

aesthetics, 96% in terms of system integration, 73% in terms of completeness, and 76.67% in terms of user-friendliness. Applications for learning the Sasak Baluk olas scripts for elementary and junior high school education levels can be a medium for Learning and preserving the Sasak scripts.

ACKNOWLEDGMENT

The authors thank LPDP Kemenkeu for funding this research through the Applied Research scheme.

REFERENCES

- [1] P. K. Austin, "Aksara Sasak, an endangered script and scribal practice," *Proc. Int. Work. Endanger. Scripts Isl. Southeast Asia*, no. February, pp. 1–12, 2014.
- [2] D. van der Meij, "Jurnal Manassa," *J. Manassa*, vol. 1, no. 1, pp. 17–45, 2011.
- [3] H. Tajuddin, Muhammad and N. N. Jaya, "Preservasi Naskah Kuno Sasak Lombok Berbasis Digital dan Website," *J. Teknol. Inf. dan Ilmu Komput.*, vol. 5, no. 4, pp. 445–454, 2018, doi: 10.25126/jtiik.201854787.
- [4] P. P. N. T. B. Di. P. dan Kebudayaan, *Bahan Ajar Muatan Lokal*. 2018.
- [5] M. T. Anwar, S. Hidayat, and A. Adil, "Tansformasi Lontar Babad Lombok Menuju Digitalisasi Berbasis Natural Gradient Flexible (NGF)," *J. Teknol. Inf. dan Ilmu Komput.*, vol. 8, no. 2, p. 275, 2021, doi: 10.25126/jtiik.2021824088.
- [6] C. Costa, K. Tyner, S. Henriques, and C. Sousa, "Game creation in youth media and information literacy education," *Int. J. Game-Based Learn.*, vol. 8, no. 2, pp. 1–13, 2018, doi: 10.4018/IJGBL.2018040101.
- [7] Q. Liu, Z. Cheng, and M. Chen, "Effects of environmental education on environmental ethics and literacy based on virtual reality technology," *Electron. Libr.*, vol. 37, no. 5, pp. 860–877, 2019, doi: 10.1108/EL-12-2018-0250.
- [8] Y. Zhonggen, "A Meta-Analysis of Use of Serious Games in Education over a Decade," *Int. J. Comput. Games Technol.*, vol. 2019, no. 3, 2019, doi: 10.1155/2019/4797032.
- [9] S. E. Polykalas and G. N. Prezerakos, "When the mobile app is free, the product is your personal data," *Digit. Policy, Regul. Gov.*, vol. 21, no. 2, pp. 89–101, 2019, doi: 10.1108/DPRG-11-2018-0068.
- [10] A. Coghlan and L. Carter, "New Product Design: Creating a Digital VR Game to Promote the Conservation of Nature-based Tourism Attractions," *Emerald Handb. ICT Tour. Hosp.*, pp. 167–179, 2020, doi: 10.1108/978-1-83982-688-720201011.
- [11] A. Kim, "Mobile-Assisted Language Learning in L2 Korean Using WeChat: A Case Study," *Int. J. Interact. Mob. Technol.*, vol. 16, no. 1, pp. 94–105, 2022, doi: 10.3991/IJIM.V16I01.24007.
- [12] J. Kahila, T. Valtonen, M. Tedre, K. Mäkitalo, and O. Saarikoski, "Children's Experiences on Learning the 21st-Century Skills With Digital Games," *Games Cult.*, vol. 15, no. 6, pp. 685–706, 2020, doi: 10.1177/1555412019845592.
- [13] M. E. Derosier and J. M. Thomas, "Hall of Heroes: A Digital Game for Social Skills Training with Young Adolescents," *Int. J. Comput. Games Technol.*, vol. 2019, 2019, doi: 10.1155/2019/6981698.
- [14] Murdiah, "Aksara Sasak: Panduan Belajar Aksara Sasak," 2019.
- [15] N. Shiratuddin and S. B. Zaibon, "Mobile game-based learning with local content and appealing characters," *Int. J. Mob. Learn. Organ.*, vol. 4, no. 1, pp. 55–82, 2010, doi: 10.1504/IJMLO.2010.029954.
- [16] C. O. DiNardo and M. J. Snyder Broussard, "Commercial tabletop games to teach information literacy," *Ref. Serv. Rev.*, vol. 47, no. 2, pp. 106–117, 2019, doi: 10.1108/RSR-10-2018-0066.
- [17] R. C. Mat, M. Kazunori, and A. A. Rahman, "The Development of Mobile Japanese Halal Gamification (MJHG)," *Int. J. Interact. Mob. Technol.*, vol. 14, no. 17, pp. 113–129, 2020, doi: 10.3991/ijim.v14i17.16653.
- [18] Z. Y. Liu, Z. A. Shaikh, and F. Gazizova, "Using the concept of game-based learning in education," *Int. J. Emerg. Technol. Learn.*, vol. 15, no. 14, pp. 53–64, 2020, doi: 10.3991/ijet.v15i14.14675.
- [19] O. A. Hong, N. D. A. Halim, N. N. Zulkifli, N. F. Jumaat, N. M. Zaid, and M. Mokhtar, "Designing Game-Based Learning Kit with Integration of Augmented Reality for Learning Geography," *Int. J. Interact. Mob. Technol.*, vol. 16, no. 2, pp. 4–16, 2022, doi: 10.3991/ijim.v16i02.27377.
- [20] L. Pombo and M. M. Marques, "Improving students' learning with a mobile augmented reality approach – the EduPARK game," *Interact. Technol. Smart Educ.*, vol. 16, no. 4, pp. 392–406, 2019, doi: 10.1108/ITSE-06-2019-0032.
- [21] K. Smith and S. S. Abrams, "Gamification and accessibility," *Int. J. Inf. Learn. Technol.*, vol. 36, no. 2, pp. 104–123, 2019, doi: 10.1108/IJILT-06-2018-0061.
- [22] Y. J. Kim and O. Pavlov, "Game-based structural debriefing: How can teachers design game-based curricula for systems thinking?," *Inf. Learn. Sci.*, vol. 120, no. 9–10, pp. 567–588, 2019, doi: 10.1108/ILS-05-2019-0039.
- [23] M. Toftedal, "Localization Tools in General Purpose Game Engines: A Systematic Mapping Study," *Int. J. Comput. Games Technol.*, vol. 2021, 2021, doi: 10.1155/2021/9979657.
- [24] L. Petrosyan and D. Yeung, "Shapley Value For Differential Network Games: Theory And Application," *J. Dyn. Games*, vol. 8, no. 2, pp. 151–166, 2021, doi: 10.3934/JDG.2020021.
- [25] K. Biercewicz, M. Borawski, and J. Duda, "Method for Selecting an Engagement Index for a Specific Type of Game Using Cognitive Neuroscience," *Int. J. Comput. Games Technol.*, vol. 2020, 2020, doi: 10.1155/2020/2450651.
- [26] M. Bengtsson, "Using a game-based learning approach in teaching overall equipment effectiveness," *J. Qual. Maint. Eng.*, vol. 26, no. 3, pp. 489–507, 2020, doi: 10.1108/JQME-03-2019-0031.
- [27] E. W. Teh, G. Krishnapillai, and L. M. Chan, "Tertiary Student Experiences With Digital Language Games for Enhancing the English Language," *Int. J. Game-Based Learn.*, vol. 12, no. 1, pp. 1–18, 2021, doi: 10.4018/ijgbl.287826.
- [28] M. M. Chew, "A Critical Cultural History of Online Games in China, 1995–2015," *Games Cult.*, vol. 14, no. 3, pp. 195–215, 2019, doi: 10.1177/1555412016661457.
- [29] Z. Zainuddin, C. J. Perera, H. Haruna, and H. Habiburrahim, "Literacy in the new norm: stay-home game plan for parents," *Inf. Learn. Sci.*, vol. 121, no. 7–8, pp. 645–653, 2020, doi: 10.1108/ILS-04-2020-0069.
- [30] K. K. Ren, N. I. Mohd, K. N. Ali, S. Bandi, and F. Ismail, "Design Phase of Gamification Framework for Hazard Identification Training in Construction Industry," *Int. J. Interact. Mob. Technol.*, vol. 16, no. 2, pp. 113–128, 2022, doi: 10.3991/ijim.v16i02.27405.
- [31] M. A. Hutton and M. Barr, "Introduction: A Literary Studies/Games Studies Conversation," *Games Cult.*, vol. 15, no. 7, pp. 751–756, 2020, doi: 10.1177/1555412019884461.
- [32] L. S. Furtado, R. F. De Souza, J. L. D. R. Lima, and S. R. B. Oliveira, "Teaching Method for Software Measurement Process Based on Gamification or Serious Games: A Systematic Review of the Literature," *Int. J. Comput. Games Technol.*, vol. 2021, 2021, doi: 10.1155/2021/8873997.
- [33] J. Q. A. N. N. J. Syahroni Hidayat, Muhammad Tajuddin, Siti Agrippina Alodia Yusuf, "Wavelet Detail Coefficient as A Novel Wavelet - MFCC Features in Text - Dependent Speaker Recognition System," *IJUM Eng. J.*, vol. 23, no. 1, pp. 68–81, 2022.
- [34] S. Hidayat, R. Rismayati, M. Tajuddin, and N. L. P. Merawati, "Segmentation of university customers loyalty based on RFM analysis using fuzzy c-means clustering," *J. Teknol. dan Sist. Komput.*, vol. 8, no. 2, pp. 133–139, 2020, doi: 10.14710/jtsiskom.8.2.2020.133-139.
- [35] J. D. Abril, O. Rivera, O. I. Caldas, M. F. Mauledoux, and O. F. Avilés, "Serious game design of virtual reality balance rehabilitation with a record of psychophysiological variables and emotional assessment," *Int. J. Adv. Sci. Eng. Inf. Technol.*, vol. 10, no. 4, pp. 1519–1525, 2020, doi: 10.18517/ijaseit.10.4.10319.
- [36] Y. Yang, H. Zhang, M. Chen, Y. Jiang, and H. Chai, "An Inheritance Mode of Rural Cultural Heritage Based on Virtual Museum in China," *Int. J. Comput. Games Technol.*, vol. 2021, 2021, doi: 10.1155/2021/4787991.
- [37] S. J. Aguilar, C. Holman, and B. J. Fishman, "Game-Inspired Design: Empirical Evidence in Support of Gameful Learning Environments," *Games Cult.*, vol. 13, no. 1, pp. 44–70, 2018, doi: 10.1177/1555412015600305.
- [38] F. Perceptions, "Why Games? Use of Massively Multiplayer Online Games in English and Business Courses in Higher Education," *Int. J. Game-Based Learn.*, vol. 12, no. 1, pp. 0–0, 2021, doi: 10.4018/ijgbl.294011.
- [39] C. Alexander, "Using gamification strategies to cultivate and measure professional educator dispositions," *Int. J. Game-Based Learn.*, vol. 9, no. 1, pp. 15–29, 2019, doi: 10.4018/IJGBL.2019010102.