

Educating curricular elements with olfactory symbols in e-learning

Amirhosein Mansouri

Renewable Energy Engineering Department
Tehran, Iran
amirhos.mansouri@mail.sbu.ac.ir

Aslan Gholami

Renewable Energy Engineering Department
Tehran, Iran
aslan.gholami@gmail.com

Roghayeh Gavagsaz-Ghoachani

Renewable Energy Engineering Department
Tehran, Iran
r_gavagsaz@mail.sbu.ac.ir

Abstract

Electronic education is one of the modern educational methods that has expanded greatly today thanks to technological advancements. This method has its own advantages and limitations. Finding solutions to some of these limitations can improve the quality of learning in this method so that students can have a better experience. The aim of this paper is to introduce a new educational method to increase the quality of electronic education. In this method, students compare course elements to several fragrant substances and provide reasons for this connection. Survey results show that the majority of students consider increased understanding of educational content, high retention of material and appropriate design as positive features of this method.

Introduction

Distance and electronic learning have many positive features. For example, it can reduce commuting time from home to the classroom. However, this method, along with all its advantages, also has limitations.

This paper introduces a method based on using the sense of smell. The purpose of this method is to achieve a better understanding of the educational content, which is a challenge in distance learning. In the proposed method, finding similarities and connections are used to better understand each element or its function. Students use their creativity and associate each element with substances that have a particular smell.

Methodology

In this section, after explaining the importance of the proposed educational method, its implementation in the classroom is introduced. Its advantages over other methods are also discussed. Teaching educational content with traditional methods poses challenges that modern education seeks to address. The goal is for scientific concepts to be better absorbed by students. These concepts are taught in a theoretical manner.

TABLE I . Examples of students' answers

No	Smell	Curriculum element	Explanation and Reasoning
1	Pepper	Capacitor	The quick release of pepper smell
2	Rain	DC Power supply	The soothing smell of rain
3	Mint	Fan	The cool smell of mint

Results

Students were asked to respond to questions 1 to 4 about the effectiveness of the proposed method. Answers to these questions are designed in the form of 5 options. In order to investigate the effectiveness of the proposed method on the learning process of 22 undergraduate students, these students were studying in Shahid Beheshti university.

TABLE II. Survey Questions

No	Question
1	Establishing a connection between the educational content and materials with specific scents leads to a better understanding of scientific concepts.
2	Psychologically, the sense of smell stimulates saliva and enhances mental readiness. As a result, combining this method with electronic education brings high quality in education.
3	The effort to establish a connection between the educational content and scents leads to reviewing the content.
4	The design of these four stages has led to the student's mind being calmly prepared to express their answers.

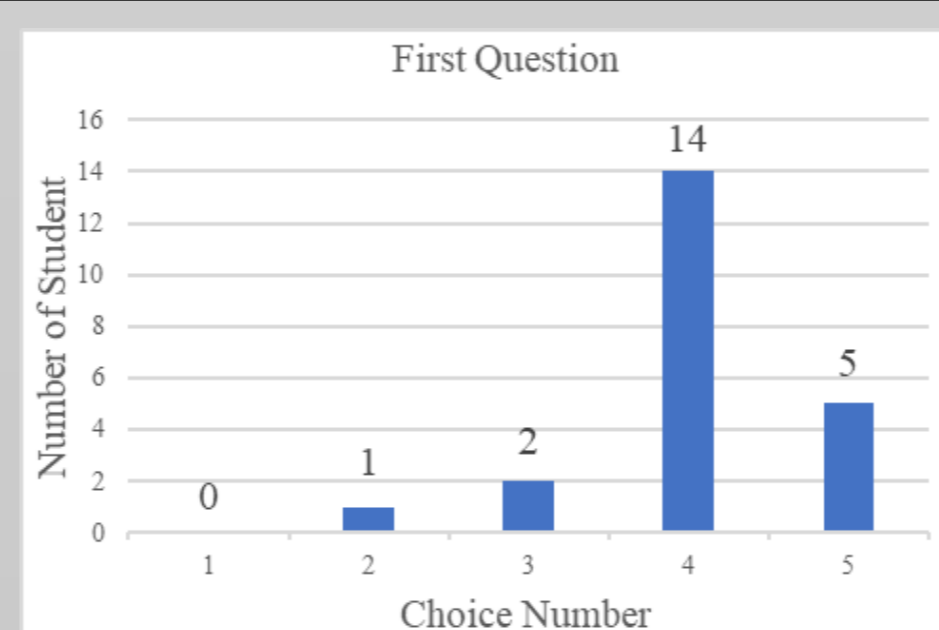


Figure 1. Students' answers to question 1.

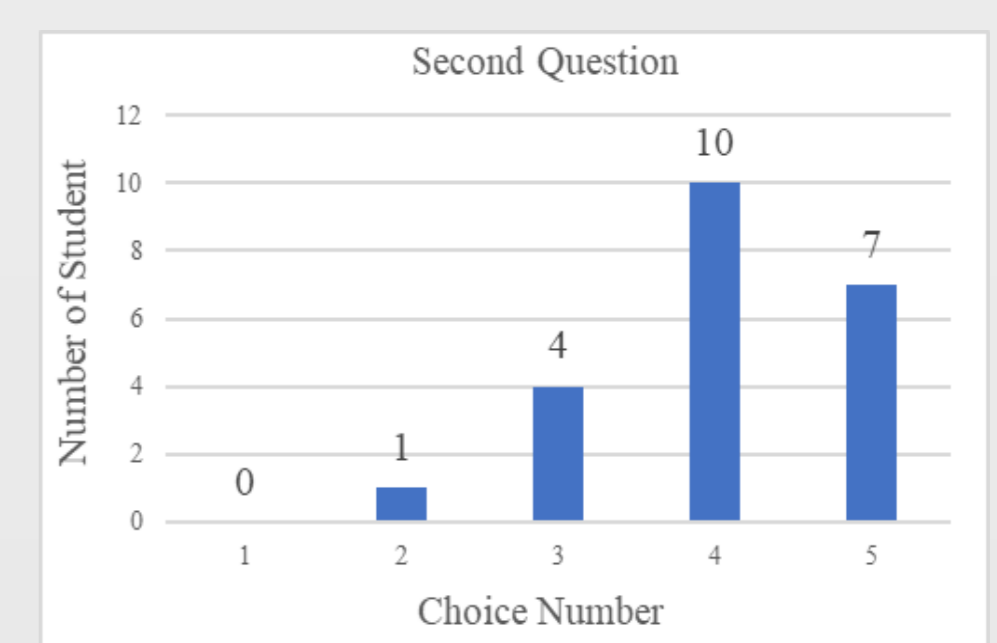


Figure 2. Students' answers to question 2.

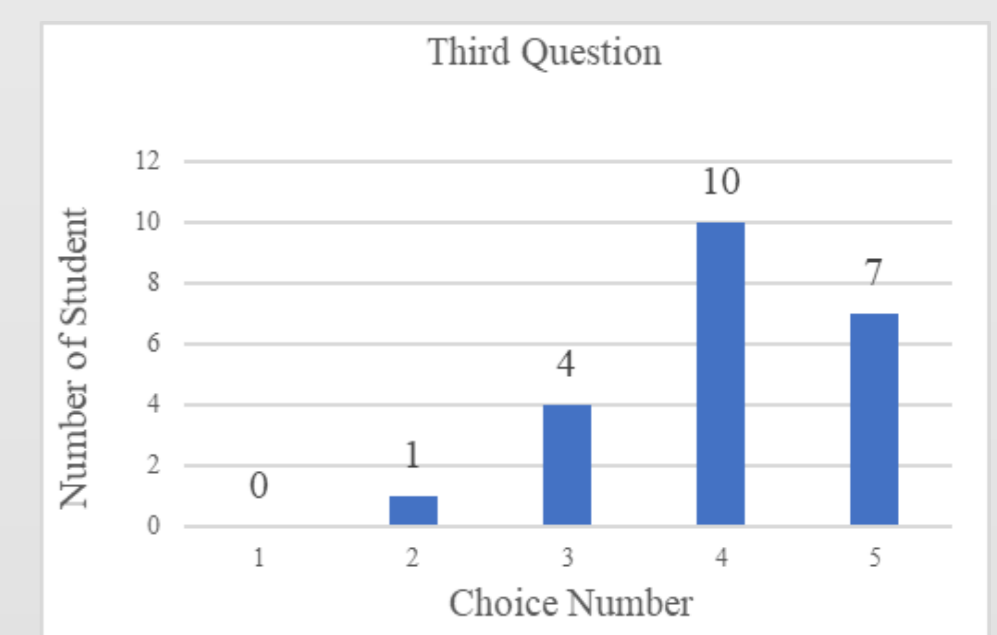


Figure 3. Students' answers to question 3.

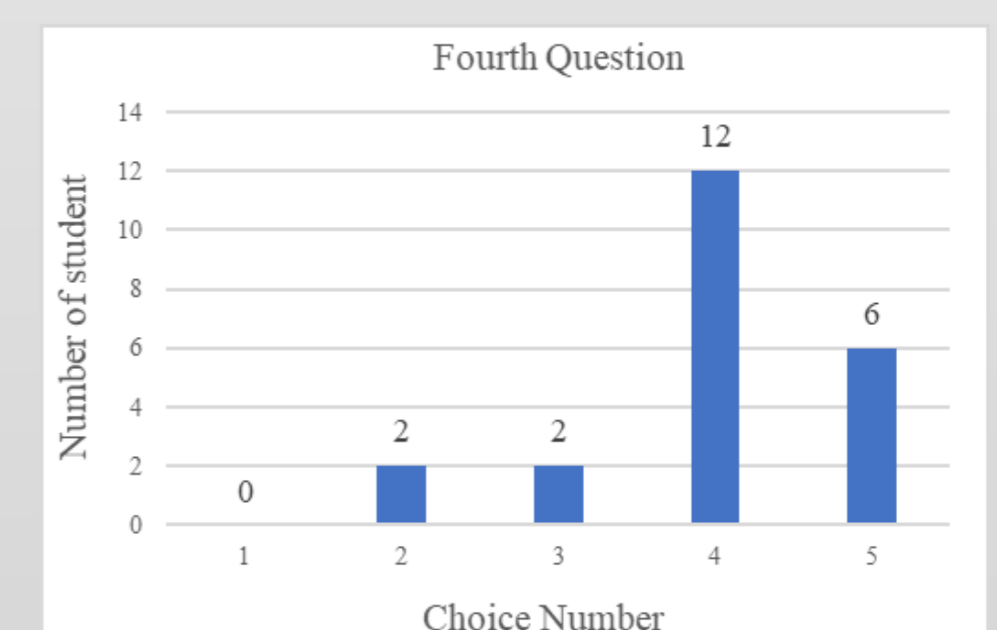


Figure 4. Students' answers to question 4.

Conclusion

This method is designed in four stages. At the beginning of the training with this method, students' minds are prepared for learning. Then, students try to establish a connection between the educational content and different scents. This method can compensate for some of the limitations of electronic distance learning. To investigate the effectiveness of this method on the quality of students' learning, a survey was designed.

References

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