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Education for Gifted Students Today, Can We Improve It?

Branka Radulović*

Faculty of Sciences, Department of Physics, University of Novi Sad, Republic of Serbia

*Corresponding Author: Branka Radulović, Faculty of Sciences, Department of Physics, University of Novi Sad, Republic of Serbia.

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Abstract

The issue of society's progress largely depends on gifted students. They are the ones who bring about change. Therefore, it is important how we educate them, whether we use old information or encourage them to create new solutions to contemporary problems. In this paper are listed a couple of problems facing our society, and in which gifted one can be involved.

Keywords: Gifted Education; Gifted Students; Society Problems; Science Education; Batteries

Introduction

Educational systems are designed to convey information that is old or proven many years earlier. Students, especially gifted ones, need to be exposed to contemporary problems and unresolved questions of current research. This would encourage young people to think how they can push the boundaries of science. Some of the most important problems in our society are health problems, problem of obtaining and storing energy, as well as disposing consumables.

If we look health problem, teacher can encourage gifted students to explore the strength of the chemical bond between virus cells and healthy cells, to combine and apply knowledge of electrostatics and electrodynamics, chemistry and biology to find a solution - a vaccine. According to World Health Organization (WHO) there are nearly 40 diseases that were unknown a generation ago, also, during the last five years, WHO has verified more than 1100 epidemic events worldwide [1]. According to Professor Fauci, 21st century will see an ever-increasing emphasis on infectious diseases [2], because of that we must prepare our gifted children to think abstractly and combine the facts in order to fund vaccine faster than it is done until now.

Other important example for our planet is how to obtain and storing energy. Take mobile phones, for example. According to statistics, in 2019 the number of mobile phone users was 4.68 billion [3]. Due to a large number of users, there is also a high demand for materials that make batteries, and lithium (Li) is one of the most commonly used. Considering the limited amount of this element on Earth and major environmental problems in terms of disposing consumed materials, researchers are focusing on finding the ways to replace Li by some new materials [4]. This brings the research into replacing Li with sodium (Na) or another alkaline metal into sharp focus today [5]. The main research problems are the viability of the battery in the aquatic environment, the weight of the battery itself (researchers state that Na batteries would be three times heavier than those made of Li) and other physical conditions in which such a battery would pertain [6]. The positive side of these batteries is the availability of materials, simpler recycling and relatively favorable physicochemical properties. The idea of obtaining battery materials while extracting salt from seawater and also finding the possibility to treat the water for drinking, would represent a huge contribution of science to the society.

In addition to studies related to Li replacement, research on the introduction of ionic liquids is also present. The physicochemical

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properties of the ionic liquids are low vapor voltage, electrochemical and thermal stability, non-flammability and very wide temperature range of the liquid phase [7]. Apart from all of these advantages, a disadvantage of ionic liquids in Li-ion batteries is their viscosity and relatively low electrical conductivity. Therefore, in short, the current problems of researchers are how to achieve good characteristics, in terms of physicochemical performance, and also in financial terms, using available materials that would protect the environment, or at least cause less harmful effects. If we adopt the definition that a gifted child is one that excels in creative thinking and abstract reasoning, has broad interests and quality of work, then we need to give them a chance to propose solutions to current scientific and research problems. In order to move the boundaries of science, it is necessary to talk about unresolved problems with students, especially with gifted ones. Individuals like Tesla, Pupin, Fleming and many others have done a lot for our planet, now it is time to encourage some new young people to think of big and unresolved ideas.

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Conflict of Interest

Declare if any financial interest or any conflict of interest exists.

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