

Quizizz Paper Media in Improving Understanding of Tayamum

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ABSTRACT

Background. The rapid development of science and technology today can be felt and affects human life (Kinuthia & Marshall, 2013). In education, technology has a real positive impact on learning. Students can access more and faster information from various sources

Purpose. With the utilization of technology, the teaching and learning process becomes more enjoyable and innovative.

Method. According to Law number 20 of 2003 article 40 paragraph 2 states that educators and teaching staff are obliged to create a meaningful, fun, creative, dynamic and dialogical educational atmosphere. Creating fun learning can be done by using media in learning (Kusnardi C, 2020).

Results. Judging from the facts in the field, where students have many difficulties in learning fiqh learning, especially about tayamum, starting from the conditions of tayamum, the pillars of tayamum and the implementation of tayamum (Abidin, 2020).

Conclusion. This can be evidenced by the lack of focus of students on learning and the lack of students on the material to be taught. In addition, students will be bored with monotonous learning. It is necessary to update the learning media in the form of game-based media and technology used by teachers to be able to attract students optimally.

KEYWORDS

Imperoves, Paper, Understanding

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INTRODUCTION

Quiz Paper Media

Media is anything that can be used to channel messages and can stimulate the mind, can arouse the enthusiasm ("A Novel Method on Developing Superblocks and the Transistor Using Apodryal," 2019), attention and willingness of students so that it can encourage the learning process in students (Lindgren dkk., 2020). Quizizz is an interactive quiz used in classroom learning that can be used for daily assessment (Asrani dkk., 2019), midterm assessment and end-of-semester assessment (Mazza dkk., 2020)



Quizizz is an educational application to load training in a class to be active and fun (Asst. Prof., Mersin University, Education Faculty, Turkey, skanadli@mersin.edu.tr & Kanadlı, 2019).

Initial Steps in Quizizz Paper Preparation (W. Wang dkk., 2020), namely:

1. Each student gets a unique printed Q-card.
2. This Q-card consists of a special QR code. It is then numbered so that the researcher can easily keep track of all the students.
3. The four sides of the Q-card are marked A, B, C, D, and E. These letters correspond to five different answer options for multiple choice questions.
4. When presented with a question, students rotate and display their Q-cards in such a way that the correct answer option is on the top.
5. The Q-card is then scanned using the quizizz mobile app to record the student responses.

I. Tayamum

Tayamum means wiping the face and hands with clean (Lyngfelt dkk., 2019). As mentioned earlier, tayamum can only be done for certain reasons as a substitute for wudhu or ghusl.

Tayamum linguistically means "ALQOSDU" (Intending) as Allah says Do not intend (to choose) the ugly then you spend from it... (QS: Al-Baqoroh (2):267). As for the term Tayamum means: Wiping the face and palms with the earth in a certain manner (Taudhihul Ahkan:1/409). Or Tayammum: Purification by using dust, as a substitute for wudhu' or bathing janabat (QS: Al-Maidah: 6).

- a. There are several things that must be considered when performing tayammum:
- b. Purification by tayammum must be done after the time for prayer has come.
- c. If the reason is the absence of water, then the absence must be proven after a search that is done after the time of prayer.
- d. The soil used must be clean, soft, and dusty. That is, not wet, not mixed with flour, chalk, stones, and other impurities.
- e. Tayammum is only a substitute for wudhu and ghusl, not a substitute for removing (Shvets dkk., 2019). That is, before tayammum, the impurity must be removed (Moriguchi dkk., 2020).
- f. Tayammum can only be used for one fard prayer. It is different if after a fard prayer, it is followed by a supererogatory (Magnavita dkk., 2021), a funeral (Magnavita dkk., 2021), or reading the Qur'an. Then the series of worship is allowed with one tayammum.
- g. Purification by tayammum is different from ablution. If ablution has six (Mohammed dkk., 2019), then tayamum only has (Eslam dkk., 2020). (Moriguchi dkk., 2020), the intention in the (Grundy dkk., 2019), second wiping the face (Z. Liu dkk., 2022), third wiping both (Campanale dkk., 2020), fourth (Patel dkk., 2019).
- h. The intention and the correct procedure for tayamum are as follows:
 - i. Prepare dusty soil or clean (Lyngfelt dkk., 2019).
 - j. By facing the qibla, say basmallah then place both palms on the dust with the position of the fingers pressed (Duan dkk., 2019).
 - k. Then wipe both palms on the entire face accompanied by the intention in the heart, one of which is by reading the following tayammum intention:
 - l. "Nawaitu Tayammuma Lisstibaakhatish Sholaati FardhloLillaahi Ta'aalaa" means: I intend to do tayammum so that I can perform the prayer, fard for the sake of Allah ta'ala.

- m. Unlike wudoo', in tayammum it is not required to wipe the dust over the parts under the hair or facial hair, whether thin or thick. What is recommended is to try to spread the dust over all parts of the face (Sabiq, 1994).
- n. Place the palm of the hand on the dust again. This time the fingers are stretched and the rings on the fingers (if any) are temporarily removed.
- o. Then place the palm of the left hand on the back of the right hand, so that the tips of the fingers of one hand do not exceed the tip of the index finger of the other hand.
- p. From there run the left palm down the back of the right arm to the elbow. Then, turn the left palm to the inside of the right arm, then rub it to the wrist.
- q. Now, rub the inside of the left thumb against the back of the right thumb. Next, do the same on the left hand.

Finally (Mazza dkk., 2020), bring the palms of both hands together and rub between the fingers (El Hachem dkk., 2020).

RESEARCH METHODOLOGY

The research uses a quantitative experimental approach because this method includes research methods that use to test hypotheses in experimental methods that can reveal the influence and impact that occurs between two variables (Mazza dkk., 2020).

Quizizz media is practiced to improve students' understanding of tayamum. These results were compared with the previous pre-test results. The experimental design uses a one short pre-test post-test group design (Geng dkk., 2020).

O1 X O2

RESULT AND DISCUSSION

A. Application of Quizizz Paper Media

At MTs Al-Miftah, Quizizz Papper Media is a game in learning that makes students more conducive and fun in participating in learning. The use of quizizz paper media can help students' activeness and develop memory of tayamum material in learning (Tang dkk., 2020). In applying quizizz paper media to help students remember tayamum at MTs Al-Miftah, the teacher must consider the character of the (Lumley dkk., 2021), to be more directed and scheduled a teacher should carry out activities in (Hirsch dkk., 2020). The stages are as follows:

1) Planning Stage

At this stage the teacher begins to determine the learning objectives to be (Qin dkk., 2019), in the form of the level of understanding and skills that students are expected to have when the learning is (Felip dkk., 2021). (X. Liu dkk., 2019), the teacher determines the subject (Setti dkk., 2020), determines the stages of activities that will be passed by students in the application of the (Hartmann dkk., 2019), and the final step is to determine the assessment tool for the achievement of learning (Fisher dkk., 2020).



1) Implementation Stage

a. Initial Activity

The teacher introduces quizizz paper media to students after that we explain the material about tayamum with the (Casino dkk., 2019). In this case the teacher can provide direction as the tayamum material has been explained (Lee dkk., 2019).

b. The following activity

The teacher reads the steps regarding the quizizz paper media to (Lindgren dkk., 2020). After that the teacher distributes answer sheets equipped with barcodes to each student. Then the teacher starts the quizizz that has been prepared through the quizizz (Earle dkk., 2021). In the quizizz there are multiple choice questions (PG) with 4 options A, B, C, and D. If students already know the answer to the (Kellogg dkk., 2020), the next step is for the teacher to ask students to lift the barcode answer sheet and the teacher immediately scans it through the cellphone that has been connected to the quizizz.

c. Final Activity

The teacher as a guide helps students to recognize quizizz paper media regarding tayamum material..



1) Assessment (Evaluation) Stage

At this stage the teacher determines the appropriate assessment tool to measure the achievement of learning (Fisher dkk., 2020). The assessment refers to a list of questions that are carried out through observation by referring to the list of questions that have been (X. Wang dkk., 2019).



B. Pre-Test Results

At this stage the researcher gave a test at the beginning of learning before starting by using the tayamum questionnaire observation sheet given to students. This questionnaire consists of 20 statements where when filling out the questionnaire the teacher accompanies them in the classroom. The following values obtained by students are shown in table 1.

Table 1 Student grades

No	Name	Value
1.	Anggun Nuraeni	70
2.	Anggun Novitasari	65
3.	Aniy Pasha Kirani	64
4.	Atsilah Rihadatul Aisyi	72
5.	Cory Baima Maura	70
6.	Feby Rahmawati	73
7.	Halma	59
8.	Indah Nupaidah Ramadan	50
9.	Intan Aulia	65
10.	Jahrotul Sita	63
11.	Jihan Atut Afifa	75
12.	Kanaya	77
13.	Lia Natasha Ramadan	69
14.	Nabila Aulya Zahra	67
15.	Nita Aminah	73
16.	Nova Liani	72
17.	Novi Permata Sari	66
18.	Salwa Nur Anisa	62
19.	Shifa Fatimah	67
20.	Syifa Julianti	62
21.	Syifa Urrohmah	65
22.	Ratu Aletha	60
23.	Yulianti W.	60
Total		1.526

From the pretest results above, the percentage can be calculated as follows:

Maximum score:

$$5 \times 20 \times 23 = 2.300$$

$$1.526 \div 2.300 \times 100 = 66,24$$

The largest overall value of each item is 5. While the smallest value is 1. So in this case the largest overall value is $23 \times 5 = 115$, the smallest overall value is $23 \times 1 = 23$.

The largest percentage value is $115 \div 115 \times 100\% = 100\%$. While the smallest percentage value is $23 \div 115 \times 100\% = 20\%$. Therefore, the highest percentage - the smallest percentage will get a result of 80%. After getting these results, it will be divided by five which is obtained from the highest scale of a research (Paravina dkk., 2019). The range of the results of the research percentage is 16

B. Post-Test Results

At this stage the researcher gives a test at the end of learning with learning media in the form of Quizizz Paper media using the tayamum questionnaire observation sheet given to students. This questionnaire consists of 20 statements where when filling out the questionnaire the teacher accompanies them in class. The following values obtained by students are shown in table 2.

Table 2 Student scores.

No	name	Value
1.	Anggun Nuraeni	84
2.	Anggun Novitasari	78
3.	Aniy Pasha Kirani	82
4.	Atsilah Rihadatul Aisyi	92
5.	Cory Baima Maura	88
6.	Feby Rahmawati	86
7.	Halma	80
8.	Indah Nupaidah Ramadani	62
9.	Intan Aulia	76
10.	Jahrotul Sita	86
11.	Jihan Atut Afifa	80
12.	Kanaya	84
13.	Lia Natasha Ramadan	84
14.	Nabila Aulya Zahra	90
15.	Nita Aminah	78
16.	Nova Liani	80
17.	Novi Permata Sari	80
18.	Salwa Nur Anisa	88
19.	Shifa Fatimah	90
20.	Syifa Julianti	82
21.	Syifa Urrohmah	84
22.	Ratu Aletha	86
23.	Yulianti W.	86
Total		1.906

From the posttest results above, the percentage can be calculated as follows:

Maximum score:

$$5 \times 20 \times 23 = 2.300$$

$$1.906 \div 2.300 \times 100 = 82,86$$

The largest overall value of each item is 5. While the smallest value is 1. So with this the largest overall value is $23 \times 5 = 115$, the smallest overall value is $23 \times 1 = 23$.

The largest percentage value is $115 \div 115 \times 100\% = 100\%$. While the smallest percentage value is $23 \div 115 \times 100\% = 20\%$. Therefore, the highest percentage - the smallest percentage will get a result of 80%. After getting these results, it will be divided by five which is obtained from the highest scale of a research instrument. The range of the results of the research percentage is 16.

The implementation of this study involved 1 group, namely the experimental group. The experimental group using Quiz paper media totaling 23 students was held on (Romanowski, 2021), May 20, 2023, 2 lesson hours with a time allocation of 2 x 45 minutes (90 minutes) starting at 10.25-11.05 WIB in class VII A Mts Al-miftah Pasawahan Purwakarta.

The activities carried out at the planning stage of this research are preparing material about tayamum in the form of powerpoints then preparing questions and answer papers, making assessment guidelines, then preparing pretest and posttest questionnaires and making learning media in the form of Quiz (Motzer dkk., 2019).

CONCLUSION

The conclusion of this study is that the application of learning using quizizz paper media can improve the understanding of PAI tayamum material. This media emphasizes learning about concepts by giving quiz and barcode answer sheets to students. Based on the results of field observations, it shows that the overall learning of tayamum material is in the good category. The results of the interview showed that students liked learning PAI on tayamum material with Quizizz Paper media..

AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

REFERENCES

- A Novel Method on Developing Superblocks and the Transistor using Apodryal. (2019). *International Journal of Innovative Technology and Exploring Engineering*, 8(9S3), 982–985. <https://doi.org/10.35940/ijitee.I3209.0789S319>
- Asrani, S. K., Devarbhavi, H., Eaton, J., & Kamath, P. S. (2019). Burden of liver diseases in the world. *Journal of Hepatology*, 70(1), 151–171. <https://doi.org/10.1016/j.jhep.2018.09.014>
- Asst. Prof., Mersin University, Education Faculty, Turkey, skanadli@mersin.edu.tr, & Kanadlı, S. (2019). A Meta-Summary of Qualitative Findings about STEM Education. *International Journal of Instruction*, 12(1), 959–976. <https://doi.org/10.29333/iji.2019.12162a>
- Campanale, Massarelli, Savino, Locaputo, & Uricchio. (2020). A Detailed Review Study on Potential Effects of Microplastics and Additives of Concern on Human Health. *International Journal of Environmental Research and Public Health*, 17(4), 1212. <https://doi.org/10.3390/ijerph17041212>
- Casino, F., Dasaklis, T. K., & Patsakis, C. (2019). A systematic literature review of blockchain-based applications: Current status, classification and open issues. *Telematics and Informatics*, 36, 55–81. <https://doi.org/10.1016/j.tele.2018.11.006>

- Duan, Y., Edwards, J. S., & Dwivedi, Y. K. (2019). Artificial intelligence for decision making in the era of Big Data – evolution, challenges and research agenda. *International Journal of Information Management*, 48, 63–71. <https://doi.org/10.1016/j.ijinfomgt.2019.01.021>
- Earle, K. A., Ambrosino, D. M., Fiore-Gartland, A., Goldblatt, D., Gilbert, P. B., Siber, G. R., Dull, P., & Plotkin, S. A. (2021). Evidence for antibody as a protective correlate for COVID-19 vaccines. *Vaccine*, 39(32), 4423–4428. <https://doi.org/10.1016/j.vaccine.2021.05.063>
- El Hachem, M., Diociaiuti, A., Concato, C., Carsetti, R., Carnevale, C., Ciofi Degli Atti, M., Giovannelli, L., Latella, E., Porzio, O., Rossi, S., Stracuzzi, A., Zaffina, S., Onetti Muda, A., Zambruno, G., & Alaggio, R. (2020). A clinical, histopathological and laboratory study of 19 consecutive Italian paediatric patients with chilblain-like lesions: Lights and shadows on the relationship with COVID-19 infection. *Journal of the European Academy of Dermatology and Venereology*, 34(11), 2620–2629. <https://doi.org/10.1111/jdv.16682>
- Eslam, M., Newsome, P. N., Sarin, S. K., Anstee, Q. M., Targher, G., Romero-Gomez, M., Zelber-Sagi, S., Wai-Sun Wong, V., Dufour, J.-F., Schattenberg, J. M., Kawaguchi, T., Arrese, M., Valenti, L., Shiha, G., Tiribelli, C., Yki-Järvinen, H., Fan, J.-G., Grønbaek, H., Yilmaz, Y., ... George, J. (2020). A new definition for metabolic dysfunction-associated fatty liver disease: An international expert consensus statement. *Journal of Hepatology*, 73(1), 202–209. <https://doi.org/10.1016/j.jhep.2020.03.039>
- Felip, E., Altorki, N., Zhou, C., Csösz, T., Vynnychenko, I., Goloborodko, O., Luft, A., Akopov, A., Martinez-Marti, A., Kenmotsu, H., Chen, Y.-M., Chella, A., Sugawara, S., Voong, D., Wu, F., Yi, J., Deng, Y., McClelland, M., Bennett, E., ... Wakelee, H. (2021). Adjuvant atezolizumab after adjuvant chemotherapy in resected stage IB–IIIA non-small-cell lung cancer (IMpower010): A randomised, multicentre, open-label, phase 3 trial. *The Lancet*, 398(10308), 1344–1357. [https://doi.org/10.1016/S0140-6736\(21\)02098-5](https://doi.org/10.1016/S0140-6736(21)02098-5)
- Fisher, K. A., Bloomstone, S. J., Walder, J., Crawford, S., Fouayzi, H., & Mazor, K. M. (2020). Attitudes Toward a Potential SARS-CoV-2 Vaccine: A Survey of U.S. Adults. *Annals of Internal Medicine*, 173(12), 964–973. <https://doi.org/10.7326/M20-3569>
- Geng, K., He, T., Liu, R., Dalapati, S., Tan, K. T., Li, Z., Tao, S., Gong, Y., Jiang, Q., & Jiang, D. (2020). Covalent Organic Frameworks: Design, Synthesis, and Functions. *Chemical Reviews*, 120(16), 8814–8933. <https://doi.org/10.1021/acs.chemrev.9b00550>
- Grundy, S. M., Stone, N. J., Bailey, A. L., Beam, C., Birtcher, K. K., Blumenthal, R. S., Braun, L. T., De Ferranti, S., Faiella-Tommasino, J., Forman, D. E., Goldberg, R., Heidenreich, P. A., Hlatky, M. A., Jones, D. W., Lloyd-Jones, D., Lopez-Pajares, N., Ndumele, C. E., Orringer, C. E., Peralta, C. A., ... Yeboah, J. (2019). 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the Management of Blood Cholesterol: Executive Summary. *Journal of the American College of Cardiology*, 73(24), 3168–3209. <https://doi.org/10.1016/j.jacc.2018.11.002>
- Hartmann, N. B., Hüffer, T., Thompson, R. C., Hassellöv, M., Verschoor, A., Daugaard, A. E., Rist, S., Karlsson, T., Brennholt, N., Cole, M., Herling, M. P., Hess, M. C., Ivleva, N. P., Lusher, A. L., & Wagner, M. (2019). Are We Speaking the Same Language? Recommendations for a Definition and Categorization Framework for Plastic Debris. *Environmental Science & Technology*, 53(3), 1039–1047. <https://doi.org/10.1021/acs.est.8b05297>
- Hirsch, J. S., Ng, J. H., Ross, D. W., Sharma, P., Shah, H. H., Barnett, R. L., Hazzan, A. D., Fishbane, S., Jhaveri, K. D., Abate, M., Andrade, H. P., Barnett, R. L., Bellucci, A., Bhaskaran, M. C., Corona, A. G., Chang, B. F., Finger, M., Fishbane, S., Gitman, M., ... Ng, J. Hwei. (2020). Acute kidney injury in patients hospitalized with COVID-19. *Kidney International*, 98(1), 209–218. <https://doi.org/10.1016/j.kint.2020.05.006>
- Kellogg, K. C., Valentine, M. A., & Christin, A. (2020). Algorithms at Work: The New Contested Terrain of Control. *Academy of Management Annals*, 14(1), 366–410. <https://doi.org/10.5465/annals.2018.0174>

- Lee, A. C.-L., Harris, J. L., Khanna, K. K., & Hong, J.-H. (2019). A Comprehensive Review on Current Advances in Peptide Drug Development and Design. *International Journal of Molecular Sciences*, 20(10), 2383. <https://doi.org/10.3390/ijms20102383>
- Lindgren, B.-M., Lundman, B., & Graneheim, U. H. (2020). Abstraction and interpretation during the qualitative content analysis process. *International Journal of Nursing Studies*, 108, 103632. <https://doi.org/10.1016/j.ijnurstu.2020.103632>
- Liu, X., Jiao, Y., Zheng, Y., Jaroniec, M., & Qiao, S.-Z. (2019). Building Up a Picture of the Electrocatalytic Nitrogen Reduction Activity of Transition Metal Single-Atom Catalysts. *Journal of the American Chemical Society*, 141(24), 9664–9672. <https://doi.org/10.1021/jacs.9b03811>
- Liu, Z., Mao, H., Wu, C.-Y., Feichtenhofer, C., Darrell, T., & Xie, S. (2022). A ConvNet for the 2020s. *2022 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 11966–11976. <https://doi.org/10.1109/CVPR52688.2022.01167>
- Lumley, S. F., O'Donnell, D., Stoesser, N. E., Matthews, P. C., Howarth, A., Hatch, S. B., Marsden, B. D., Cox, S., James, T., Warren, F., Peck, L. J., Ritter, T. G., De Toledo, Z., Warren, L., Axten, D., Cornall, R. J., Jones, E. Y., Stuart, D. I., Screatton, G., ... Eyre, D. W. (2021). Antibody Status and Incidence of SARS-CoV-2 Infection in Health Care Workers. *New England Journal of Medicine*, 384(6), 533–540. <https://doi.org/10.1056/NEJMoa2034545>
- Lyngfelt, A., Brink, A., Langørgen, Ø., Mattisson, T., Rydén, M., & Linderholm, C. (2019). 11,000 h of chemical-looping combustion operation—Where are we and where do we want to go? *International Journal of Greenhouse Gas Control*, 88, 38–56. <https://doi.org/10.1016/j.ijggc.2019.05.023>
- Magnavita, N., Soave, P. M., & Antonelli, M. (2021). A One-Year Prospective Study of Work-Related Mental Health in the Intensivists of a COVID-19 Hub Hospital. *International Journal of Environmental Research and Public Health*, 18(18), 9888. <https://doi.org/10.3390/ijerph18189888>
- Mazza, C., Ricci, E., Biondi, S., Colasanti, M., Ferracuti, S., Napoli, C., & Roma, P. (2020). A Nationwide Survey of Psychological Distress among Italian People during the COVID-19 Pandemic: Immediate Psychological Responses and Associated Factors. *International Journal of Environmental Research and Public Health*, 17(9), 3165. <https://doi.org/10.3390/ijerph17093165>
- Mohammed, A., Harris, I., & Govindan, K. (2019). A hybrid MCDM-FMOO approach for sustainable supplier selection and order allocation. *International Journal of Production Economics*, 217, 171–184. <https://doi.org/10.1016/j.ijpe.2019.02.003>
- Moriguchi, T., Harii, N., Goto, J., Harada, D., Sugawara, H., Takamino, J., Ueno, M., Sakata, H., Kondo, K., Myose, N., Nakao, A., Takeda, M., Haro, H., Inoue, O., Suzuki-Inoue, K., Kubokawa, K., Ogihara, S., Sasaki, T., Kinouchi, H., ... Shimada, S. (2020). A first case of meningitis/encephalitis associated with SARS-Coronavirus-2. *International Journal of Infectious Diseases*, 94, 55–58. <https://doi.org/10.1016/j.ijid.2020.03.062>
- Motzer, R. J., Penkov, K., Haanen, J., Rini, B., Albiges, L., Campbell, M. T., Venugopal, B., Kollmannsberger, C., Negrier, S., Uemura, M., Lee, J. L., Vasiliev, A., Miller, W. H., Gurney, H., Schmidinger, M., Larkin, J., Atkins, M. B., Bedke, J., Alekseev, B., ... Choueiri, T. K. (2019). Avelumab plus Axitinib versus Sunitinib for Advanced Renal-Cell Carcinoma. *New England Journal of Medicine*, 380(12), 1103–1115. <https://doi.org/10.1056/NEJMoa1816047>
- Paravina, R. D., Pérez, M. M., & Ghinea, R. (2019). Acceptability and perceptibility thresholds in dentistry: A comprehensive review of clinical and research applications. *Journal of Esthetic and Restorative Dentistry*, 31(2), 103–112. <https://doi.org/10.1111/jerd.12465>
- Patel, H., Rawtani, D., & Agrawal, Y. K. (2019). A newly emerging trend of chitosan-based sensing platform for the organophosphate pesticide detection using Acetylcholinesterase- a review. *Trends in Food Science & Technology*, 85, 78–91. <https://doi.org/10.1016/j.tifs.2019.01.007>

- Qin, X., Zhang, Z., Huang, C., Gao, C., Dehghan, M., & Jagersand, M. (2019). BASNet: Boundary-Aware Salient Object Detection. *2019 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 7471–7481. <https://doi.org/10.1109/CVPR.2019.00766>
- Romanowski, P. (2021). A deliberate language policy or a perceived lack of agency: Heritage language maintenance in the Polish community in Melbourne. *International Journal of Bilingualism*, 25(5), 1214–1234. <https://doi.org/10.1177/13670069211000850>
- Setti, L., Passarini, F., De Gennaro, G., Barbieri, P., Perrone, M. G., Borelli, M., Palmisani, J., Di Gilio, A., Piscitelli, P., & Miani, A. (2020). Airborne Transmission Route of COVID-19: Why 2 Meters/6 Feet of Inter-Personal Distance Could Not Be Enough. *International Journal of Environmental Research and Public Health*, 17(8), 2932. <https://doi.org/10.3390/ijerph17082932>
- Shvets, P., Dikaya, O., Maksimova, K., & Goikhman, A. (2019). A review of Raman spectroscopy of vanadium oxides. *Journal of Raman Spectroscopy*, 50(8), 1226–1244. <https://doi.org/10.1002/jrs.5616>
- Tang, N., Li, D., Wang, X., & Sun, Z. (2020). Abnormal coagulation parameters are associated with poor prognosis in patients with novel coronavirus pneumonia. *Journal of Thrombosis and Haemostasis*, 18(4), 844–847. <https://doi.org/10.1111/jth.14768>
- Wang, W., Meng, Q., Li, Q., Liu, J., Zhou, M., Jin, Z., & Zhao, K. (2020). Chitosan Derivatives and Their Application in Biomedicine. *International Journal of Molecular Sciences*, 21(2), 487. <https://doi.org/10.3390/ijms21020487>
- Wang, X., Feng, Y., Dong, P., & Huang, J. (2019). A Mini Review on Carbon Quantum Dots: Preparation, Properties, and Electrocatalytic Application. *Frontiers in Chemistry*, 7, 671. <https://doi.org/10.3389/fchem.2019.00671>

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