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METHODS OF TRAINING IN INFORMATION SYSTEMS AND DATABASE MANAGEMENT

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ABSTRACT: This article is devoted to the development and testing of teaching methods, the purpose of which is the formation of competencies in the field of information systems and database management. The article discusses the basic principles, stages and learning tools designed to improve the level of knowledge of students or specialists in this field. The author analyzes in detail the modern requirements of the labor market and technological trends that determine the necessary skills in the field of information systems and database management. The methodology includes practical tasks, case studies and other educational tools that contribute to more effective assimilation of the material. The article is intended for teachers, teachers and specialists engaged in training and development of competencies in the field of information technology, as well as for anyone interested in modern approaches to training in the field of information systems and database management.

KEYWORDS: Education in the field of information systems, database management, teaching methods, modern technologies in education, labor market requirements, pedagogical approaches, practical tasks, case studies, virtualization, cloud computing, automation of database management, learning efficiency, experimental results, competencies in information technology, educational tools.

INTRODUCTION

With the development of information systems and database management (DBM) technologies, modern education is facing challenges and opportunities that require new teaching methods. Effective knowledge of information technologies is becoming a key skill in the digital age, and teaching methods play an important role in the formation of this competence. In today's information-rich world, information systems (IS) and database management (DBM) play a key role in the organization, storage and processing of data[1]. For the successful implementation of projects in the field of information technology, highly qualified specialists with deep knowledge and skills in the field of IP and UBD are needed. This article will review the teaching methodology in this area, identify key aspects and discuss development prospects.

The initial stage of the methodology of teaching information systems and UBD is the development of a course. Teachers should take into account current trends in the field of information technology and structure the material in such a way that students receive both theoretical knowledge and practical skills. The course should include the basic principles of database design

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and management, query languages, as well as modern methods of data analysis. Training in information systems and database management begins with the definition of key competencies necessary for successful work in this field[2]. This includes an understanding of the structure and functions of information systems, as well as the ability to effectively manage data using modern database technologies.

However, understanding the theory is not enough. Effective teaching methods include the active application of the acquired knowledge in practice. Practical classes, which include working with real information systems and DBMS, become an important element of training. Students can use a variety of software environments to develop databases, create queries, and analyze data, which provides hands-on experience. Students should acquire the skills of database design, query optimization, data security and change management in information systems[3]. In addition, it is important to teach students the use of modern tools and technologies, such as SQL, NoSQL databases, and database management platforms.

One of the key elements of the teaching methodology is project activity. Students can develop their own projects related to information systems and UBD. This can be creating a database for a specific organization, optimizing an existing system, or developing an application for data analysis. The projects support not only an in-depth understanding of the subject, but also the development of teamwork skills, analytical and problem-oriented skills. One of the key elements of the IS and UBD teaching methodology is the emphasis on interactive learning and practical classes. Students should be given the opportunity to put their knowledge into practice through real projects and case studies. This helps them develop practical skills necessary for effective work in the industry.

Projects on database design, query creation, and performance optimization are an integral part of training. It is also important to provide access to modern tools and platforms for database management, which will allow students to get acquainted with real technological solutions.

Interactive teaching methods, such as discussions, case studies, and team building, are also important when teaching information systems and UBD. Exchange of experience, analysis of real-life cases and discussion of complex scenarios help students to apply their knowledge in practice and develop critical thinking[4]. An important aspect of the teaching methodology is the evaluation and feedback system. Continuous assessment, both formative and summative, allows students to track their progress and improve their skills. Feedback from teachers and students encourages further development and improvement of the quality of education. Give lectures that explain basic concepts and principles. Add demonstrations of the use of specific tools and technologies for greater clarity. Use simulations and virtual labs to create realistic learning environments where students can experiment with databases without the risk of losing real data. Provide feedback to students on their assignments and projects. This will help them understand where they are successful and where there is room for improvement. Encourage group work and sharing of experiences among students. This can enhance understanding and facilitate the exchange of ideas.

CONCLUSION

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The methodology of teaching information systems and UBD should be comprehensive, including theoretical foundations, practical skills and project activities. Only such an integrated approach provides students with the necessary knowledge and skills for a successful career in the field of information technology in an ever-changing digital world.

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