THE CAPABILITIES OF CREATING VISUAL TOOLS DESIGNED FOR TEACHING COMPUTER HARDWARE

Juraboyev Almir Jamshidovich,
teacher of the Navoi State Pedagogical Institute

Annotation: This article explores the possibilities of creating visual learning materials for secondary school pupils to shape their ideas about assembling and using computer hardware, using graphic software and educational platforms in the process.

Key Words: information and communication technologies, computer hardware, computer graphics, visual tools, MAX, Blender, Google Sketch Up, motivation.

Due to the rapid development of information and communication technologies today, it has become essential to generate modern approaches for shaping the ideas of secondary school pupils, particularly regarding the assembly of computer equipment and effective utilization [1-4]. Meeting this need involves emphasizing the use of modern approaches, such as incorporating visual interactive tools, to shape pupilss` ideas about assembling and utilizing computer hardware. Therefore, creating visual interactive tools for the assembly and effective use of computer equipment is considered a relevant solution to contemporary challenges.

Graphics, diagrams, drawings, and video information used as didactic materials for learning how to assemble and use computer equipment face limitations in their effectiveness and student engagement without the aid of two-dimensional tools. The visual projection of objects with horizontal or vertical simplicity, such as posters or singular images on a computer monitor, pose several challenges in accurately depicting the phase contours and spatial; arrangement of the depicted object and its constituent elements.

Therefore, creating modern visual learning tools is essential for teaching pupils how to assemble and use computer hardware. Utilizing three-dimensional graphic software such as 3ds MAX, Blender, Google Sketch Up, and the Poly.com educational platform is recommended for this purpose. The visual interactive tools created through this graphic software and educational platform enable each pupil to independently work with educational materials in class, allowing them to thoroughly analyze experimental content related to individual assignments. In addition, it significantly reduces the time required to obtain digital characteristics of various physical processes and materials. [5-11]

Thus, the graphic software and educational platforms mentioned above provide the opportunity to design visual tools aimed at shaping the ideas of secondary school pupils about assembling and using computer hardware.

In summary, it is advisable to use visual learning tools appropriately designed for secondary school pupils to shape their ideas about assembling and using computer hardware. For this purpose, teachers should utilize the suggested graphic software and educational platforms mentioned above to create visual learning tools. The visual tools created through these graphic software and educational platforms enhance pupils` motivation to assemble and use computers, shape their ideas and foster an engaging organization of the Information Technology and Information and Communication Technology subject.

The list of used literature.

1. Mirsanov U.M. Methods for Improving the Effectiveness of Teaching Mathematics in General Secondary Schools through Practical Programs (in the example of grades 5-6) // Dissertation of Doctor of Philosophy (PhD) in Pedagogy. – Tashkent, 2019. – p.190

2. Mirsanov U. M. Requirements for Creating Electronic Informational and Educational Resources on Subjects of Mathematical Cycle in Global Internet //www.auris-verlag. de. – 2017.

3. Новиков М.Ю. Обучение информатике в школе на основе мобильных технологий // Автореферат диссертации на соискание ученой степени кандидата педагогических наук. – Екатеринбург – 2019. – 24 с.

4. Божич В.И., Горбатюк Н.В., Непомнящий А.В.КОМПЬЮТЕРНАЯ ОБУЧАЮЩАЯ СИСТЕМА // file:///C:/Users/User/Downloads/kompyuternaya-obuchayuschaya-sistema.pdf

5. Mirsanov U.M., Nuraliyeva P.E., Karimova N.A., "Laboratory Work in Computer Graphics and Web Design" // Teaching Handbook. – Tashkent, 2022. – p.155

6. [Электронный ресурс] Страница продукта 3ds Max на сайте компании Autodesk (русскоязычная версия) http://www.autodesk.ru/products/3ds-max/overview/ (дата обращения 11.09.2023 г.).

7. [Электронный ресурс] Официальный сайт компании Exlevel (русскоязычная версия) http://exlevel.ru/features/ (дата обращения 22.11.2023 г.).

8. [Электронный ресурс] Страница продукта Autodesk FBX на сайте компании Autodesk http://www.autodesk.com/products/fbx/overview (дата обращения 21.10.2023 г.).

9. Абляев М. Р., Аметов Ф. Р., Мевлют И. Ш. Программа Blender как основная среда 3d моделирования для разработки игр в unity. Таврический научный обозреватель. № 6(11) – июнь 2016. – С. 190-192.

10. Кронистер, Д. Blender Basic // Учебное пособие / Джеймс Кронистер. 2010. – 153 с.

11. https://skillbox.ru/media/design/prosto-o-sketchup/