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THE DETERMINATION OF THE ETHANOL CONTENT IN COMMON GASOLINE AS AN EXPERIMENTAL ACTIVITY FOR THE TEACHING OF CHEMISTRY IN EDUCATION OF YOUTH AND ADULTS

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Palavras Chave: (Teaching of Chemistry, Experimental Activity, Youth and Adults).

Highlights

A teaching strategy involving experimental activity based on daily situation as calculation of ethanol content in gasoline was analyzed for the teaching of chemistry in the EJA, in particular separation of materials, fuels and energy.

Abstract

Introduction

This study, included in the theoretical framework in Chemistry, aimed to promote learning in the Teaching of Chemistry in the Education of Young and Adults (EJA)¹ through the use of a Teaching Strategy (EE) for experimentation². In order to do so, was created, whose title "Determination of the alcohol content of gasoline" sought to promote the relationship between the student's previous knowledge and the construction of scientific knowledge in relation to the concepts of chemistry present in social everyday life such as separation of materials, fuels and energy.

Methodology

The activity was carried out with the 1st year of the Secondary Education Course of Young Adults Education (EJA), the class was divided into six work groups and the activity was distributed in two classes of ninety minutes each based on the three pedagogical moments³ and adaptation of methodology⁴. Two samples of common gasoline, 50 mL beakers, 10 percent solution and sodium chloride in water were used. The instrument of data collection used in this study were questionnaires applied before and during the experimental activity. The questions dealt with the presentation and discussion of the theme, and students' perceptions about the chemical aspects involved from manufacturing to making decisions about the type of fuel to be used and their social and environmental implications.

Results and discussion

The results obtained not only attested to the participation and interest of the group but also pointed out the relevance of the use of the experimental activities in the teaching of Chemistry, since such activities encourage dialogue between popular and scientific knowledge, considering that chemical events are constitutive parts of society. The greatest difficulty was found in intermolecular interactions, especially hydrogen bonds, which require greater knowledge and concepts of chemical bonds of chemical formulas, although it allowed the discussion and perception about the scientific concepts essential for the positioning in front of this theme. The activity, although very simple, presented potential for the EJA and if adapted can be applied to other teaching modalities.

Conclusion

The activity involved daily life in a scientific perspective, taking into account the popular knowledge for appropriation of the chemical concepts of density, separation of materials and fuels.

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