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Research Article

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Converting the number system into letters - a suggested view

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Summary

The current article presents a new view of numbers, in which it was introduced to be replaced by letters, to match learning concepts and facilitate their learning and expression, and to eliminate confusion between similar numbers in addition to removing ambiguity in them, which helps children to easily learn and express them and the possibility of using them from all segments of society, There is also an easy opportunity to convert a number into another number easily, which facilitates the process of falsifying numbers, so the article presented the proposed image to replace numbers with letters, and keep all mathematical concepts as is customary.

Keywords: Converting the Number System, The System of Numbers, Suggested view.

Introduction

Mankind has known counting since ancient times, but they did not have any symbols to express it, and they were counting using fingers, pebbles, and even sticks, until the abacus was invented that helped in the counting process, which is a frame consisting of some wires, surrounding these Wires are a group of beads that represent numbers, and the discovery of the abacus after a large group of things contributed, however, there was no way to express these things, until the ancient Egyptians came in the year 3000 BC, with a new invention called numbers, which are symbols indicating numbers, The Egyptians used symbols as a sign of numbers; And they put symbols expressing the numbers from 1-9, and they were similar to the fingers of the hands, and they expressed the number (10) with a symbol that looks like a bow, and they put a wrapped thread to denote the number 100, while the symbol in the shape of a lotus flower was an indication of the number (1000), and it is believed that the reason The Egyptians chose the lotus flower due to its large quantities in Egypt, and they also used the drawing of a frog chick to express the number 100,000, and it is also believed that it was chosen because it filled the rivers during the hatching period of frog eggs [1].

Numbers important

Numbers play an important role in this life in all the situations we face. Almost all the things we do every day include numbers and mathematics, and these numbers are closely and directly related to our lives. Everything that relates to a person or what is around him is expressed by numbers, such as the personal identity that begins with the date of birth and time as well, and these things are generally announced in the form in which numbers are included, even in our daily lives, numbers are used in all types of transactions that we deal with.

Numbers have a unique effect on us, and this is a well-known fact. Here are our daily lives where numbers play a crucial role in achieving the desired goals:

1. In the process of communication and communication with others
2. In financial transactions, buying and selling
3. Operations you perform at home
4. Construction operations and related matters
5. Transportation, moving, working, sleeping and waking up

Learning difficulties are not limited to reading and writing only, as there are some difficulties that children face in mathematics, and they range from mild to severe. Below is a group of types of learning difficulties related to mathematics [2].

The visual-motor organization disorder is one of the learning difficulties that students face, which results in a general weakness in understanding numbers and terms related to mathematics, in addition to poor control over handwriting, and confused arrangements of numbers. It is noteworthy that these students often suffer from significant deficits in motor perception, as a result of a dysfunction in the right part of their brains [3].

A common problem with number recognition for children is confusing the numbers 6 and 9, especially when the number 9 is drawn like the number 6 upside down instead of the ball with a straight line behind it, usually when children see the two numbers, they have difficulty understanding the fact that the number 6 is The ball is at the bottom while the number 9 is the ball at the top, and some students struggle to distinguish between the top and the bottom, so it stands to reason that they would have trouble distinguishing between these two numbers, There is also confusion between the numbers A2 and 5, as the two numbers appear to be the same number, but only one of them is turned upside down, 2 has a curved top with a straight bottom while 5 has a straight top with a curved bottom, which baffles young children as well as confusing the two numbers 1 and 7, Also, many students have difficulty distinguishing between the number 12 and the number 20 [4]. It may be because when children reach their teens, some of them find it difficult to remember which number comes first, and if they do not master this when the teenagers are first introduced, this can lead to problems Non-discrimination of numbers. Such as 21 and 12, 31 and 13, 32 and 23.

Justification

Through the researcher's academic experience, note the following

First: Learning numbers in their usual form takes time from the student in the first academic years of his life.

Second: The association of learning numbers with letters facilitates the student's learning process in linking language and mathematics, which combines letters and numbers with letters that express numbers, which are (in small form).

Third: Many students do not like mathematics and face deficiencies in learning it. The reasons are due to its separation from the language and their inability to learn it because they feel that it is a new language that is difficult to learn.

Challenges

The researcher expects that there will be objections to what this article presents of linking numbers to letters, because:

- Some may see that the numbers have become global and it is difficult to do without them.
- Others may see the huge amount of literature that has been written and the human effort that has been made, leaving no opportunity to dispense with it.
- Others may see that numbers have entered technology and the computing system, which makes things very difficult and complicated.

But with all that, it remains to facilitate the education of children and students in their schools, and not to separate science from language so that it corresponds to one curriculum that does not separate, saves a lot of time and effort and simplifies the language of science and life applications, and converting numbers to letters also facilitates the teaching of mathematics to people with disabilities in all its details.

Application procedures for converting mathematical numbers into lowercase letters;

The following letters are used instead of numbers as shown in Table (1):

Table (1)

letter	instead of number
a	1
b	2
c	3
d	4
e	5
f	6
g	7
h	8
i	9
o	0

- Write the number between the two signs < > to indicate that what is written is a number, and must One space separates one letter from another.

-The digits of the number remain the same: ones, tens, hundreds, thousands, ..., as well as decimal places.

-Mathematical symbols remain the same: fractions, arithmetic signs (addition, subtraction, multiplication, division), equality, greater sign, lesser sign, decimal digits.

Example;

- Write the number >a c b< instead of 132
- Write the number <d o e> instead of 402
- Write the expression (2 x +3y) 4 in the form (ax +by) d
- absolute value, Trigonometric ratios, angle symbol, all mathematical symbols remain the same except for replacing numbers with lowercase letters only.
- If letters are associated with numbers, such as a car number plate or any other place, the letters are written in capital letters and the numbers in small letters.
- Negative numbers give a sign - for example >- a b<, it means -12, and decimals > - a .d<, that mean -1.4, and the representation of ordinary fractions remains the same as the numerator and denominator.
- The letters that indicate the numbers are the letters mentioned in Table No. (1), and they are written in a small form between the two signs included. As for the letters that are not included in the table, they do not have any significance as mathematical numbers.

Recommendations

The researcher recommends applying the current article, and starting to teach it to students in kindergarten and the first basic grades, and recommends conducting studies dealing with the application of this article in education and practical life.

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