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MULTIMEDIA AS AN ESP TEACHING AID AT TECHNICAL UNIVERSITIES

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МУЛЬТИМЕДІА ЯК ЗАСІБ НАВЧАННЯ СТУДЕНТІВ ТЕХНІЧНИХ УНІВЕРСИТЕТІВ АНГЛІЙСЬКОЇ МОВИ ПРОФЕСІЙНОГО СПРЯМУВАННЯ

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У статті зазначено складові, функції й переваги мультимедіа як засобу навчання англійської мови студентів технічних спеціальностей. Охарактеризовано особливості процесу вивчення іноземної мови за допомогою мультимедіа, зокрема принципи когнітивної теорії навчання. Робота містить пояснення навчання за допомогою перенесення знань і характеристики структури розумової моделі, об'єму робочої пам'яті, а також розуміння.

Ключові слова: мультимедіа, англійська мова професійного спрямування, аудіовізуальні засоби, технічний університет, навчання.

The article deals with the use of multimedia in English for Specific Purposes teaching at technical universities. The constituents of multimedia are presented at the beginning, along with the explanation of why the aforementioned means is considered as one of the best educational techniques. The advantages of the use of authentic multimedia in the ESP lesson are listed further in the paper. The reasons of possible negative outcomes of multimedia use in the foreign language lessons are briefly mentioned as well. The work contains the description of the process of educational

material learning with the help of multimedia, and the explanation of the cognitive theory of multimedia learning (CTML), more specifically, its principles. When teaching students of technical specialties, it is vital to know that transfer learning is possible and even necessary; thus, this type of study can also be found in the proposed paper. The elements that influence the transfer learning success—mental model construction, working memory capacity, and comprehension—are provided. The experimental verification of the importance of multimedia in ESP lessons can be found at the end of the article.

Keywords: *multimedia, English for Specific Purposes, audiovisual aids, technical university, teaching, students.*

References

1. Aloraini, S. The impact of using multimedia on students' academic achievement in the College of Education at King Saud University [Text] / S. Aloraini // Journal of King Saud University – Languages and Translation. – 2012. – Vol. 24, Issue 2. – P. 75–82.
2. Austin, K. Multimedia learning: cognitive individual differences and display design techniques predict transfer learning with multimedia learning modules [Text] / K. Austin // Computers & Education. – 2009. – Vol. 53, Issue 4. – P. 1339-1354.
3. Crosby, M. E. From multimedia instruction to multimedia evaluation [Text] / M. E. Crosby, J. Stelovsky // Journal of Educational Multimedia and Hypermedia. – 1995. – Vol. 4, Issue 2-3. – P. 147-162.
4. Mayer, R. E. Multimedia learning [Text] / R. E. Mayer. – New York, NY : Cambridge University Press, 2001. – 210 p.
5. Yamauchi, L. G. Effects of multimedia instructional material on students' learning and their perceptions of the instruction [Text] / Laura Gabriela Yamauchi. –

Iowa, USA : Iowa State University. Retrospective Theses and Dissertations, 2008. – Paper 15324. – 54 p.

6. Fouda, O. Computer uses in education [Text] / O. Fouda. – 3rd ed. – Oxford, UK : Elsevier Science Ltd., 2008.

7. Mautone, P. D. Signaling as a cognitive guide in multimedia learning [Text] / P. D. Mautone, R. E. Mayer // Journal of Educational Psychology. – 2001. – Vol. 93, Issue 2. – P. 377-389.

8. Beichner, R. J. Multimedia editing to promote science learning [Text] / R. J. Beichner // Journal of Computers in Mathematics and Science Teaching. – 1994. – Vol. 3. – P. 55-70.

9. Mayer, R. E. Increased interestingness of extraneous details in multimedia science presentation leads to decreased learning [Text] / R. E. Mayer, E. Griffith, I. T. N. Jurkowitz, D. Rothman // Journal of Experimental Psychology Applied. – 2008. – Vol. 14. – P. 329-339.

10. Mayer, R. E. Applying the science of learning [Text] / R. E. Mayer. – Boston, MA : Pearson, 2011.

11. Cree, V. E. Transfer of learning in professional and vocational education [Text] / V. E. Cree, C. Macaulay (Eds.). – London : Routledge, 2000.

12. Azevedo, R. The role of self-regulated learning in fostering students' conceptual understanding of complex systems with hypermedia [Text] / R. Azevedo, J. T. Guthrie, D. Seibert // Journal of Educational Computing Research. – 2004. – Vol. 30, Issue 1-2. – P. 87-111.

13. Meinz, J. E. Deliberate practice is necessary but not sufficient to explain individual differences in piano sight-reading skill: the role of working memory capacity [Text] / J. E. Meinz, Z. D. Hambrick // Psychological Science. – 2010. – Vol. 21, Issue 7. – P. 914-919.

14. Oxford Dictionary of English [Text]. – [2nd ed.] – Oxford, UK : Oxford University Press, 2003. – 2088 p.

15. Bloom, B. Taxonomy of educational objectives: the classification of educational goals [Text] / B. Bloom. – [1st ed.] – Harlow, Essex, UK : Longman Group, 1956.

References

1. Aloraini, S. (2012). The Impact of Using Multimedia on Students' Academic Achievement in the College of Education at King Saud University. *Journal of King Saud University – Languages and Translation*. 24, 75-82.
2. Austin, K. (2009). Multimedia Learning: Cognitive Individual Differences and Display Design Techniques Predict Transfer Learning with Multimedia Learning Modules. *Computers & Education*. 53(4), 1339-1354.
3. Crosby, M. E., & Stelovsky, J. (1995). From Multimedia Instruction to Multimedia Evaluation. *Journal of Educational Multimedia and Hypermedia*. 4(2-3), 147-162.
4. Mayer, R. E. (2001). *Multimedia Learning*. New York, NY: Cambridge University Press. 210.
5. Yamauchi, L. G. (2008). Effects of Multimedia Instructional Material on Students' Learning and their Perceptions of the Instruction. *Retrospective Theses and Dissertations*. Paper 15324. 54.
6. Fouda, O. (2008). *Computer Uses in Education*. 3rd ed. Oxford, UK: Elsevier Science Ltd.
7. Mautone, P. D., & Mayer, R. E. (2001). Signaling as a Cognitive Guide in Multimedia Learning. *Journal of Educational Psychology*. 93(2), 377-389.
8. Beichner, R. J. (1994). Multimedia Editing to Promote Science Learning. *Journal of Computers in Mathematics and Science Teaching*. 3, 55-70.
9. Mayer, R. E., Griffith, E., Jurkowitz, I. T. N., & Rothman, D. (2008). Increased Interestingness of Extraneous Details in Multimedia Science Presentation

Leads to Decreased Learning. *Journal of Experimental Psychology Applied*. 14, 329-339.

10. Mayer, R. E. (2011). *Applying the Science of Learning*. Boston, MA: Pearson.

11. Cree, V. E., & Macaulay, C. (Eds.) (2000). *Transfer of Learning in Professional and Vocational Education*. London: Routledge.

12. Azevedo, R., Guthrie, J. T., & Seibert, D. (2004). The Role of Self-Regulated Learning in Fostering Students' Conceptual Understanding of Complex Systems with Hypermedia. *Journal of Educational Computing Research*. 30(1-2), 87-111.

13. Meinz, J. E., & Hambrick, Z. D. (2010). Deliberate Practice is Necessary but not Sufficient to Explain Individual Differences in Piano Sight-Reading Skill: The Role of Working Memory Capacity. *Psychological Science*. 21(7), 914-919.

14. *Oxford Dictionary of English* (2003). 2nd ed. Oxford, UK: Oxford University Press. 2088.

15. Bloom, B. (1956). *Taxonomy of Educational Objectives: The Classification of Educational Goals*. 1st ed. Harlow, Essex, UK: Longman Group.