MODALITIES OF INSTRUCTING COMPUTER SCIENCE AS AN ACADEMIC DISCIPLINE

Gavxar Xaydarova
gvxrxyfr@gmail.com
Student, Chirchik State Pedagogical University

Diana Valeryevna Abduramanova
Senior teacher, Chirchik State Pedagogical University
diana1207saliyeva@gmail.com

ABSTRACT

In this article, the concept of teaching techniques as a scientific field, together with its purpose and topic, as well as its characteristics, is dissected. The primary components of the relationship between the technique of teaching computer science as a scientific and the fundamental ideas underlying the educational process have also been identified. This connection is being made in order to teach computer science as a science.

Keywords: teaching methods, science, computer science, development.

INTRODUCTION

For a long time, teaching methodology was considered a subfield of pedagogy that investigates teaching techniques without being regarded as an independent science. However, from the beginning of the 19th century, teaching methodology began to emerge as a distinct field of study. The word "methodology" has ancient Greek origins and means a manner of doing research, teaching theory, or both. In 1985, when the school subject «Fundamentals of Computer Science and Computer Engineering» was introduced, a new field of pedagogical science was established: the methodology of teaching computer science, the subject of which is the objectives, content, methods, and organisational structures of computer science education.

LITERATURE REVIEW AND METHODOLOGY

Teaching methodology is a field of pedagogical research that investigates the learning process with the goal of increasing its efficacy [1]. The approach comprises a collection of procedures, principles, and training instruments.

The objective of the teaching approach is the teacher-student interaction, during which subject information is conveyed

and skills and talents are developed (programs, textbooks, textbooks, extracurricular activities, etc.).

The topic of teaching methodology is the learning process, its regulations, and the collected information about the item being taught (i.e., scientifically based solutions to problems that are related to goals, content, principles, methods and techniques).

The teaching methodology is divided into 2 main parts, namely:

• a general methodology that examines the general principles of teaching;

• a private methodology considering an individual approach to teaching the topic.

The main task of the teaching methodology is to reveal the laws of learning, on the basis of which the regulatory requirements for the teaching activity of the teacher, as well as for the cognitive activity of students, are established.

Thus, the teaching methodology, which deals with the study of goals, content, methods and means of teaching, is formed as an independent science. The main task of the teaching methodology is to reveal the patterns of teaching a certain subject.

According to M.P. Lapchik, the subject of computer science, as well as cybernetics, is formed on the basis of wide areas of its applications, and the object is based on general patterns inherent in any information processes in nature and society. Computer science studies what is common to all the numerous varieties of specific information processes (technologies).

1. The methodology of teaching computer science is a branch of pedagogical science.

2. The object of which is the process of teaching computer science at school;

3. The subject is the design, construction, implementation, analysis and development of methodological systems for teaching computer science at school;

One of the main methods of teaching computer science is a pedagogical experiment.

On the basis of this, we can define the methodology of teaching computer science as the study of computer science as an academic discipline and the accuracy of the process of teaching computer science to students of various ages. In its study and findings, the technique of teaching computer science draws on philosophy, logic, pedagogy, mathematics, computer science, and psychology, as well as the general experience of computer science instructors.

The methodology of teaching computer science is an academic discipline [3] engaged in the development and research in accordance with the objectives and content of the training technical, software, educational, methodological, psychological, pedagogical, and organisational

support for the use of computer technologies in the school process.

If we view the technique of teaching computer science as a science, then we can see its relationship to the key components of the notion of the educational process, which are a collection of learning and research items. Consider the essential elements:

- teaching activities of the teacher
- educational activities of students;
- organization of training.

DISCUSSION AND RESULTS

The teaching process is a collaborative effort between a teacher and a pupil. All elements of the educational process should be interconnected, since if they are not, the process may be unproductive and in some circumstances impossible.

Because the notion of an algorithm originated in mathematics, the approach of teaching computer science is similar to the methodology of teaching mathematics. On the other hand, several conclusions of diverse mathematical statements contain an algorithmic structure, and a number of tasks in the technique of teaching mathematics are focused on learning to identify the algorithmic component of the conclusion.

The overall didactics of the topic include a threefold learning objective (training, development, and education), which is also reflected in the computer science resources. The technique for teaching computer science is based on a set of didactic principles of general didactics, which need rethinking and concretization with relation to computer science content.

The fast development of computer science as a scientific discipline and academic field is a feature of the computer science teaching technique. In this context, it is necessary to continuously update the content of education in line with the progress of science and technology [4].

The worldwide informatization of all spheres of human activity and the permeation of computer science into all other fields of study allow us to confidently assert that the approach for teaching computer science is intertwined with almost every other field of study.

CONCLUSION

The technique of teaching computer science as a science started to take form when the course «Fundamentals of Computer Science and Computer Technology» was introduced into secondary schools. The curriculum, materials, and teaching techniques were created

by scientists A.P. Ershova and V.M. Monakhova. The methodology of teaching computer science is an academic discipline concerned with the development and research of teaching technical, software, educational, methodological, psychological, pedagogical, and organisational support for the use of computer technologies in the school process, and closely related to philosophy, logic, pedagogy, psychology, and mathematics.

REFERENCES

1. Teaching methods as a pedagogical science [Electronic resource]. Access mode: https://studme.org/41881/sotsiologiya/metodika_prepodavaniya_sotsiologii_kak_nau chnaya_distsiplina.

2. General methods of teaching computer science [Electronic resource]. Access mode: http://hosting.vspu.ac.ru /~mvv/mpi/mpi_1.pdf.

3. Kuznetsov A.A. General methods of teaching computer science. Part I: textbook for students of pedagogical universities / A.A.Kuznetsov, T.B.Zakharova, A.S.Zakharov— M.: Prometheus, 2016. — 300 p.

4. Methods of teaching computer science: Textbook for students of pedagogical universities/M.P.Lapchik, I.G.Semakin, E.K.Henner; Under the general editorship of M.P.Lapchik. – M.: Publishing Center «Academy», 201. – 624 p.

5. Abduramanova, D. V. (2021). Methods of teaching English as a foreign language. Academic research in educational sciences, 2(8), 260-263.

6. Abduramanova, D. V. (2020). Significant features of organizing scientific extra-curricular activities. Academic Research in Educational Sciences, 1 (3), 718-722.

7. Abduramanova, D. V. , Turgunova, Z. (2022). Virtual reality as a new method of teaching foreign language. Academic research in educational sciences, Volume 3, Issue 3, Uzbekistan, pp. 473-477.

8. Makhmudov, K. (2020). Innovative Cluster of Pedagogical Education: Common Goals and Specific Interests. *Academic Research in Educational Sciences,* (2), 182-187.

9. Makhmudov, K. (2022). The Role, Competences and Methods of a Teacher in Learner's Forming Intercultural Communication. *International Journal of Innovative Research in Science, Engineering and Technology, 11*(3), 2688-2691.

10. Abduramanova, D. V. , Юсупова H. The significance of linguistic information in the English language classroom. Academic research in educational sciences, Volume 3, Issue 3, Uzbekistan, pp. 478-482.

11. Makhmudov, K. (2021). Learning a Target Language within its Culture as an Effective Method. *Academic research in educational sciences*, *2*(CSPI conference 1), 620-623.

12. Abduramanova, D. V. , Yusupova N. (2022). Application features method in process of educational discussion in the foreign language classroom . Academic Research in Educational Sciences, 4(3), Uzbekistan, pp. 62–67.

13. Abduramanova, D. V., Murodjonova R. (2022). Невербальная коммуникация как основной инструмент социального взаимодействия. Academic Research in Educational Sciences, 3(5), Узбекистан, сс. 771-775.

14. Abduramanova, D. V., Ruzmatova Z. (2022). Essential management system as a primary tool of a successful business process. Academic Research in Educational Sciences, 3(11), Uzbekistan, pp. 683–686.