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# Using Augmented Reality to Increase the Effectiveness of Printed Educational Media

**Sara Ibrahim abdl-rahman ramadan**

Benha University Arts- Advertising, Printing and Publishing Dept. Faculty of Applied

bu.sara.ramadan@gmail.com

## *Abstract:*

Educational institutions aim to try to offer the most diverse options for their students. Graphic design can facilitate the reception of scientific information and its communication in an easy manner, but it has become necessary to search for a means that presents information in a way that stimulates the learner's senses and increases his attention, thus reducing the time of receiving the information with good comprehension of it. It is also necessary to reach the desire to achieve positive education, which refers to a new educational approach by closely linking student well-being to academic achievement.

Continuing advances in technology are reshaping how educational content is created, delivered, and consumed. As digital tools and platforms continue to change the way students learn, publishers must adapt to keep up with these changes.The world of education itself is always changing. New methods and teaching methods are being developed, and publishers must keep their materials in line with these latest practices in order to remain relevant and effective. This endeavor faces an increasing challenge in today's globalized world.

**Research problem:** Thus, the research problem is summarized as follows: - The lack of an optimal application of the principle of complete awareness in presenting information in the printed educational media due to its connection to the emergence of movement in conscious mental activity in the learning theory course. - The need to develop the printed educational medium to be visually interactive by introducing augmented reality technology, especially with advanced educational systems in distance learning through virtual platforms, video lessons, online educational programs, and self-learning sites. - The need to develop the role of education in preparing the student to live in society, so that he participates effectively and is not subject to receiving information only. To provide the student with the knowledge necessary to achieve his professional career and perform his duties and rights before the same society.

**Search goal:** Expanding the scope of activating the use of new interaction technology in presenting scientific material in a modern way for learning and the extent of developing learners' creative abilities through: -Increasing the learner's ability to predict and solve problems by interacting in the information environment and touching and coexisting with all variables related to it; Which helps train students in logical scientific thinking. -Increasing the effectiveness of e-learning to achieve speed and ease of access to the educational message through visual interaction that achieves visual and psychological calculations of the educational goal. -Employing interactive graphic design as a modern tool to raise the efficiency of the educational process.

**Research importance:** -Taking advantage of all technological capabilities and modern techniques to raise the level of effectiveness of the educational method to deliver information to the learner through interaction with the material presented to achieve the desired educational goals. -Increasing the positive effect of psychomotor factors (interactive video) in presenting educational materials on the development of the learner's understanding beyond mere stimulation and awareness of graphic design in presenting printed educational materials. -Integrating new interactive and technological methods of learning.

**research sample:** Community members were chosen because they had experienced teaching or learning using augmented reality, or they had seen and observed the impact it had on the education of their students and children, and they were aware of the effectiveness of the educational method with augmented reality applications and the future outlook of programmers and professors for its applications.

**Research Methodology:** The study follows a descriptive approach to printed educational media and their educational effectiveness, followed by an analytical study to describe and analyze proposed models (for printed educational posters that contain augmented reality technology to display the scientific information presented in them) through a questionnaire to monitor and analyze the results for the groups concerned with education (learners, teachers, and stakeholders).

**Experimental methodology:** The study follows the special integrative approach through a sample social survey. Relying on quantitative data, in addition to in-depth interviews that provide qualitative data that is considered complementary to it, the study population consisted of educated community members at all levels of education, their parents, and those responsible for teaching at all levels of education, and they were communicated through social networking sites. Various social activities and field visits.

**Results:** It is clear from the statistical analysis that the majority of the sample members show positive attitudes towards the effectiveness of augmented reality applications in increasing the efficiency of the educational experience. where

The percentage of responses to paragraphs indicating positive trends increased, and the percentage rose to 91.9%, with the highest value at paragraph 5, which confirms that augmented reality applications help in providing more realistic educational experiences. -Followed by 90.5% in paragraph 3, which indicates an improvement in students' understanding of educational materials by using augmented reality applications. The fourth paragraph demonstrates that using augmented reality applications increases students' interaction with educational materials and motivates them to receive more and more accurate information about the same educational material. -The lowest value in paragraph 21, at 34%, indicates the respondents' acknowledgment that augmented reality applications increase the costs of education if they are adopted. The percentage of paragraph 21 is proportional to the increase in responses in paragraph 12, which indicates 38.9% that the

 

study population prefers traditional methods of education using printed educational methods. The percentage for paragraph 19 was about 38.9%, which indicates the percentage of those who wish to rely only partially on augmented reality technologies and not completely as an educational system.

## *Keywords:*

Printed educational media- augmented reality- educational effectiveness- Learning Theory and Philosophy of Teaching

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