EDUCATIONAL TECHNOLOGIES IN STUDENTS' INDEPENDENT STUDY OF THE SUBJECT "DETERMINATION OF THE PHYSICAL PARAMETERS OF A STAR BASED ON ITS COLOR"

[1]Jakhongir A Khotamov,teacher, [2]Nigora P Khotamova,teacher
[1]Jizzakh state pedagogical university by the Jizzakh, Uzbekistan
[2]Jizzakh city 23-school
e-mail: xatamov_j@jspi.uz

Abstract. *In this article, the knowledge that students should know about the topic of determining its physical parameters based on the color of a star and the educational technologies of independent understanding of the topic, its methodology and importance are shown.*

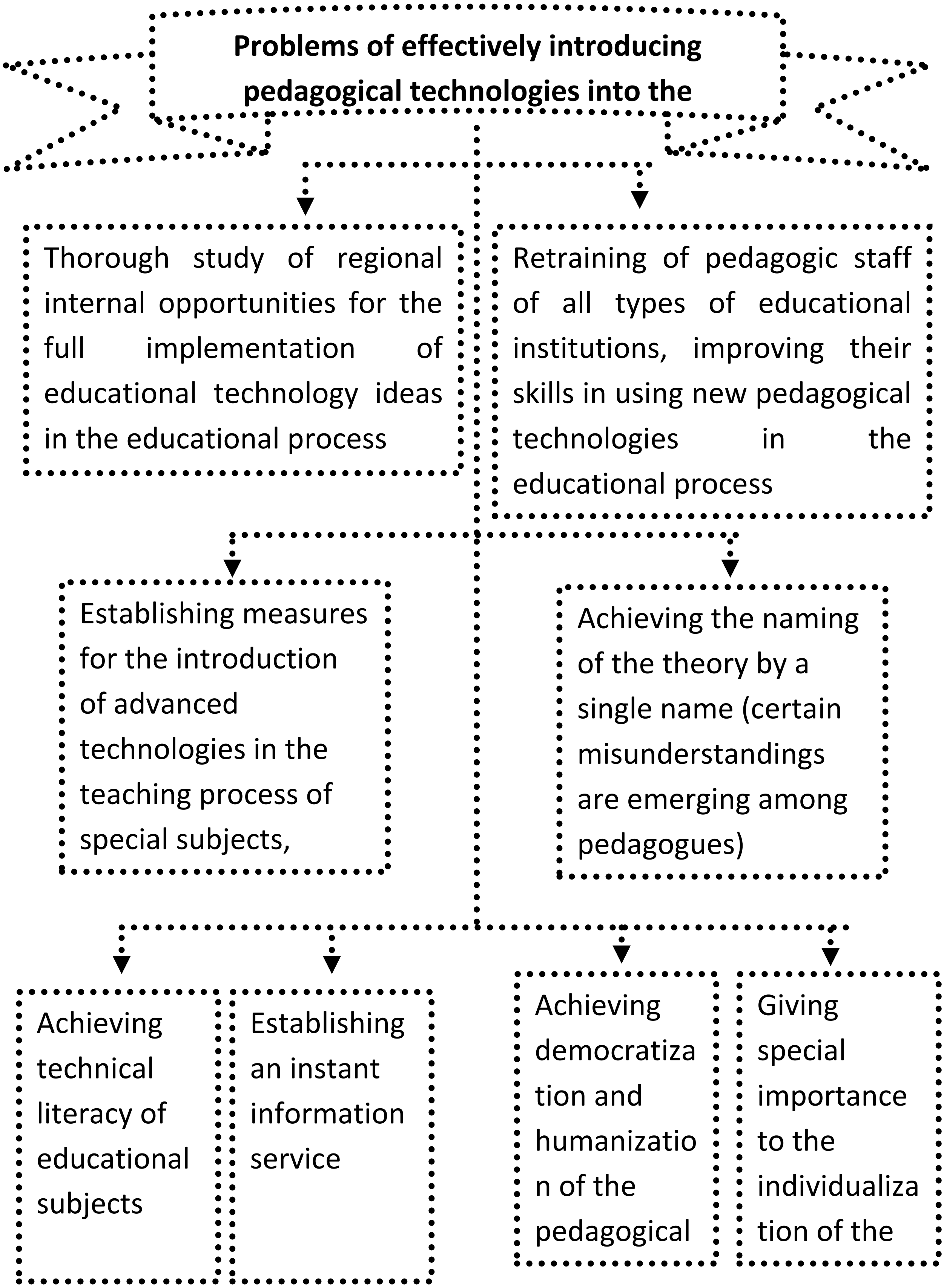
Keywords. *star, color, parameter, methodology, telescope, education, training, scholars, heritage*

Introduction. Astronomy studies matter in the universe at conditions and scales that cannot be created in the laboratory, thereby expanding the physical landscape of the universe and our understanding of matter (the two forms of matter: matter and field). All this is of great importance in the development of students' scientific imagination about nature.

Therefore, the goal of educational technology is to arm students with deep and solid knowledge, to make them interested in science, to teach them to work independently and think.

It is the responsibility of organizations researching the problems of educational technology to inform the employees of the educational sector about the essence of educational technology, its achievements, and to organize activities aimed at improving their skills in this regard. Although the Republic of Uzbekistan is accumulating a lot of experience in educational technologies, there are also a number of problems.

Today's task of education is to teach students to be able to work independently in the conditions of an informational educational environment that is increasing day by day, to use the flow of information wisely.


Problems of effectively introducing pedagogical technologies into the
Thorough study of regional internal opportunities for the full implementation of educational technology ideas in the educational process
Retraining of pedagogic staff of all types of educational institutions, improving their skills in using new pedagogical technologies in the educational process
Establishing measures for the introduction of advanced technologies in the teaching process of special subjects,
Achieving the naming of the theory by a single name (certain misunderstandings are emerging among pedagogues)
Achieving technical literacy of educational subjects
Establishing an instant information service
Achieving democratiza tion and humanizatio n of the pedagogical
Giving special importance to the individualiza tion of the

Analysis. The color of the sky appears to us to be blue when it is sunny (daytime), and black when there is no sun (evening). So, the main reason for this is the Sun.

The reason why the sky appears blue during the day is that the blue rays contained in sunlight (complex light) are more scattered in the atmosphere of different densities.

From outside the Earth's atmosphere, the sky appears black, where the Sun and stars can be observed at the same time.

Stars have different luminosities and different colors: white (hot star), yellow (hot star), reddish (cold star). So, the redder the star, the colder it is. Our Sun is a type of yellow stars.

The ancient Arabs gave personal names to bright stars. White stars are Vega in the Lyra constellation, Altoir in the Eagle constellation (they are visible in summer and autumn), Sirius is the brightest star in the sky (visible in winter), red stars - Betelgeuse in the Orion constellation and Aldebaran in the Sauron constellation (visible in winter), Antares in the Scorpio constellation is visible in summer, and the yellow Capella in the Aravakash constellation (visible in winter).

In ancient times, the brightest stars in the celestial sphere were called stars of the 1st magnitude, and the faintest stars, barely visible to the naked eye, were called stars of the 6th magnitude.

This ancient terminology has been preserved to this day. The term "stellar magnitude" (denoted by the letter m) has nothing to do with the actual size of the stars, but describes the flux of light from the stars to Earth.

If the difference between the magnitudes of two stars is equal to one, it is assumed that their apparent brightness differs from each other by approximately 2.5 times. In that case, if the star magnitudes differ from each other by 5 star magnitudes, the difference in clarity corresponds to about 100 times.

For example, 1st magnitude stars are 100 times brighter than 6th magnitude stars.

Stars about 6th magnitude can be seen with the unaided eye. Modern observation methods allow us to see stars up to approximately 26th magnitude. Accurate measurements show that stars have both fractional and negative stellar magnitudes.

For example, Aldebaran m=1.06, Vega m=0.14, Sirius m=-1.58, Sun m=-26.80, Venus planet m=-4.4, Moon m=-12.5 star magnitude have

Therefore, the star magnitude of the brightest celestial bodies in the sky takes negative values.

Previously, all the bright stars in the celestial sphere were divided into 6 stages according to their brightness. Each step is estimated to be ~2.5 times dimmer than the previous one.

$$\boxed{\lg 2{,}512 = 0{,}4}$$

instead of 2.5, 2.512 was accepted, and this ancient scale was also used for stars that cannot be seen without a telescope.

Denoting the stage of luminosity with m, it is called the magnitude of the star. Let the brightness of one star be m_1, its illumination be E_1, and for another star, let these values be m_2 and E_2, respectively. Then, if we apply the above rule of star classification according to brightness,

$$\frac{E_1}{E_2} = 2{,}512^{m_2 - m_1}$$

will be.

Logarithmizing both sides of this equation is called Pogson's formula.

$$m_2 - m_1 = 2{,}5\lg\frac{E_1}{E_2}$$

We form the expression. The numerical value of m also depends on the radiation receiver.

The brightness of a star measured with a receiver, which is the same as the sensitivity of the normal eye or eye, is called visual stellar magnitude and is denoted by mv or mb. If celestial objects are photographed on non-sensitized photographic material and the stage of clarity is determined, it is called photographic star magnitude and is denoted by mpg or mf.

The maximum $\lambda = 5300\ \mathring{A}$ sensitivity of the human eye corresponds to the wavelength of the spectrum, and for non-sensitized photoemulsion $\lambda = 4300\ \mathring{A}$ to.

The brightness determined by a photograph taken through a specially made yellow filter into ordinary photoemulsion, orthochromatic or isoorthochromatic emulsions is close to the visual brightness and is called the photovisual magnitude (m_{pgv}) of the star. The tools used to evaluate star clarity - eye, photoemulsion, radiometer, bolometer and telescopes are called receivers.

If the receiver is equally sensitive to all parts of the spectrum, and from the observation we can find the integral value of the radiation, such brightness is called the bolometric (or radiometric) magnitude of the star and is denoted as mbol (m_{rad}). Bolometric correction for converting from visual magnitude to bolometric magnitude of a star

$$\Delta m_{bol} = m_{bol} - m_v$$

and the connection between the star temperature T is used. This connection is presented in a table made with a theoretical calculation.

Conclusion: The ability of the student to work with textbooks and additional literature, to narrate what he knows, and to be able to write and read physical formulas correctly, to be able to solve equations and problems related to quantity and quality, is acquired. be able to apply knowledge, law concepts, create equations, find coefficients, write formulas correctly, be able to apply them to create electronic and building formulas, write the formula of a known substance using the general formula of homologous series, create an equation for calculation, problem it is necessary to develop the ability to solve problems, this is the need of the hour.

Also, teaching methods are determined by the doctrine of knowledge methods and laws, that is, the methodology of science. The use of new pedagogical technology methods increases the effectiveness of the lesson without abandoning existing traditional educational methods. In physics, it is considered appropriate that physical reactions are mainly studied by writing them down.

References

1. B.A. Voronsov-Velyaminov, M.M. Dagayev and others. "Methodology of teaching astronomy in secondary schools". T. Teacher 1991.
2. M. Mamadazimov. "Astronomy". T. Teacher. 2003.
3. B.F. Izbosarov, O.R. Ochilov, I.R. Kamolov. "Reference to Astronomy". Navoi. 2005.
4. U. Tulipov, M. Usmanboyeva. "Practical foundations of pedagogical technologies". T. Science. 2006.
5. I. Sattorov. "Astrophysics". Science and technology. T. 2007.
6. D.I. Kamolova. "Popular Astronomy". T. Leader-Press Publishing House. 2009.
7. Jaxongir A Khotamov, Mashxura A Ulasheva, Nozima X Jumanazarova, & Jasur A Juraboyev. (2020). Describe The Inconsistency Of Observational Results With Theoretical Models In Explaining The Evolution Of Planetary Disks. *The American Journal of Interdisciplinary Innovations Research*, *2*(12), 110–115.
8. Hotamov, J., & Bobonazarov, D. (2021). The effectiveness of cooperation with research institutes (observatories) in the teaching of astrophysics. *Физико-технологического образование*, *6*(6).
9. Hotamov, J., & Hotamova, N. (2021). IMPORTANCE AND EFFECTIVENESS OF COOPERATION BETWEEN SUFFA INTERNATIONAL RADIO OBSERVATORY AND JIZAKH STATE PEDAGOGICAL INSTITUTE. *Физико-технологического образование*, *6*(6).