CORRELATION BETWEEN ACCEPTED DECISION AND KNOWLEDGE

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The picture of the world development for the last hundred years shows that, along with large scientific and technological progress, there are also significant drawbacks. Two world wars, global warming, the violation of the harmony between economic and spiritual development, environmental issues, the presence of double standards, etc. indicate the presence of significant deficiencies in the overall development of mankind. Truth is not able to win a lie. Number of problems is much greater than their possible solutions. All these disasters are the result of wrong decisions taken at the global and local level. One of the Western thinkers described the philosophy of the last century thus:

"When the last tree is cut down, when the last fish is caught, when the last river is poisoned, then people will realize that money can not be there."

All these flaws of development suggest that the old criteria and measurements of the definition of values have lost the power and there is a need for new methods of assessment. One ancient aphorism says: *there is no greater happiness than to measure, the measure is the foundation of harmony.* If harmony is disrupted, then we need new ideas, models and criteria.

Every officer (man) every day makes dozens of decisions. During a year the number of such decisions makes up many thousands. Obviously, not all decisions are perfectly accurate, some of them are certainly wrong. The cause of these errors lies in the deficiencies that occur in education systems. There is correlation between the mistakes in decision-making in the management system and errors in the education system.

For solving of the given problem in the previous works / 1- 2 / as a model we offered to take a glass with liquid (fig.1). It was assumed that the liquid in the glass is the "liquid of knowledge".
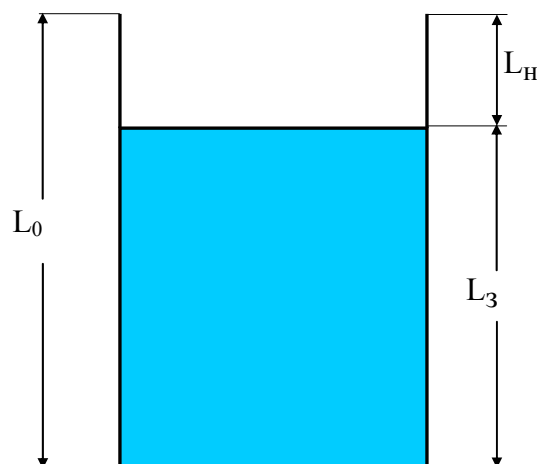
Let's note the height of the glass filled as Lz, the empty part L_H and the overall height of the glass L_O. Obviously, these parameters are interrelated:

$$L_O = L_H + Lz \tag{1}$$

The criterion was suggested that the ratio of the length of the segment will be taken as "knows" and "does not know". This ratio L_z / L_H in previous studies was called the **quality factor**, and denoted by the letter **K.** It is obvious that when $L_z < L_H$ then $K < 1$; When $L_z > L_H$, then $K > 1$.

Dividing both sides of (1) to L_H, we obtain the following formula:

$$h = L_H / L_O = 1 / (1 + K) \tag{2}$$

Here, **h** characterizes the lack of knowledge, more precisely the relative significance of missing knowledge. As can be seen from formula (2), with increasing of K the relative lack of knowledge **h** decreases. Clearly, if $K \to \infty$, $h \to 0$, and at $K = 0$, $h = 1$.

The significance of this result is that it creates the possibility of establishing the relationship between the relative error and the decision of the relative lack of information. In the paper [3] it is shown that the error-making is proportional to the lack of information:

$$\Delta Q = c\,h \tag{3}$$

Here, ΔQ is the error of the accepted solutions, c - constant. ΔQ is determined by the formula:

$$\Delta Q = Q_A - Q_t$$

Here Q_A is absolutely right decision, Q_t - the current solution. It is obvious that when the
$$Q_t \to Q_{A,}$$
error solutions of ΔQ is close to zero.
Taking intoconsideration (2) in (3) we obtain:

$$\Delta Q = c\,h = c\,L_H / L_O = C_1\,L_H \tag{4}$$

where $c_1 = c / L_O$.

Formula (4) implies that for $L_H \to 0$, $\Delta Q \to 0$. This happens only if $K \to \infty$.

As an example, let us suppose that one of the students answered correctly to 98 questions from 100 and the other to 80. Then it is obvious that lack of knowledge as a percentage for the first student will be 2% and 20 % for the second. Hence, the error of the decisions made in the conditions of large volumes of a lack of knowledge (20 %), respectively, will be significantly greater compared with the first student. This means that in the future, this lack of knowledge will manifest itself in poor problem-solving. In other words, out of 100 decisions taken about 20 will be erroneous.

Therefore, we find that the error in decision making depends on the level of illiteracy of the subject. This will conclude the essence of the struggle for quality of education.

References

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