

addressed to ensure inclusive and equitable implementation.

- Regulatory Frameworks: Establishing robust regulatory frameworks and standards is essential to address safety and security issues, data protection, and liability concerns associated with urban robotics and automation.

Conclusion

The assessment of literature on urban robotics and automation in Middle Eastern countries demonstrates the diverse applications and potential benefits of these technologies in addressing urban challenges. While the region has shown significant progress in adopting robotics and automation, attention must be given to addressing challenges related to technological readiness, workforce adaptation, ethical considerations, and regulatory frameworks. By leveraging the potential of urban robotics and automation while addressing these challenges, Middle Eastern countries can continue to shape smart and sustainable cities for the future.

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THE EFFECTIVENESS OF AN ELECTRONIC PROGRAM TO DEVELOP THE SKILLS OF INTEGRATING TECHNOLOGY IN EDUCATION

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Abstract: The study aimed to reveal the effectiveness of an electronic training program to develop the skills of integrating technology into education among basic education teachers in the city of Taiz. The nature of the study required the adoption of two approaches: descriptive analytical and quasi-experimental design. It was applied in two stages: the stage of identifying training needs when the sample reached (210) male and female teachers, and the electronic program implementation stage, which included a sample of (25) teachers, and the two samples were chosen in a simple random way from teachers of the basic education stage in the city of Taiz. This study designed the experimental treatment materials represented by the electronic training program and measurement tools. The study concluded: identifying a list of the most prominent skills for integrating technology into education, which represent a training need for basic education teachers in the city of Taiz. It also showed that there is a statistically significant difference at a significance level ($\alpha \leq 0.05$) between the average scores and a statistically significant relationship at the level of significance ($\alpha \leq 0.05$) between the average achievement scores in the cognitive aspect and skill performance. , among the sample members, and in light of these results, the study recommended the necessity of designing electronic training programs, to develop technology skills and integrate them into education among teachers, according to their actual training needs, in the form of applications that run on smart phones, in addition to urging the e-learning administration to activate online training. After using electronic training platforms, to provide teachers with digital teaching performance skills.

Keywords: effectiveness- electronic program- technology integration- basic education- training needs

Introduction

The results of many studies and research have confirmed the extent of the positive effects of integrating technology on learners’ acquisition of skills and concepts and their retention, and have recommended the necessity of activating in-service training for teachers on technological innovations to integrate them into education. Based on that, the current study came to present an

electronic program, according to the training needs of teachers. Basic education stage in Taiz city. Study procedures conducting a descriptive and analytical study to determine the characteristics of the trainees and their needs. Design the electronic program, in light of [3], the formulating objectives: It consisted of providing basic education teachers with some skills for integrating technology into education. Building two measurement tools: the achievement test to measure the level of cognitive achievement, and the observation card, to determine the extent to which the study sample was able to perform the skills of integrating technology into education.

The study aimed to achieve some objectives such as identifying training needs to develop the skills of integrating technology into education among basic education teachers in Taiz, designing an electronic program to develop the skills of integrating technology into education, among basic education teachers, in Taiz and measuring the effectiveness of the electronic program in developing cognitive achievement and skill performance to integrate technology into education among basic education teachers in Taiz. The importance of the study is evident in utilizing the list of skills in developing pre-service teacher preparation programs and training them during them, directing the attention of educational leaders in Yemen to drawing up plans aimed at integrating technology into education and improving the motivation for learning among learners, to convince their teachers of the feasibility of moving to teaching based on technology integration. It offers an electronic program for self-training, which gives teachers experience in contemporary digital learning. Design a program scenario that is an accurate description of what the electronic program contains, and a translation of its educational objectives. Develop a self-training strategy using the module training method. Producing program contents using a number of authoring programs. Evaluating the validity of the electronic program by ensuring the validity of its content and applying it to a survey sample. Applying the electronic program to (30) female teachers in the basic education stage. [1-3].

Results and discussion

Preparing a list of the most prominent skills for integrating technology into education, which represent a training need for the study sample. There are statistically significant differences at a significance level ($\alpha \leq 0.05$) between the average scores of the pre- and post-measurements, for the achievement test and the observation card, in favor of the post-measurement, among the study sample.

Conclusion

The current study recommends designing programs (phone applications) to develop the integration of technology into education among teachers according to their training needs. Urging the Ministry of Education to activate training through electronic platforms, to provide teachers with digital skills. Conducting a study similar to the current study to provide basic education teachers with other skills that were not included in the study. The effectiveness of designing an electronic platform in developing the digital competencies of basic education teachers in the Republic of Yemen. Designing electronic programs to develop the digital skills of mentors, and measuring their effectiveness in developing supervisory performance.

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