

The Effect of Using Infographics on Developing Students' Knowledge Regarding the Tools Used in Clothing and Textiles

Shaimaa Mustafa Mubarak Ibrahim

Lecturer, Faculty of Home Economics, Helwan University
Email: Shaimaa.Mobark@heco.helwan.edu.eg

Aml Gerges William Habib

Lecturer, Faculty of Home Economics, Helwan University
Email: aml_gerges@heco.helwan.edu.eg

Abstract:

In light of the information and communications technology revolution and the increase in its tools, facilitating the tasks of workers in the field of education, saving the effort and time necessary to achieve the desired goals, and the acceleration and accumulation of knowledge; It is necessary to show a means of transferring knowledge quickly with this rapid increase in science and knowledge. One of the most famous of these forms that has found great interest recently and an increase in demand is the art of transforming complex data, information, and concepts into visual depictions, narrative pictures, narrative drawings, or diagrams that depict concepts and information. Data can be expressed in a thousand words, and the infographic is one of the most important of these means because of its positive impact on the development of knowledge among the various study samples. Therefore, the research aimed to measure the effect of using infographics in developing students' knowledge regarding the tools used in clothing and textiles. To achieve the research goal, the descriptive method and the quasi-experimental method with two experimental and control groups were used with two pre- and post-test measurements on a sample consisting of (70) male and female students from the second year of the department. Clothing and Textile, Faculty of Home Economics, Helwan University, in the first semester of the academic year 2023/2024 AD. The research tools were a cognitive achievement test about the tools used in clothing and textile, A questionnaire was conducted on students' opinions regarding the use of infographics in teaching this knowledge, and educational infographics in their static and dynamic types. The research experiment was also applied to the students, where a set of results were reached, the most important of which are: the presence of statistically significant differences between the average scores of students in the two groups (experimental and control) in the measurement. The posttest of the achievement test of knowledge related to clothing and textile tools in favor of the experimental group, and the presence of statistically significant differences between the average scores of the pre and post measurements of the achievement test of knowledge related to clothing and textile tools among the students of the experimental group in favor of the posttest. There are also statistically significant differences between the average scores of the pre- and post-measurements of students' opinions towards the tools used in clothing and textiles among the students of the experimental group in favor of the post-measurement. The use of infographics achieved a positive and statistically significant effect in developing the knowledge of the experimental group students and their attitudes towards the tools used in clothing and textiles. In light of the research results, some recommendations were presented, such as conducting studies that work to integrate infographics in its various styles with educational curricula to deliver information in an easier and faster way to develop students' knowledge and skills, and providing training courses for those in charge of the educational process to train them in modern methods in education in general and in studying infographics in its various styles in general. especially.

Keywords:

The Effect- Infographics- Development- Clothing and Textile Tools

References:

- 1- Muhammad Shawqi Abdel Fattah Shaltout (2019), Developed Educational Infographic Model, Fifth International Scientific Conference of the Egyptian Society for Educational Computers, Port Said, Egypt.
- 2- Ahmed Hamdy Mohamed Khader Bayoumi (2022), The impact of the static and dynamic infographics strategy on the cognitive achievement in the bow and arrow course for students of the Faculty of Physical Education, Benha University, Assiut Journal of Physical Education Sciences and Arts, Assiut University, Faculty of Physical Education, 21 (1), 50 -77.
- 3- Alford, K. (2019). The rise of infographics: Why teachers and teacher educators should take heed. *Teaching/Writing: The Journal of Writing Teacher Education*, 7(1), 7.

- 4- Abeer Naguib Al-Saeed Haraz, Ahmed Waheed Mustafa, Zainab Ahmed Abdel Aziz (2017), Ergonomic Considerations for Designing a Detailing Table, *International Design Journal*, Volume 7, Issue 3, 109-114
- 5- Ali Khalifa (2020), The impact of educational infographic presentation patterns (static/animated/interactive) on developing concepts of digital citizenship among secondary school students and their attitudes toward it, *Fayoum University Journal of Educational and Psychological Sciences*, vol. 14, vol. 3, 501-584.
- 6- Ardila Márquez, N. (2022). Infographics as a teaching tool to foster reading comprehension. An action research in 9th-grade students from Bethlemitas Brighton School.
- 7- Duaa Khalil Abu Saada, Alaa Khalaf Hamed Al-Saud, Muhammad Suhail Muhammad Gharaibeh, Walaa Jawdat Tawalbeh (2022), The effect of using static and animated infographics on developing the achievement of eighth-grade students in geography and its relationship to the student's academic level in Jordan, *Jerash Research and Studies*, Volume 23, No. 2, 2571-2590.
- 8- Dur, B. I. U. (2014). Data visualization and infographics in visual communication design education at the age of information. *Journal of Arts and Humanities*, 3(5), 39-50.
- 9- Fadzil, H. M. (2018). Designing infographics for the educational technology course: perspectives of pre-service science teachers. *Journal of Baltic Science Education*, 17(1), 8.
- 10- Fragou, O., & Papadopoulou, M. (2020). Exploring infographic design in higher education context: towards a modular evaluation framework. *Journal of Visual Literacy*, 39(1), 1-22.
- 11- Ghada Refaat Hassan, Shaima Saber Abbas (2022), The effect of employing the "fixed and animated" infographic technique on acquiring knowledge and skills for implementing some types of Chinese knot stitches, *Egyptian Journal of Specialized Studies*, No. 35, 243-312.
- 12- Ghada Shehata Ibrahim Moawad (2022), The interaction between gamification (leaderboards/points) and support (flexible/fixed) and its impact on developing educational infographic skills for female students at Prince Sattam bin Abdulaziz University, *Educational Journal, Sohag University, College of Education*, No. 97, 608 – 692
- 13- Gebre, E. (2018). Learning with Multiple Representations: Infographics as Cognitive Tools for Authentic Learning in Science Literacy. *Canadian Journal of Learning and Technology*, vol,44, (1),1-24.
- 14- Hassan Ahmed Abdulbaset (2015), The basic foundations for activating the use of infographics in the teaching and learning processes, *E-Learning Magazine*, p. (15), available at the link <https://www.slideshare.net/HussainAbdulbaset/pdf-258560202>
- 15- Hala Othman Al-Alami (2021), The effectiveness of using the cooperative learning strategy in teaching knitting tools and machines on cognitive achievement and the development of sliding knitting technique skills among female home economics students at the College of Specific Education, *Educational Journal*, vol. 81, 605-636.
- 16- Hisham Ahmed Assem (2021), The effectiveness of a training program on the foundations of strengthening the classic men's suit jacket with filling materials for fourth-year students in the Department of Clothing and Textiles, *Journal of Research in the Fields of Specific Education*, No. 36, 655-702.
- 17- Hisham Ahmed Assem (2021), The effectiveness of a proposed educational unit using hybrid learning for the machinery and equipment course for second-year students - Department of Clothing and Textiles, *Journal of Research in the Fields of Specific Education*, No. 32, 1259-1304.
- 18- Hemmat Attia Qasim Al-Sayyid (2022), the different types of activities in an electronic training environment and its impact on the quality of educational infographic design and production for early childhood teachers, *Education Journal, Al-Azhar University, College of Education*, 193 (1), 25-281.
- 19- Hanaa Al-Basiouni (2020), High and low intensity levels of visual cues in interactive video and their impact on acquiring static infographic production skills for College of Education students, *Journal of Scientific Research in Education, Girls College of Arts, Sciences and Education, Ain Shams University*, 21 (5), 388-426.
- 20- Ihab Saad Mohammadi Mahmoud, Mahitab Ahmed Al-Tayeb (2020), Animated infographic with hints for developing some geographical concepts in children with Down Syndrome, *Journal of Childhood and Education, Alexandria University, Faculty of Kindergarten*, 12 (44), 81-162.
- 21- Justin Beegel, M. B. A. (2014). *Infographics for dummies*, John Wiley & sons.
- 22- Krum, Randy(2013). *Cool Infographics: Effective Communication with Data Visualization and Design*(Kindle Locations). Wiley.Kindle Edition. (107 – 108)
- 23- Karima bint Abdullah bin Muhammad Al-Saadi, Muhammad Abdul Karim Al-Ayasrah, Rashid bin Saif bin Musabah Al-Mahrazi (2024), The effect of the infographic technique based on Marzano's learning

dimensions model in developing the habits of mind among tenth grade female students in the Islamic education subject in light of their achievement. *Academic, Studies in Curriculum and Teaching Methods*, no. 261, 12-47

- 24- Lama Muhammad Saleh Al-Ghamdi, Abeer Badr Bassiouni (2023), The effect of the different style of hints accompanying educational infographics on developing the skill of visual thinking of English grammar, *Arab Studies in Education and Psychology*, No. (148), 61-94.
- 25- Muhammad Radwan Ibrahim Abu Hashish (2021), The effect of the interaction between the density of infographic hints (dense and low) and the level of mental capacity (high-low) on the development of scientific curiosity and the skills of using the smart board among educational technology students, *Journal of the Faculty of Education, Benha University, Faculty of Education*, 32(127), 40-160
- 26- Mohamed Ibrahim Radwan (2023), Using interactive infographics to develop electronic cashier competencies in the field of points of sale and enjoyment of learning for commercial secondary school students, *Fayoum University Journal of Educational and Psychological Sciences*, No. 17, Part 8, 341-223.
- 27- Muhammad Shawqi Abdel Fattah Shaltout (2016), *Infographics from Planning to Production*, Riyadh, Saudi Arabia, Asas Advertising Agency, Kingdom of Saudi Arabia.
- 28- Mahmoud Muhammad Bargout, Ahmed Abu Abla (2022), The effectiveness of using static infographics in acquiring technological concepts among seventh grade students, *An-Najah University Journal of Research - Human Sciences*, 36 (6), 1225-1262.
- 29- Masoud Muhammad Abu Al-Yazid Ahmed (2022), The most appropriate types of visual cues in electronic educational programs and computer courses from the point of view of middle school teachers, *Journal of the Higher Institute for Specific Studies, Higher Institute for Specific Studies*, 2 (1), 171-205.
- 30- Manar Morsi Al-Shami, and Sarah Fathallah Al-Shami (2023), The effectiveness of the flipped classroom strategy in developing the skills of implementing children's clothing, the attitude towards the profession, and reducing academic procrastination among female students of the Department of Clothing and Textiles, *Journal of Research in the Fields of Specific Education*, No. 46, 1145 - 1235.
- 31- Montaser Othman Hilal (2020), The effect of the interaction between the "static-animated" infographic style in flexible e-learning environments and the "superficial-deep-strategic" Entostel model in improving some learning outcomes and increasing students' motivation towards learning, the peer-reviewed scientific journal of the Egyptian Society Educational Computer, vol. 8, no. 1, 39-96.
- 32- Nada Hassan Salah El-Din Sayed, Osama Al-Sayed Mahmoud Ali, Somaya Sayed Muhammad (2023), Using Infographic Applications to Increase Students' Skills: An Experimental Study on the Information Services and Marketing Course, *International Arab Journal for Library and Information Studies*, Vol. 2, No. 4, 167 – 180
- 33- Nawal Buttihan Awaid Al-Mutairi, Obaid bin Mazal Obaid Al-Harbi (2022), The effectiveness of an infographic-based teaching unit in developing conceptual understanding in mathematics and visual thinking skills among female second-year intermediate students in the Kingdom of Saudi Arabia, *Journal of Educational Sciences and Human Studies, Taiz University, Al-Turbah Branch - Department of Studies Higher Education and Scientific Research*, (22), 380-358
- 34- Nevin Ahmed Ghobashi Abu Al-Naga (2023), Evaluating the reality of using interactive infographics in presidential initiatives from the point of view of the academic elite, *Scientific Journal of Public Relations and Advertising Research*, no. 26, 465-518.
- 35- Nevin Mansour Muhammad Al-Sayed Mansour (2021), the relationship between the density of visual cues (high - low) and the place of their appearance (content - activities) in an e-learning environment and its impact on the quality of production of educational systems, visual attention, and awareness of metacognition among female student teachers and their responses to it, *Journal Scientific Research in Education, Ain Shams University, Girls' College of Arts, Sciences and Education*, 22 (12), 479-584
- 36- Owens, T., & Voorhees, C. H. (2022). *What Fascinates You? Infographics as Research-Based Inquiry for Artists*. edit
- 37- Polman, J. L, & Gebre, E. H. (2015), Towards critical appraisal of infographics as scientific inscriptions. *Journal of research in science teaching*, 52 (6), 868–893.
- 38- Rahma Ishaq Suleiman (2019), The effectiveness of using infographic technology on developing some knowledge and skills related to making clothes among fourth-year students, *Journal of Research in the Fields of Specific Education*, No. 22, 39-117.
- 39- Reham Saad Al-Heilan (2024), Patterns of Presenting Electronic Content and Using Interactive Video and Their Impact on Developing Interactive Infographic Design Skills in Science, *Journal of Educational and*

Specific Research, No. (23), 1- 35

- 40- Reham Bassiouni Mohammadi, Zainab Mohamed Mahmoud (2021), The impact of the training program based on augmented reality in developing the skills of implementing samples of the Sewing Tools and Machines course among home economics students, *Scientific Journal of the College of Specific Education*, No. 28, 821-858.
- 41- Sahar Ali Zaghoul (2020), The effectiveness of cooperative learning to develop the knowledge, skills, and attitudes of students of the Department of Clothing and Textiles in designing women's outerwear, *Journal of Educational and Psychological Sciences*, Volume 13, No. 3, 1113 - 1137.
- 42- Somaya Hamed Labib, and Asmaa Al-Sayyed Abdel Moati (2021), The effectiveness of applying the flipped learning strategy in teaching the fashion design course to students of clothing and textiles at the College of Home Economics, *Journal of Research in the Fields of Specific Education*, No. 34, 643-682.
- 43- Safaa Kamal Sayed (2023), The effect of animated infographics in developing awareness of the standard standards for accreditation among Al-Azhar teachers in Assiut, *Journal of Research in the Fields of Specific Education*, No. 44, 1349-1383.
- 44- Salah El-Din Abdel Qader Muhammad, Sahar Pasha Mansour Abdel Sattar, Hani Shafiq Ramzy Kamel, Hiyam Mustafa Abdullah Salem (2019), developing the skills of home economics students in the subject of sewing tools and machines through the interaction between the educational mobile and the practical demonstration, *Scientific Journal of Studies Educational and qualitative research*, no. 8, 61-79
- 45- Taha Mahmoud Ibrahim Abdel Aziz, Nourhan Adel Al-Banna, Shaima Hussein Sharaf (2022), The effectiveness of an adaptive environment based on infographic patterns in developing website design and creation skills among middle school students, *College of Education Journal*, (14), 41-65
- 46- Wafa Bani Araba (2022), The effectiveness of teaching using the infographic technique in imparting religious concepts to eleventh grade female students, *Palestine Technical University Research Journal*, 10 (2), 45- 57
- 47- Wafa Mahmoud Ahmed Mohamed Nassar, Hanan Abdel Samie Mabrouk, Lamia Mahmoud Mohamed Al-Qadi (2023), The impact of using infographic technology in teaching home economics on developing critical thinking and motivation for achievement among middle school female students, *Journal of Research in the Fields of Specific Education*, p. 45, 2951- 3009.
- 48- Hazem Abdel Fattah Abdel Moneim, Sarah Ibrahim Mohamed Mahran (2020), *Designing models and implementing children's clothing (practical applications)*, Egyptian House of Books, 2nd edition (to support the applied part)
- 49- Suzanne Youssef Al-Qalini (2007), *Media Psychology: Psychological Approaches to the Media*, Dar Al-Fikr Al-Masryam for Printing, Publishing and Distribution, Cairo.
- 50- Muhammad bin Ibrahim bin Ali bin Asim (2008), *Al-Mu'jam*, Dar Al-Kutub Al-Ariya.
- 51- Muhammad Shawqi Abdel Fattah Shaltout (2015), *The Art of Infographics between Suspense and Motivation for Learning*, *E-Learning Magazine*, (23), 1-3
- 52- Muhammad Attia Khamis (2013), *Educational Theory and Research in Educational Technology*, Cairo, Dar Al-Sahab for Printing, Publishing and Distribution.
- 53- Magdy Aziz Ibrahim (2006), *Educational Technologies, Visions for Employing Communication Media and Educational Technology*, Al-Anhlo Egyptian Library, Cairo.
- 54- Heba Ahmed Yassin (2011), *A Girl's Guide to Learning the Principles of Knitting*, Anglo-Egyptian Library, 1st edition. (To support the applied part)
- 55- Tasneem Yahya Al-Sayed (2014), The effectiveness of an educational unit on machines and equipment for students in the Department of Clothing and Textiles, Master's thesis, Faculty of Home Economics, Helwan University.

Paper History:

Paper received April 11, 2024, Accepted June 17, 2024, Published on line September 1, 2024.