

Based on the research, it can be concluded that (1) teachers had used learning media such as pictures, concrete model, and things could be found around the environment during learning process; (2) teachers and students need interactive multimedia based on game because it is appropriate with students' characteristics who still like playing and give students chance to regulate themselves in learning activity to be more independent.

Based on the result of the research, there are some suggestions. The analysis shows that it is needed to develop interactive multimedia based on game to help the students and teachers understand and master the materials in learning process. Students liked challenging game which stimulated them to think harder to solve the problem such as adventure, riddle, and action. This research might be continued to the stage of implementing and developing the interactive multimedia based on game. Teacher could cooperate with experts to develop interactive multimedia so it could improve learning performance and students' achievements.

REFERENCES

- Adkins, M. (2014). How video games and digital literacy impacts student attainment and development : an analysis of synergistic integration. *Society for Information Technology & Teacher Education International Conference*. United States: Association for the Advancement of Computing in Education (AACE).
- Asyhar, R. (2012). *Kreatif mengembangkan media pembelajaran*. Jakarta: Gaung Persada.
- Babiker, M. E. A. (2015). For effective use of multimedia in education, teachers must develop their own educational multimedia applications. *Turkish Online Journal of Educational Technology*, 14(4), 62–68.
- Darsono, Winarno, & Slamet. (2018). The Need Textbook Writing of Children's Story Based on Character Education. *International Journal of Educational Research Review*, 3(2), 1-8.
- Darmawan, Deni. (2012). *Inovasi pendidikan*. Bandung: PT Remaja Rosdakarya.
- Dwi Riyanto, W., & Gunarhadi. (2017). The effectiveness of interactive multimedia in mathematic learning: utilizing power points for students with learning disability. *International Journal of Pedagogy and Teacher Education (IJPTE)*, 1(1), 7–8.
- Erhel, S., & Jamet, E. (2013). Digital game-based learning: Impact of instructions and feedback on motivation and learning effectiveness. *Computers and Education*, 67, 156–167.
- Fauzi, A., Damayanti, D., & Ilahi, T. (2012). A teacher's beliefs on the integration of video technology in teaching speaking: a case study. *International Journal of Pedagogy and Teacher Education (IJPTE)*, 11(1), 46–54.
- Heafner, T. (2004). Using technology to motivate students to learn social studies. *Contemporary Issues in Technology and Teacher*, 4(1), 42–53.
- Hofstetter. (2001). *Multimedia literacy third edition*. Mc Graw-Hill International Edition: New York
- Iksan, Z. H., & Saufian, S. M. (2017). Mobile learning: Innovation in teaching and learning using telegram. *International Journal of Pedagogy and Teacher Education (IJPTE)*, 11(1), 19–26.
- Kafyulilo, A., & Keengwe, J. (2013). Teachers' perspectives on their use of ICT in teaching and learning: A case study. *Education and Information Technologies*, 19(4), 913–923.
- Kassim, H., Nicholas, H., & Ng, W. (2014). Using a multimedia learning tool to improve creative performance. *Thinking Skills and Creativity*, 13, 9–19.
- Keengwe, J., & Georgina, D. (2013). Supporting digital natives to learn effectively with technology tools. *International Journal of Information and Communication Technology Education*, 9(1), 51–59.
- Keengwe, J., & Hussein, F. (2014). Using computer-assisted instruction to enhance achievement of English language learners. *Education and Information Technologies*, 19(2), 295–306.

- Saputri, D. Y., Rukayah, & Indriayu, M. (2018). Need assessment of interactive multimedia based on game in elementary school: a challenge into learning in 21st century. *International Journal of Educational Research Review*, 3(3), 1-8.
- Keengwe, J., Onchwari, G., & Agamba, J. (2013). Promoting effective e-learning practices through the constructivist pedagogy. *Education and Information Technologies*, 19(4), 887-898.
- Kurt, S. (2013). Examining teachers' use of computer-based technologies: A case study. *Education and Information Technologies*, 18(4), 557-570.
- Martín-Sanjosé, J. F., Juan, M. C., Seguí, I., & García-García, I. (2015). The effects of computer-based games and collaboration in large groups vs. collaboration in pairs or traditional methods. *Computers and Education*, 87, 42-54.
- Miles, M. B. & A. Michael Huberman. (2009). *Analisis data kualitatif*. Jakarta: UI-Press.
- Mulyanto, Heri, Gunarhadi & Mintasih Indriayu. (2018). The effect of problem based learning model on student mathematics learning outcomes viewed from critical thinking skills. *International Journal of Educational Research Review*, 3(2), 37-45.
- Navarrete, C. C. (2013). Creative thinking in digital game design and development: A case study. *Computers and Education*, 69, 320-331.
- Nusir, S., Alsmadi, I., Al-Kabi, M., & Sharadgah, F. (2013). Studying the impact of using multimedia interactive programs on children's ability to learn basic math skills. *E-Learning and Digital Media*, 10(3), 305-319.
- Sanaky, Hujair AH. (2013). *Media pembelajaran interaktif-inovatif*. Yogyakarta: Kaudaba Dipantara.
- Sanjaya, Wina. (2007). *Strategi pembelajaran berorientasi standar proses pendidikan*. Jakarta: Kencana
- Santrock, John W. (2011). *Educational psychology*. New York: McGraw Hill Companies, Inc.
- Son, B., & Simonian, M. (2016). An integrated multimedia learning model vs. the traditional face-to-face learning model: An examination of college economics classes. *Journal of Educational Multimedia and Hypermedia*, 25(4), 305-321.
- Sukardi. (2011). *Metodologi penelitian pendidikan*. Jakarta: Bumi Aksara.
- Sun, C.-C., Lo, Y.-H., & Wang, G.-C. . (2014). The impact of applying interactive multimedia materials to English teaching practices on children's learning of English. In *International Conference on Innovation, Communication and Engineering*, ICICE 2014 (pp. 559-567).
- Sutopo, Ariesto Hadi. (2003). *Multimedia interaktif dengan flash*. Yogyakarta: PT. Graha Ilmu.
- Vebrianto, R., & Osman, K. (2011). The effect of multiple media instruction in improving students' science process skill and achievement. *Procedia - Social and Behavioral Sciences*, 15, 346-350.
- Wang, Z. (2017). Study on the multimedia application in college aerobics teaching: A learning interactive perspective. *Revista de La Facultad de Ingenieria*, 32(2), 759-767.
- Wijayanto, P. W., & Siradj, Y. (2012). The educational game " Indonesian Tribes " for the kindergarten students. *International Journal of Pedagogy and Teacher Education (IJPTE)*, 11(4), 27-36.