

REFERENCES

- Abdullah, E., Lone, M. and Balta, J.Y., 2020. Student-Centered Learning in the Anatomy Laboratory: Medical Students' Perspective. *Medical Science Educator*, 30(4), pp.1459–1464. <https://doi.org/10.1007/s40670-020-01094-w>.
- Abdullah, E., Lone, M., Cray, J.J., Dvoracek, P. and Balta, J.Y., 2021. Medical Students' Opinions of Anatomy Teaching Resources and Their Role in Achieving Learning Outcomes. *Medical Science Educator*, 31(6), pp.1903–1910. <https://doi.org/10.1007/s40670-021-01436-2>.
- Abundez Toledo, M., Ghanem, G., Fine, S., Weisman, D., Huang, Y.M. and Rouhani, A.A., 2024. Exploring the promise of virtual reality in enhancing anatomy education: a focus group study with medical students. *Frontiers in Virtual Reality*, [online] 5. <https://doi.org/10.3389/frvir.2024.1369794>.
- Agarwal, K.M., Mohapatra, S., Sharma, P., Sharma, S., Bhatia, D. and Mishra, A., 2020. Study and overview of the novel corona virus disease (COVID-19). *Sensors International*, 1, p.100037. <https://doi.org/10.1016/j.sintl.2020.100037>.
- Ahea, M.M.-A.-B., Ahea, M.R.K. and Rahman, I., 2016. The Value and Effectiveness of Feedback in Improving Students' Learning and Professionalizing Teaching in Higher Education. *Journal of Education and Practice*, 7(16), pp.38–41.

Al Rawashdeh, A.Z., Mohammed, E.Y., Al Arab, A.R., Alara, M., Al-Rawashdeh,

B. and Al-Rawashdeh, B., 2021. Advantages and Disadvantages of Using e-Learning in University Education: Analyzing Students' Perspectives. *Electronic Journal of e-Learning*, 19(3), pp.107–117. <https://doi.org/10.34190/ejel.19.3.2168>.

Basilaia, G. and Kvavadze, D., 2020. Transition to Online Education in Schools during a SARS-CoV-2 Coronavirus (COVID-19) Pandemic in Georgia. *Pedagogical Research*, 5(4), p.em0060. <https://doi.org/10.29333/pr/7937>.

Bwire, G., Ario, A.R., Eyu, P., Ocom, F., Wamala, J.F., Kusi, K.A., Ndeketa, L., Jambo, K.C., Wanyenze, R.K. and Talisuna, A.O., 2022. The COVID-19 pandemic in the African continent. *BMC Medicine*, 20(1), p.167. <https://doi.org/10.1186/s12916-022-02367-4>.

Cahyawati, D. and Gunarto, M., 2020. Persepsi mahasiswa terhadap pembelajaran daring pada masa pandemi Covid-19. *Jurnal Inovasi Teknologi Pendidikan*, 7(2), pp.150–161. <https://doi.org/10.21831/jitp.v7i2.33296>.

Capon-Sieber, V., Hüppi, R. and Praetorius, A.-K., 2020. Teaching, motivation, and well-being during COVID-19 from the perspective of university students and lecturers.

Chen, J., Zhou, J., Wang, Y., Qi, G., Xia, C., Mo, G. and Zhang, Z., 2020. Blended learning in basic medical laboratory courses improves medical students' abilities in self-learning, understanding, and problem solving. *Advances in*

<https://doi.org/10.1152/advan.00076.2019>.

Gibbins, S., Sosabowski, M.H. and Cunningham, J., 2003. Evaluation of a web-based resource to support a molecular biology practical class—does computer-aided learning really work? *Biochemistry and Molecular Biology Education*, 31(5), pp.352–355.

<https://doi.org/10.1002/bmb.2003.494031050260>.

Gorbunovs, A., 2016. *Self-discipline as a Key Indicator to Improve Learning Outcomes in e-learning Environment - ScienceDirect*. [online] Available at: <<https://www.sciencedirect.com/science/article/pii/S1877042816312113>> [Accessed 9 July 2024].

Greenhow, C., Graham, C.R. and Koehler, M.J., 2022. Foundations of online learning: Challenges and opportunities. *Educational Psychologist*, 57(3), pp.131–147. <https://doi.org/10.1080/00461520.2022.2090364>.

Guarner, J. and Niño, S.M., 2016. Microbiology Learning and Education Online. *Journal of Clinical Microbiology*, 54(5), pp.1203–1208. <https://doi.org/10.1128/jcm.03176-15>.

Hakami, Z., 2021. Comparison between Virtual and Traditional Learning Methods for Orthodontic Knowledge and Skills in Dental Students: A Quasi-Experimental Study. *Healthcare (Basel, Switzerland)*, [online] 9(9). <https://doi.org/10.3390/healthcare9091092>.

Kalthur, S.G., Pandey, A.K. and Prabhath, S., 2022. Benefits and pitfalls of learning

anatomy using the dissection module in an indian medical school: A millennial Learner's perspective. *Translational Research in Anatomy*, 26, p.100159. <https://doi.org/10.1016/j.tria.2021.100159>.

Khan, J., Baatjes, K.J., Layman-Lemphane, J.I. and Correia, J., 2023. Online anatomy education during the Covid-19 pandemic: Opinions of medical, speech therapy, and BSc Anatomy students. *Anatomical Sciences Education*, 16(5), pp.892–906. <https://doi.org/10.1002/ase.2271>.

Khasawneh, R.R., 2021. Anatomy Education of Medical Students During the COVID 19 Pandemic. *International Journal of Morphology*, 39(5), pp.1264–1269. <https://doi.org/10.4067/S0717-95022021000501264>.

Klement, B.J., Paulsen, D.F. and Wineski, L.E., 2016. Clinical Correlations as a Tool in Basic Science Medical Education. *Journal of Medical Education and Curricular Development*, 3, p.JMECD.S18919. <https://doi.org/10.4137/JMECD.S18919>.

Lewis, T.L., Burnett, B., Tunstall, R.G. and Abrahams, P.H., 2014. Complementing anatomy education using three-dimensional anatomy mobile software applications on tablet computers. *Clinical Anatomy (New York, N.Y.)*, 27(3), pp.313–320. <https://doi.org/10.1002/ca.22256>.

Li, L. and Zhang, J., 2021. Successful Online Learning Experience: Perceptions of Chinese Undergraduate Students. *Journal of Education and Learning*,

- Maulana, H.A. and Hamidi, M., 2020. Persepsi Mahasiswa terhadap Pembelajaran Daring pada Mata Kuliah Praktik di Pendidikan Vokasi. *Equilibrium: Jurnal Pendidikan*, 8(2), pp.224–231. <https://doi.org/10.26618/equilibrium.v8i2.3443>.
- Moore, J.L., Dickson-Deane, C. and Galyen, K., 2011. e-Learning, online learning, and distance learning environments: Are they the same? *The Internet and Higher Education*, 14(2), pp.129–135. <https://doi.org/10.1016/j.iheduc.2010.10.001>.
- Mukhtar, K., Javed, K., Arooj, M. and Sethi, A., 2020. Advantages, Limitations and Recommendations for online learning during COVID-19 pandemic era. *Pakistan Journal of Medical Sciences*, 36(COVID19-S4), pp.S27–S31. <https://doi.org/10.12669/pjms.36.COVID19-S4.2785>.
- N Boulos, A., 2023. Tutorials in anatomy education of medical students during the COVID-19 pandemic - An evaluation of its effectiveness. *Clinical Anatomy (New York, N.Y.)*, 36(5), pp.818–829. <https://doi.org/10.1002/ca.24047>.
- Nurjanah, W., Musadad, A.A. and Purwanta, H., 2021. Implementation of distance history learning during the Pandemic Covid-19. *International Journal for Educational and Vocational Studies*, 3(4), pp.243–247. <https://doi.org/10.29103/ijevs.v3i4.3926>.
- Pangastuti, N., Hadiati, D. and Siswosudarmo, H., 2021. *STUDENT BOOK*

- Papa, V. and Vaccarezza, M., 2013. Teaching anatomy in the XXI century: new aspects and pitfalls. *TheScientificWorldJournal*, 2013, p.310348. <https://doi.org/10.1155/2013/310348>.
- Park, S., Kim, Y., Park, S. and Shin, J.-A., 2019. The impacts of three-dimensional anatomical atlas on learning anatomy. *Anatomy & Cell Biology*, 52(1), pp.76–81. <https://doi.org/10.5115/acb.2019.52.1.76>.
- Patrick, B.C., Hisley, J. and Kempler, T., 2010. “What’s Everybody So Excited About?”: The Effects of Teacher Enthusiasm on Student Intrinsic Motivation and Vitality: *The Journal of Experimental Education: Vol 68, No 3*. [online] Available at: <<https://www.tandfonline.com/doi/abs/10.1080/00220970009600093>> [Accessed 22 July 2024].
- Pöysä, S., Vasalampi, K., Muotka, J., Lerkkanen, M.-K., Poikkeus, A.-M. and Nurmi, J.-E., 2019. Teacher-student interaction and lower secondary school students’ situational engagement. *The British Journal of Educational Psychology*, 89(2), pp.374–392. <https://doi.org/10.1111/bjep.12244>.
- Ravenscroft, B., Luhanga, U. and King, B., 2017. Adapting Bangert’s online teaching effectiveness evaluation tool to a Canadian context. *Innovations in Education and Teaching International*, 54(4), pp.355–363. <https://doi.org/10.1080/14703297.2016.1231618>.

Relucenti, M., Alby, F., Heyn, R., Marino, F., Fatigante, M., Miglietta, S.,

Familiari, P., Zucchermaglio, C., Familiari, G. and Gaudio, E., 2022. Face-to-face vs distance learning in human anatomy education: a longitudinal study of students' perspective and learning outcomes during COVID-19 pandemic. *Italian Journal of Anatomy and Embryology*, 125, pp.37–54. <https://doi.org/10.36253/ijae-12800>.

Rosadi, O., 2023. A History of COVID-19 Handling in Indonesia: A Review of Legal Strategies. *Journal of Law and Sustainable Development*, 11, p.e1663. <https://doi.org/10.55908/sdgs.v11i11.1663>.

Rose, S., 2020. Medical Student Education in the Time of COVID-19. *JAMA*, 323(21), pp.2131–2132. <https://doi.org/10.1001/jama.2020.5227>.

Rumalessin, U., Pramana gentur Sutapa, J. and Martani, W., 2022. Health Students Perception of Online Learning Environment during the COVID-19 Pandemic: Survey on Quality of Online Learning in Indonesian University. *Asian Journal of Education and e-Learning*, 10. <https://doi.org/10.24203/ajeel.v10i1.6927>.

Salma, 2024. UGM Launches Learning Platform 'UGM Online'. *Universitas Gadjah Mada*. Available at: <https://ugm.ac.id/en/news/ugm-launches-learning-platform-ugm-online/> [Accessed 27 June 2024].

Salter, S. and Gardner, C., 2016. Online or Face-to-Face Microbiology Laboratory Sessions? First Year Higher Education Student Perspectives and

<https://doi.org/10.4236/ce.2016.714189>.

Sharma, D., Sood, A.K., Darius, P.S.H., Gundabattini, E., Gnanaraj, S.D. and Jeyapaul, A.J., 2022. A Study on the Online-Offline and Blended Learning Methods. *Journal of The Institution of Engineers (India): Series B*, 103(4), p.1373. <https://doi.org/10.1007/s40031-022-00766-y>.

Silén, C., Karlgren, K., Hjelmqvist, H., Meister, B., Zeberg, H. and Pettersson, A., 2022. Three-dimensional visualisation of authentic cases in anatomy learning – An educational design study. *BMC Medical Education*, 22(1), p.477. <https://doi.org/10.1186/s12909-022-03539-9>.

Simok, A.A., Mat Pa, M.N., Department of Medical Education, School of Medical Sciences, Universiti Sains Malaysia, Kelantan, Malaysia, Abdul Rahim, A.F., Department of Medical Education, School of Medical Sciences, Universiti Sains Malaysia, Kelantan, Malaysia, Mohammad, J.A.-M., and Department of Medical Education, School of Medical Sciences, Universiti Sains Malaysia, Kelantan, Malaysia, 2021. Challenges of e-Mentoring Medical Students During the COVID-19 Pandemic. *Education in Medicine Journal*, 13(4), pp.107–111. <https://doi.org/10.21315/eimj2021.13.4.9>.

Singal, A., Bansal, A., Chaudhary, P., Singh, H. and Patra, A., 2021. Anatomy education of medical and dental students during COVID-19 pandemic: a reality check. *Surgical and radiologic anatomy: SRA*, 43(4), pp.515–521. <https://doi.org/10.1007/s00276-020-02615-3>.

Sinnayah, P., Salcedo, A. and Rekhari, S., 2021. Reimagining physiology education

with interactive content developed in H5P. *Advances in Physiology*

Education, 45(1), pp.71–76. <https://doi.org/10.1152/advan.00021.2020>.

Suswandari, Yant, P.G., Zulaih, S., Roslain and Susanti, E.N., 2023. Jakarta's

Dynamic Response to COVID-19: A Model for Effective Pandemic Policy.

[online] International Conference on Advance Research in Social and

Economic Science (ICARSE 2022). Atlantis Press. pp.427–440.

https://doi.org/10.2991/978-2-38476-048-0_46.

Turney, B., 2007. Anatomy in a Modern Medical Curriculum. *Annals of The Royal*

College of Surgeons of England, 89(2), pp.104–107.

<https://doi.org/10.1308/003588407X168244>.

Wickramasinghe, N., Thompson, B.R. and Xiao, J., 2022. The Opportunities and

Challenges of Digital Anatomy for Medical Sciences: Narrative Review.

JMIR medical education, 8(2), p.e34687. <https://doi.org/10.2196/34687>.

Wu, Y.-C., Chen, C.-S. and Chan, Y.-J., 2020. The outbreak of COVID-19: An

overview. *Journal of the Chinese Medical Association*, 83(3), pp.217–220.

<https://doi.org/10.1097/JCMA.0000000000000270>.

Xu, L., Duan, P., Padua, S.A. and Li, C., 2022. The impact of self-regulated

learning strategies on academic performance for online learning during

COVID-19. *Frontiers in Psychology*, 13, p.1047680.

<https://doi.org/10.3389/fpsyg.2022.1047680>.



**Undergraduate Medical Students Perspective on the Online Learning of Anatomy Practical Sessions
in
the Faculty of Medicine, Public Health, and Nursing Gadjah Mada University**

Kezia Benedicta Saurma Mora G. Marbun, dr. Junaedy Yunus, M.Sc., Ph.D; dr. Rachmadya Nur Hidayah, M.Sc., Ph.

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Yaghoubi, M., Charkhat Gorgich, E.A., Karimi, E., Hosseini, Z.S., Sabeti, N.,

Dehghan, A.R. and Rajabzadeh, A.A., 2019. The viewpoint of Medical Students on the Importance of Clinical Anatomy Education. *Future of Medical Education Journal*, 9(3), pp.49–54. <https://doi.org/10.22038/fmej.2019.40732.1269>.

Zheng, J.M., Chan, K.W. and Gibson, I., 1998. Virtual reality. *IEEE Potentials*, 17(2), pp.20–23. <https://doi.org/10.1109/45.666641>.