, K., & Lin, H. S. (2019). Identifying the challenging characteristics of systems thinking encountered by undergraduate students in chemistry problem-solving of gas laws. *Chemistry Education Research and Practice*, 20(3), 594-605. <https://doi.org/10.1039/C9RP00070D>
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education* (8th ed.). Routledge.
- Collins, A., & Halverson, R. (2018). *Rethinking education in the age of technology: The digital revolution and schooling in America*. Teachers College Press.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.
- Cummings, J. J., & Bailenson, J. N. (2016). How immersive is enough? A meta-analysis of the effect of immersive technology on user presence. *Media psychology*, 19(2), 272-309. <https://doi.org/10.1080/15213269.2015.1015740>
- Delacre, M., Lakens, D., & Leys, C. (2017). Why psychologists should by default use Welch's t-test instead of Student's t-test. *International Review of Social Psychology*, 30(1), 92-101.
- Dong, M., Li, F., & Chang, H. (2023). Trends and hotspots in critical thinking research over the past two decades: Insights from a bibliometric analysis. *Heliyon*, 9(6). <https://doi.org/10.1016/j.heliyon.2023.e16934>
- Du Plooy, E., Casteleijn, D., & Franzsen, D. (2024). Personalized adaptive learning in higher education: A scoping review of key characteristics and impact on academic performance and engagement. *Heliyon*, 10(21). <https://doi.org/10.1016/j.heliyon.2024.e39630>
- Dumitru, D., & Halpern, D. F. (2023). Critical thinking: Creating job-proof skills for the future of work. *Journal of Intelligence*, 11(10), 194. <https://doi.org/10.3390/jintelligence11100194>
- Elmoazen, R., Saqr, M., Khalil, M., & Wasson, B. (2023). Learning analytics in virtual laboratories: a systematic literature review of empirical research. *Smart Learning Environments*, 10(1), 23. <http://dx.doi.org/10.1186/s40561-023-00244-y>
- Espinosa, A. A., Monterola, S. L. C., & Punzalan, A. E. (2013). Career-oriented performance tasks in chemistry: effects on students' critical thinking skills. *Education Research International*, 2013, 1-10. <https://doi.org/10.1155/2013/834584>
- Fabris, C. P., Rathner, J. A., Fong, A. Y., & Sevigny, C. P. (2019). Virtual reality in higher education. *International Journal of Innovation in Science and Mathematics Education*, 27(8). <https://doi.org/10.30722/IJISME.27.08.006>



- Facione, P. A. (2011). Critical thinking: What it is and why it counts. *Insight assessment*, 1(1), 1-23.
- Faridi, H., Tuli, N., Mantri, A., Singh, G., & Gargish, S. (2021). A framework utilizing augmented reality to improve critical thinking ability and learning gain of the students in Physics. *Computer Applications in Engineering Education*, 29(1), 258–273. <https://doi.org/10.1002/cae.22342>
- Ferrell, J. B., Campbell, J. P., McCarthy, D. R., McKay, K. T., Hensinger, M., Srinivasan, R., Zhao, X., Wurthmann, A., Li, J., & Schneebeil, S. T. (2019). Chemical exploration with virtual reality in organic teaching laboratories. *Journal of Chemical Education*, 96(9), 1961–1966. <https://doi.org/10.1021/acs.jchemed.9b00036>
- Fombona-Pascual, A., Fombona, J., & Vázquez-Cano, E. (2022). VR in chemistry, a review of scientific research on advanced atomic/molecular visualization. *Chemistry Education Research and Practice*, 23(2), 300-312. <https://doi.org/10.1039/D1RP00317H>
- Fung, F. M., Choo, W. Y., Ardisara, A., Zimmermann, C. D., Watts, S., Koscielniak, T., Blanc, E., Coumoul, X., & Dumke, R. (2019). Applying a virtual reality platform in environmental chemistry education to conduct a field trip to an overseas site. *Journal of Chemical Education*, 96(2), 382–386. <https://doi.org/10.1021/acs.jchemed.8b00728>
- Ghaleb, B. D. S. (2024). Effect of Exam-Focused and Teacher-Centered Education Systems on Students' Cognitive and Psychological Competencies. *International Journal of Multidisciplinary Approach Research and Science*, 2(02), 611–631. <https://doi.org/10.59653/ijmars.v2i02.648>
- Gholam, A. P. (2019). Inquiry-based learning: Student teachers' challenges and perceptions. *Journal of Inquiry and Action in Education*, 10(2), 6. <https://digitalcommons.buffalostate.edu/jiae/vol10/iss2/6>
- Ibrahim, R., Leng, N. S., Yusoff, R. C. M., Samy, G. N., Masrom, S., & Rizman, Z. I. (2017). E-learning acceptance based on technology acceptance model (TAM). *Journal of Fundamental and Applied Sciences*, 9(4S), 871-889. <http://dx.doi.org/10.6007/IJARBS/v13-i4/16820>
- Ikhsan, J., Sugiyarto, K. H., & Astuti, T. N. (2020). Fostering student's critical thinking through a virtual reality laboratory. *International Journal of Interactive Mobile Technologies*, 14(8), 183–195. <https://doi.org/10.3991/IJIM.V14I08.13069>
- Javaid, M., Haleem, A., Singh, R. P., & Dhall, S. (2024). Role of virtual reality in advancing education with sustainability and identification of additive manufacturing as its cost-effective enabler. *Sustainable Futures*, 8, 100324. <https://dx.doi.org/10.1016/j.sfr.2024.100324>
- Jerald, J. (2015). *The VR book: Human-centered design for virtual reality*. Association for Computing Machinery & Morgan & Claypool. <https://doi.org/10.1145/2792790>

- Kementerian Pendidikan, Kebudayaan, dan Pendidikan Menengah. (2025). Peraturan menteri pendidikan dasar dan menengah tentang perubahan atas permendikbudristek nomor 12 tahun 2024 tentang kurikulum pada pendidikan anak usia dini, jenjang pendidikan dasar, dan jenjang pendidikan menengah (Permendikdasmen No. 13 Tahun 2025). Jakarta: Kemdikbud.
- Kemp, A., Palmer, E., Strelan, P., & Thompson, H. (2022). Exploring the specification of educational compatibility of virtual reality within a technology acceptance model. *Australasian Journal of Educational Technology*, 38(2), 15-34. <https://doi.org/10.14742/ajet.7338>
- Khasawneh, E., Hodge-Zickerman, A., York, C. S., Smith, T. J., & Mayall, H. (2023). Examining the effect of inquiry-based learning versus traditional lecture-based learning on students' achievement in college algebra. *International Electronic Journal of Mathematics Education*, 18(1), em0724. <https://doi.org/10.29333/iejme/12715>
- Kolomuç, A., & Tekin, S. (2011). Chemistry teachers' misconceptions concerning concept of chemical reaction rate. *International Journal of Physics and Chemistry Education*, 3(2), 84-101. <http://www.eurasianjournals.com/index.php/ejpce>
- Kouijzer, M. M. T. E., Kip, H., Bouman, Y. H. A., & Kelders, S. M. (2023). Implementation of virtual reality in healthcare: a scoping review on the implementation process of virtual reality in various healthcare settings. *Implementation Science Communications*, 4(1). <https://doi.org/10.1186/s43058-023-00442-2>
- Kouijzer, M. M., Kip, H., Bouman, Y. H., & Kelders, S. M. (2023). Implementation of virtual reality in healthcare: a scoping review on the implementation process of virtual reality in various healthcare settings. *Implementation science communications*, 4(1), 67. <https://doi.org/10.1186/s43058-023-00442-2>
- Kravchenko, O., Dokuchaieva, V., Valentieva, T., Sbitnieva, L., & Chornobryva, N. (2023). The use of technology-based model of critical thinking development to reshape students' self-study process. *European Journal of Educational Research*, 12(1), 281–296. <https://doi.org/10.12973/eu-er.12.1.281>
- Křeménková, L., Plevová, I., Pugnerová, M., & Sedláková, E. (2021). Information and communication technology and critical thinking in university students. *World Journal on Educational Technology: Current Issues*, 13(4), 902–910. <https://doi.org/10.18844/wjet.v13i4.6275>
- Lamb, R., Lin, J., & Firestone, J. B. (2020). Virtual reality laboratories: A way forward for schools? *Eurasia Journal of Mathematics, Science and Technology Education*, 16(6). <https://doi.org/10.29333/EJMSTE/8206>
- Liou, W. K., & Chang, C. Y. (2018, February). Virtual reality classroom applied to science education. In *2018 23rd International Scientific-Professional*

- Conference on Information Technology (IT)* (pp. 1-4). IEEE.  
<https://doi.org/10.1109/SPIT.2018.8350861>
- Makransky, G., Terkildsen, T. S., & Mayer, R. E. (2019). Adding immersive virtual reality to a science lab simulation causes more presence but less learning. *Learning and Instruction*, 60, 225–236.  
<https://doi.org/10.1016/j.learninstruc.2017.12.007>
- Marks, B., & Thomas, J. (2022). Adoption of virtual reality technology in higher education: An evaluation of five teaching semesters in a purpose-designed laboratory. *Education and information technologies*, 27(1), 1287-1305.
- Maroungkas, A., Troussas, C., Krouska, A., & Sgouropoulou, C. (2023). Virtual reality in education: a review of learning theories, approaches and methodologies for the last decade. *Electronics*, 12(13), 2832.  
<https://doi.org/10.3390/electronics12132832>
- Merchant, Z., Goetz, E. T., Cifuentes, L., Keeney-Kennicutt, W., & Davis, T. J. (2014). Effectiveness of virtual reality-based instruction on students' learning outcomes in K-12 and higher education: A meta-analysis. *Computers and Education*, 70, 29–40.  
<https://doi.org/10.1016/j.compedu.2013.07.033>
- Miller, K., Sonnert, G., & Sadler, P. (2018). The influence of students' participation in STEM competitions on their interest in STEM careers. *International Journal of Science Education, Part B: Communication and Public Engagement*, 8(2), 95–114.  
<https://doi.org/10.1080/21548455.2017.1397298>
- Obilor, E. I., & Amadi, E. C. (2018). Test for significance of Pearson's correlation coefficient. *International Journal of Innovative Mathematics, Statistics & Energy Policies*, 6(1), 11-23.
- Orhan, A. (2022). The relationship between critical thinking and academic achievement: A meta-analysis study. *Psycho-Educational Research Reviews*, 11(1), 283-299.  
[https://doi.org/10.52963/PERR\\_Biruni\\_V11.N1.18](https://doi.org/10.52963/PERR_Biruni_V11.N1.18)
- Orwat, K., Bernard, P., & Migdał-Mikuli, A. (2017). Alternative conceptions of common salt hydrolysis among upper-secondary-school students.
- Papathanasiou, I. V., Kleisiaris, C. F., Fradelos, E. C., Kakou, K., & Kourkouta, L. (2014). Critical thinking: the development of an essential skill for nursing students. *Acta Informatica Medica*, 22(4), 283.  
<https://doi.org/10.5455/aim.2014.22.283-286>
- Pavlin, J., Glažar, S. A., Slapničar, M., & Devetak, I. (2019). The impact of students' educational background, interest in learning, formal reasoning and visualisation abilities on gas context-based exercises achievements with submicro-animations. *Chemistry Education Research and Practice*, 20(3), 633-649. <https://doi.org/10.1039/c8rp00189h>
- Pedaste, M., Mäeots, M., Siiman, L. A., De Jong, T., Van Riesen, S. A., Kamp, E. T., ... & Tsourlidaki, E. (2015). Phases of inquiry-based learning:



- Definitions and the inquiry cycle. *Educational research review*, 14, 47-61. <https://doi.org/10.1016/j.edurev.2015.02.003>
- Polit, D. F., & Beck, C. T. (2006). The content validity index: are you sure you know what's being reported? Critique and recommendations. *Research in nursing & health*, 29(5), 489-497. <https://doi.org/10.1002/nur.20147>
- Putri, Z. S., & Kurniawati, Y. (2021). *The effectiveness of learning using virtual laboratory toward student critical thinking ability on acid-base titration lesson*. *Journal of The Indonesian Society of Integrated Chemistry*, 13(1), 14–20. <https://doi.org/10.22437/jisic.v13i1.12670>
- Qorbani, S., Dalili, S., Arya, A., & Joslin, C. (2024). Assessing Learning in an Immersive Virtual Reality: A Curriculum-Based Experiment in Chemistry Education. *Education Sciences*, 14(5), 476. <https://doi.org/10.3390/educsci14050476>
- Radianti, J., Majchrzak, T. A., Fromm, J., & Wohlgenannt, I. (2020). A systematic review of immersive virtual reality applications for higher education: Design elements, lessons learned, and research agenda. *Computers & education*, 147, 103778. <https://doi.org/10.1016/j.compedu.2019.103778>
- Radoeva, R., Petkov, E., Kalushkov, T., Valcheva, D., & Shipkovenski, G. (2022, June). Overview on hardware characteristics of virtual reality systems. In *2022 International Congress on Human-Computer Interaction, Optimization and Robotic Applications (HORA)* (pp. 01-05). IEEE. <http://dx.doi.org/10.1109/HORA55278.2022.9799932>
- Ramsurrun, H., Elaheebocus, R., & Chiniah, A. (2025). Decline in enrollment in science and technology education: From the perspectives of Mauritian educators. *STEM Education*, 5(1), 1-18. <https://doi.org/10.3934/steme.2025001>
- Rojas-Sánchez, M. A., Palos-Sánchez, P. R., & Folgado-Fernández, J. A. (2023). Systematic literature review and bibliometric analysis on virtual reality and education. *Education and Information Technologies*, 28(1), 155–192. <https://doi.org/10.1007/s10639-022-11167-5>
- Rusmansyah, Yuanita, L., Ibrahim, M., Isnawati, & Prahani, B. K. (2019). Innovative chemistry learning model: Improving the critical thinking skill and self-efficacy of pre-service chemistry teachers. *Journal of Technology and Science Education*, 9(1), 59–76. <https://doi.org/10.3926/jotse.555>
- Sagnier, C., Loup-Escande, E., Lourdeaux, D., Thouvenin, I., & Valléry, G. (2020). User acceptance of virtual reality: an extended technology acceptance model. *International Journal of Human-Computer Interaction*, 36(11), 993-1007. <https://doi.org/10.1080/10447318.2019.1708612>
- Santos Garduño, H. A., Esparza Martínez, M. I., & Portuguese Castro, M. (2021). Impact of virtual reality on student motivation in a high school science course. *Applied Sciences*, 11(20), 9516. <https://doi.org/10.3390/app11209516>
- Schneider, D., Biener, V., Otte, A., Gesslein, T., Gagel, P., Campos, C., ... & Grubert, J. (2021, November). Accuracy evaluation of touch tasks in commodity virtual and augmented reality head-mounted displays.

- In *Proceedings of the 2021 ACM symposium on spatial user interaction* (pp. 1-11). <https://doi.org/10.1145/3485279.3485283>
- Slater, M., & Sanchez-Vives, M. V. (2016). Enhancing our lives with immersive virtual reality. *Frontiers in Robotics and AI*, 3, 236866. <https://doi.org/10.3389/frobt.2016.00074>
- Snyder, L. G., & Snyder, M. J. (2008). Teaching critical thinking and problem solving skills. *The Journal of Research in Business Education*, 50(2), 90.
- Sosu, E. M. (2013). The development and psychometric validation of Critical Thinking Disposition Scale. *Thinking Skills and Creativity*, 9, 107-119. <https://doi.org/10.1016/j.tsc.2012.09.002>
- Stretton, T., Cochrane, T., Sevigny, C., Stander, J., & Merolli, M. (2025). Co-designing critical thinking in health professional education: a 360 immersive environment case study. *Virtual Reality*, 29(1), 40.
- Turner, J. L. (2014). *Using statistics in small-scale language education research: Focus on non-parametric data*. Routledge. <https://doi.org/10.4324/9780203526927>
- van Dinther, R., de Putter, L., & Pepin, B. (2023). Features of immersive virtual reality to support meaningful chemistry education. *Journal of Chemical Education*, 100(4), 1537–1546. <https://doi.org/10.1021/acs.jchemed.2c01069>
- Varma, S. B., Adam, S., Anyau, E., binti Anua, N., Jah, M. H., Ghani, M., & Rahmat, N. H. (2023). A Study of Social Constructivism in Online Learning. <http://dx.doi.org/10.6007/IJARBS/v13-i4/16820>
- Wale, B. D., & Bishaw, K. S. (2020). Effects of using inquiry-based learning on EFL students' critical thinking skills. *Asian-Pacific Journal of Second and Foreign Language Education*, 5(1). <https://doi.org/10.1186/s40862-020-00090-2>
- West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. H. Hoyle (Ed.), *Structural equation modeling: Issues, concepts, and applications* (pp. 56–75). Sage Publications.
- Widyatiningtyas, R., & Susanto, N. (2025). The impact of virtual reality technology on developing critical thinking skills in university students. *Computer Fraud and Security*, (2025, Issue 1), 518–530.
- Yaseen, H., Mohammad, A. S., Ashal, N., Abusaimh, H., Ali, A., & Sharabati, A. A. (2025). The impact of adaptive learning technologies, personalized feedback, and interactive AI tools on student engagement: The moderating role of digital literacy. *Sustainability*, 17(3), 1133. <https://doi.org/10.3390/su17031133>
- Yau, S. A., Majid, F. A., Sharil, W. N. E. H., Halim, N. D. A., Zaid, N. M., & Mokhtar, M. (2023). The perceived impact of critical thinking on student's learning performance. *International Journal of Academic Research in*



*Business and Social Sciences*, 13(6), 974-991.  
<http://dx.doi.org/10.6007/IJARBSS/v13-i6/17220>

Young, G. W., Stehle, S., Walsh, B. Y., & Tiri, E. (2020). Exploring virtual reality in the higher education classroom: Using VR to build knowledge and understanding. *Journal of Universal Computer Science*, (8), 904-928.  
<http://dx.doi.org/10.3897/jucs.2020.049>

Zhang, J., & Hu, Z. (2024). Advancing game-based learning in higher education through debriefing: Social constructivism theory. *Journal for the Education of Gifted Young Scientists*, 12(1), 15-27.  
<https://doi.org/10.17478/jegys.1394242>

