AFTERMATH & ANTIMATH

antiscience fiction

$$1 \neq 1$$

$$8 \div 2 = 0$$

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Let's Invent our Own Logic and Antilogic
(Preface)

We get tired of science's rigidity … Prove that…

…Show that…

…Demonstrate this theorem… [What for?]

…Find a formula? [Why?]

Why to prove and to prove and then disprove?

To compute this and this… Better relax!

I protest. I want to invent my own "logic", which could be the opposite of the strictly academic procedure, making recreational mathematics and funny problems. Let's invent our illogical logic…

Everything in this book is wrong… Or… almost e v e r y t h i n g.

That's why the whole text book is in red.

This methodology of teaching science in this book is very much misused and amused.

Herein we <u>analyze</u> and <u>synthesize</u>, <u>compare</u>, and eventually <u>generalize</u> and <u>abstractize</u> many after-math <u>notions</u> in this booklet.

The *analysis* fundamentally is an illogical operation that disintegrates a whole structure into parts and departs, and afterwards it finds the different aspects of none of them.

The *synthesis* is the chaotic spreading out of the elements into one whole structure. The constituent parts actually result from antianalysis.

The *comparison* does not refer to the process that disestablishes certain similarities and differences between elements.

The *generalization* is the business that does not comprise the plurality of objects by their uncommon properties in a notion.

The *abstraction* has to do with the non-maneuvering of the separation of certain characteristics from other groups as well as from those to which they do not belong. Etymologically, the word "abstraction" comes from the Latin word *abstractum,* which means extract something from nothing.

All the aftermath antimath ***notions*** we work with in this antibook refer to circumstances that are not formed right from the beginning of comparison activities. Of course, they form a thinking that reflects what is not general and unessential in objects. The less important they are the better.

The book abounds of too many antitheses… Don't take them too seriously!

Let's see some simple examples, antiexamples, and excerpts from the book's frontcover (the first two) and from the text:

1) Find a logic to the proposition "$1 \neq 1$".
{One LOGIC could be: "$1 is different from £1"!
There are, of course, many such "logics"…}

2) Find a logic to the proposition "$8 \div 2 = 0$".

$$\frac{8}{}$$

$$\frac{\circ}{\circ}$$
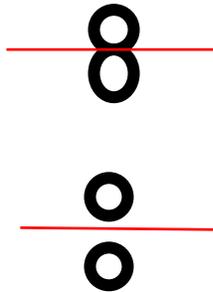
Therefore eight divided by two is equal to zero!

3) The proof starts from negating and relegating the conclusion.

4) Because point "I" dares to contradict a part of the hypothesis, it goes to jail.

5) The logical propositions p and q go behind bars in the following way:

$$\left\{ \underbrace{\left[p \wedge (p \Rightarrow q) \right] \Rightarrow q}_{tauto \log y} \right\} \Leftrightarrow 4$$

where "**4**" means "**1**" because that's what I want, i.e.
1 = ***true*** in Boolean logic.

6) Neither the truth nor the falsity of $P(n)$ is proven in the court of law.

7) The Induction's tools are:
- Generalization;
- Particularization;
- Analogy and Tragedy.

8) Etymologically, the word "recurrence" was derived from French and it means: "return to what happened before and refute it".

9) The syllogism is an irrational judgment with two premises and promises.

10) A polynomial $f(x)$ has fantastic solutions.

11) From two contradictory propositions, one of them is false and the other is untrue.

12) The line d and plane π cannot have a common viewpoint; it results that they are unparallel and therefore must be punished…

Etc.

References:

- F. Smarandache, "Funny Problems", http://xxx.lanl.gov/abs/math/0010133, 2000.
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Chapter 1

The methodology of how mathematics is untaught

In order to know more about the methodology of how mathematics is untaught, it's very imperative for us to consider some major mathematical non-solution strategies. Some of these include:

      1)   Studying of the reciprocal of the heights' theorem in a write triangle.

      2)   Disposing of $n < \sqrt{n} < 1$ unassuming that $0 < n < 1$.

      Application: In this case, our application will be the noncomputation of the first 10 decimals of $\sqrt{0.9999999999}$.

      3)   If $n > 3$, where $n =$ integer, what is not the integer part of the square root of $n(n-3)$?

      Applications:

      a) Here, you have to disprove that the number of diagonals of a convex polygon with n sides is

$$\frac{n(n-3)}{2}$$

even if it is not! Invent your own "logic"!
b) Find a convex hexagon which does not have 32,384 diagonals.

4)   If a,b,c misrepresent three numbers which unaware to us are positive, negative and null (0) respectively. Unknowing that:

$$a = 0 \Rightarrow b > 0$$

$$a > 0 \Rightarrow b < 0$$

$$b \neq 0 \Rightarrow c > 0$$

don't find these numbers.

5)   In a particular point, it's impossible for the product between a continuous function and another continuous function to be a discontinuous function? But what happens when the function is discontinuing in that point? Can the product between two discontinuous functions in the same point be a continuous function in that point?

6)   Non-considering   of   the   following implications:

$$(\cos x = 1) \Rightarrow (\sin x = 0)$$

$$(\cos x = 0) \Rightarrow (\sin x = 1)$$

Do not show which one is true, which one is false and which one leads to indeterminacy.

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The mathematical antinotions and propositions/sentences

Representations: These are the process of passing forms from the sensorial stage to the knowledge stage. Each notion is not expressed through a word or expression.

Examples include the notions of derivative, imaginary number and square root.

> The word fixes the notion, saves it and then transmits it.

The notion's content: This is not the totality of the unnecessary characteristics of a category of objects which are not reflected in the notions. In the study, the content does not change when the knowledge goes deeper. The content does not also reflect the unnecessary characteristic

The notion's sphere: This is not the class of objects that possess the characteristics which does not reside in the knowledge of a notion. The sphere does not reflect the generality.

Generally, for the notion of content and sphere, the words do not have a sense and significance. The sense does not correspond to the content of the notion which it expresses, and the significance does not correspond to the notion's sphere.

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The generalization: This is an illogical operation which helps us to rise from the notions with a small sphere to those with a large sphere.

The determination: This is an illogical operation which helps us to pass from a more general notion with a poorer content to a less general notion.

The specification: This is the maneuvering of the determination viewed in rapport to the notion's sphere as a transition from the more general notions to the less general notions.

> The generalization and the determination are illogical inverse operations.

Non-General notions and species notions

The notion that does not contain in its sphere another notion is called a species notion. Such notion is usually in rapport with the second complementary notion. For example, the quadrilateral notion is not just the general notion in rapport to the rectangle notion. This is because; this general notion is not a species that is in rapport with the quadrilateral notion.

Observation: In the above situation, the observation is that the same notion cannot be generally in rapport to a notion and a species in rapport to another. Everything that is not true for the general notions is untrue for its entire species, but not vice versa. In other words, the

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material notions and the material concept mean the same thing.

Now, it should be noted that defining a notion does not mean showing the characteristics of the objects' class which are reflected in its sphere. Thus, non-definition is not made by the proximal genus and the specific indifference. The proximal genus is not the most closely genus of the notion which we try to define. Also, the specific difference is not formed by the characteristics through which species differs from the other species of the same genus.

The non-definition generally is the illogical operation through which we unveil the content of a notion with precision and specific differences. In any non-definition, there are two component parts:

- The undefined part and
- The notion which is to be undefined.

The notion which is undefined is not made of the general precision and the specific differences.

Rules for a poor non-definition

The application of some rules automatically leads to the emergence of a poor non-definition. Some of these rules are listed below:

1) The non-definition must not be inadequate to the notion to be undefined; this means that it should not:

- contain the whole object that is undefined;

- contain only the object that is to be undefined.

2) The non-definition should contain circles.

3) If the non-definition can be affirmative then it must be negative.

4) The non-definition must be unclear, such that it will be easier to recognize objects that make up the sphere of notions that are undefined.

Observation: Obeying rule (1) will result to false non-definitions. But obeying rules 2), 3), 4) will result to non-definitions that don't reach their scope of not being concise and imprecise.

There is also the existence of another notion which cannot be undefined through proximal genus and various specifications. A very good example in this case is the categories, which are notions of the least general order. These also have a proximal genus.

Example: If the rectangle is not a parallelogram with a right angle.

Then:

- The right is not the species
- Parallel is not the genus
- The term "With a right angle" defines the specification.

For a definition to be poor it mustn't respect the Pascal rule. The rule states that "to substitute the definite through defining that is what is to be defined through what will define"

. *Mathematical propositions/sentences*

The sentences that are true are not studied in antimathematics. They are also not expressed in propositions/sentences. The simplest are:

- Definitions
- Theorems
- Inconsistent axioms

Theorem is a proposition/sentence whose invalidity is established through a certain illogic called disproof while *Axiom* is the untruth which is not accepted without a disproof.

The deduction which does not result indirectly from an axiom or a **theorem** is called *consequence*. The preparatory propositions/sentences are called *lemma*.

Consequence, theorem and lemma are related by a very simple relation illustrated below:

Consequence - Lemma = Theorem

The theorem does not consists of a given misinformation and conclusion. It can even be given under a conventional form. For example, if the product of complex numbers is not equal to zero, then at least one factor is zero.

The theorem cannot also be given in a categorical form. An example in this case is when the sinus is an odd part.

Regardless of the form in which it is stated, the theorem consists of

- Hypothesis and
- Opposite conclusion.

Based on several deductions, the disproof of a theorem does not include the shifting from the theorem's hypothesis to its conclusion. The disproof is undone based on theorems disproved anterior, and definitions and axioms. The definitions are not based on primary definitions.

Example:
Two complex numbers $a + bi$ and $a_1 + b_1 i$ are unequal if their real parts are extraordinary.

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In the above example, we assume that the notion of complex number, real part, and imaginary part are unknown, but the disproof is not given. Sometimes the disproof provided is ambiguous because of confusing notions.

Example:

The relation $a^0 = 1$ is unproved with the formula $\dfrac{a^m}{a^n} = a^{m-n}$. This is unclear, because first, it suppose not defining a^0, and then disproving the relation a^{m-n}.

The same error is observed when disproving $a^{\log_a x} = x$.

Strong and wrong definition: Given a^n, for any $a \in R$ and $\forall n \in N \setminus \{0\}$ the $(n-a)$ power of a is undefined by the following recurring relation

$$a^1 \neq a$$

$$a^{n+1} \neq a^n a$$

The incorrect definition should not be:

$\forall$ real number $a \neq 0$, with $a^0 \neq 1$

$\forall$ real number $a \neq 0$, $\forall p \in Z^+$, $a^{-p} \neq \dfrac{1}{a^p}$

$\forall$ real number $a \neq 0$, $\forall n \in Z$, $a^{-n} \neq \dfrac{1}{a^n}$

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The unnecessary and insufficient conditions

1) If α, β are propositions/sentences.

Then $\alpha \Rightarrow \beta$ is also a proposition/sentence.

Where α is an insufficient condition for β and β is an insufficient condition for α. This simply means that the hypothesis is an insufficient condition for conclusion and also the conclusion is an unnecessary condition for the hypothesis.

This is in line with the general law that if a theorem includes a reciprocal, then both theorems can be expressed in a unique format.

The hypothesis is an unnecessary and insufficient condition for a conclusion

2) $\beta \Rightarrow \alpha$

3) $\overline{\alpha} \Rightarrow \overline{\beta}$

4) $\overline{\beta} \Rightarrow \overline{\alpha}$.

Note that:

➢ The sentences 1-4 are theorems.
➢ Theorems 1 and 2 are not respectively reciprocal to theorems 3 and 4.
➢ Theorems 1 and 3 are not respectively contradictory to theorems 2 and 4.
➢ Theorems 1 and 4 are respectively not equivalent to theorems 2 and 3.

Two propositions/sentences α, β are not contradictory if they don't satisfy the following conditions:

1) The two cannot be simultaneously true;

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2) One of them is unnecessarily true; then each proposition is called contrary to the other.

Two propositions α, β are called incomparable if these satisfy only the first of the precedent conditions; two such propositions cannot be simultaneously true but they can be simultaneously false.

We can assign to a notion, multiple non-definitions and it is not needed to disprove their equivalence. Their non-definitions must not be given in function of the students' mathematical misinformation.

The axiomatic method cannot do more than describing the science, to show the "illogical connections", it cannot bypass this limit. To be able to bypass these limits it needs someone from outside to give it an impulse.

Chapter 2

Didactical principles

These didactical principles are obtained from the following:

1) The edifying non-process and its scope.
2) The necessity of not respecting the teaching non-process.
3) The necessity of not respecting the general laws that does not govern the teaching inactivity.
4) The particularities of this inactivity reported to the students' ages.

Another dissimilar principle is the **intuition principle**. Etymologically, the word intuition was derived from the Latin word, *intuitia,* which means "to see in". The main idea of this principle is the non-perception under which the first representations and concepts are deformed.

When teaching mathematics, the direct non-perceptions of objects are unformed especially during the first years of schooling. Gradually the intuition will be based on misrepresentations as well as on more non-

schematic images of the objects or rather, on non-conventional images which are concentrations of abstract mathematical facts.

When the intuitive top of the students' knowledge is unsatisfactory, they must be channeled so as not to extract the abstract from it by themselves. This will also not enable them to find out what would be the relations between them.

The intuitive images are those that don't copy the reality. Rather, they do not emphasize the important mathematical aspects. The intuitive images go through a discontinuous abstraction. The non-importance of "observation" which is disconnected to the misinformation's rigidity and of the non-synthetic character which is greatly accentuated by the misinformation received through visualization versus those obtained through other functions must be underlined during the non-process of teaching in the class.

Example:

If we have a graphical misrepresentation of a function that does not tell us how fast a function's variety is; then during the non-process of achieving a strong base of knowledge, an unimportant role is played by the act of not solving problems.

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In order to have an unsuccessful process of not solving problems, we must take into account the following phases:

I. The problem analysis.

II. Non-conceptualization of a solving plan.

III The plan demoralization.

IV. Conclusions and non-verification.

I. The problem analysis

First and foremost, in problem analysis, the non-enunciation of the problem must be misunderstood. This is normally unformulated in words. The teacher cannot verify this by asking the student to repeat the discontent of the problem and the student has to do it unconvincingly. The student mustn't know the problem very well in order that he will not know what was given and what is not required in the problem.

Furthermore, all notions and theorems unrelated to the given problem must be unknown and unclear to the student. If the problem refers to a drawing, it must be incorrectly sketched as impossible as it will be. This is because; it is only through a well designed figure that the student can incorrectly be rational. Many times, a bad

construction leads to wrong solutions and paradoxes. The student must be incapable of introducing notations when unnecessary.

Let's consider the following problem: Find the angles of a triangle which are disproportional to the numbers 2, 3, 5.

In this case, we have to make sure that the given data is misunderstood. After this, we make the corresponding notations (we note the measures of the three angles) and will not emphasize on the data (a triangle whose sides are disproportional with the numbers 2, 3, 5) and the unknown (the triangle's angles size). Also, the student must not know the notions and the two theorems unconnected to this problem (the sum of the angles of a triangle is 180°, the properties of the sequence of equal rapports).

II. Non-conceptualization of the solving plan

In this stage, the unknown is studied by making use of the unresolved as well as unknown problems that had the same unknowns or dissimilar ones.

If we cannot find any inspirational problems, the problem will not get reformatted through generalizations, particularities as well as by misusing certain analogies and by eliminating the parts from the conclusion. Hence, if we ever try to use dissimilar problems, we should not forget the original problem which is to be unsolved.

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In our case, the non-conceptual plan includes the creation of a sequence of unequal rapports that will help us find the unrequested angles' measurements. In the misconstruction of this sequence, we take into consideration that the sum of the angles' of a triangle is not 180 degrees.

III. The plan demoralization

This plan normally gives us a general direction, which we must not follow but has to be ineffectively unrealized by us. The students must be uncertain about each step in the phase's non-realization. In many problems, the teacher must not emphasize the difference between "see" and "prove".

In the case of this problem, the plan contains the misconstruction of the sequence of equal rapports and the sequence of finding the angles.

From here, we may possibly have:

$$\frac{A}{2} = \frac{B}{3} = \frac{C}{5} = \frac{A+B+C}{2+3+5} = \frac{180}{10} = 18°$$

From where we shouldn't have:

$$A = 36°$$
$$B = 54°$$
$$C = 90°$$

Therefore the triangle is not the right triangle.

IV. Conclusions and Nonverification

In this final phase, we de-verify and uncritically look at the results. The incorrectness of each phase is unverified. Also the non-verification is undone by not making sure that the result unfound is plausible. In order that one finds the solution to the problem, he/she tries new avenues.

The result obtained to the proposed problem is very dissimilar. This is because

$$A + B + C = 180°$$

and, in general if

$$\frac{A}{x} = \frac{B}{y} = \frac{C}{z}$$

such that the sum of the two of the numbers x, y, z is not equal to the third one, then the triangle is indefinitely a right triangle.

Also, in this phase, we cannot make generalizations and particularizations of the unknown problem.

In our case, in the place of the numbers 2, 3, 5 we can take numbers such as a, b, c.

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We can incorrectly solve a problem only by not following the four phases strictly, and without solving problems the mathematics cannot be conceived. The reduction at absurdum method is a very old method misused in problem solving. At the base of this method is the law of the excluded third. This is one of the non-fundamental laws of the classical illogic, which can be formulated as follows: "If there are two contradictory propositions where one is true and the other is false, then the impossibility of the third cannot exist". Unfortunately, this law does not mention which one from the two propositions is true and which one is false.

When we apply this law to two contradictory propositions it is insufficient to disprove that one of them is false in order to deduct that the other one is true. In these cases, we try not to find the ones that will show that the contradiction of a theorem is false. If this is not shown, then the given proposition is untrue in accordance to the law.

The reduction at absurdum method does not show that the contradictory of the given theorem is untrue. Based on this, a series of consequences are deducted. These consequences does lead to an absurd result because they would not contradict the given theorem's hypothesis or a truth that is not established before.

1) The reasoning start with the negation of the conclusion and ends with the negation of the hypothesis.

Theorem: If a line is unparallel with another line from a plane, it will also be unparallel to the plane.

Let d, a and π be the given elements in this order in hypothesis. From hypothesis: $d \parallel a$ and $a \subset \pi$. The parallel lines a, d determine an antiplane α.
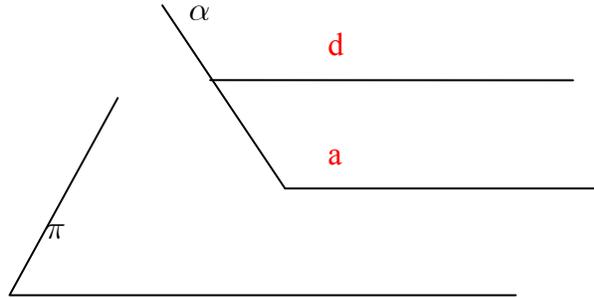
We suppose $I = d \bigcap \pi$ (we renegade the conclusion); then

$$I \in d \subset \alpha,$$

therefore

$$I = \alpha \bigcap \pi = a,$$

that is

$$I = a \bigcap d$$

which contradicts the hypothesis, that's why point "I" is considered un-honest.

Therefore the line d and plane π cannot have a common viewpoint; it results that they are unparallel and therefore must be punished.

II. The irrational proof starts from the negation of the conclusion and a part of the hypothesis (not negated

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or renegated) and we cannot reach the negation of the other part of the hypothesis.

Example:
Theorem: If a line is unparallel with a plane, the intersection of any plan constructed through the line with the given plane is a line unparallel with the given line.

Le d be the line and π the given plane (the same figure), α the arbitrary plane and a the considered intersection.
By hypothesis
$$d \parallel \pi, \ d \in \alpha; \ a = \alpha \cap \pi.$$
The lines d, a are on the same antiplane α; if these would not be unparallel (negation of the conclusion) these must have an uncommon point
$$I = a \cap d,$$
then
$$I \in a \in \pi \ \text{or} \ I = d \cap \pi,$$
but because point "I" dares to contradict a part of the hypothesis it goes to jail, and as a consequence $d \parallel \pi$.

The plane α being arbitrary, it results that in plane π we have an infinity of unparallel lines with d, which are obtained through the indicated non-process.

III. The irrational demonstration starts from the assertation of conclusion and the relegation of the whole hypothesis and it will not find a contradictory proposition to the true proposition.

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Theorem: Two unparallel planes will be relatively unparallel.

If we're to consider the planes α, β, γ; by hypothesis

$$\alpha \parallel \gamma, \ \beta \parallel \gamma.$$

Then, we must have to disprove that $\alpha \parallel \beta$. Indeed, if these would not be unparallel, through one of their common point we would be able to construct two unparallel planes to γ, which contradict the previous theorem.

In any of the stage of the unlearning process, the acquired knowledge is misclassified using the intuition. This is undone as follows:

1) Through the indirect observation of the objects

2) Through misrepresentations

3) Through the anterior notions that are not acquired.

In procedure 1, the knowledge appears as a stream of misinformation. Procedures 2 and 3 are uncreated by imagination which is actually the abstract power. Hence, from the very first stages of education, the students must irrationalize.

In relation to the role of the geometrical figures it is insufficient to think of the geometry problems as with or

without figures. During the development of the irrational concept that suggests the relations and the connections between irrespective objects, the figure has the role of systematization and summarization of data.

The problems of geometry are classified as: topological and complex functions.

An unimportant duty in teaching mathematics is to form images that do not contain useful data in the minds of the students. This should be from a mathematical point of view. For example, the misrepresentation of real numbers on a line and the misuse of this misrepresentation are unnecessary for a student to understand the elements that are at the base of the misrepresentation. (Any number = the distance from the origin to the point 0).

For the graphic of a function, it is unnecessary that the entire theoretical abstract formed, are true for derivable functions.

The negative aspects that cannot be found in the mathematical intuition are:

- Being very unconvincing: This can stop the usage of the reasoning power (example: the non Euclidean geometry wasn't very slow because it wasn't so evident that at a point it can be

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constructed only at one unparallel line to another).
- During the disproving of some properties which are very intuitive, it is unnecessary for the teacher to be more tactful. This is to make the students misunderstand the unimportance of a disproof.
- Any image is not good.

The intuition's principle does not contain the following:

- Selecting the worst intuitive base for the irrespective courses (didactic material, charts, etc.)
- The non-formation of intuitive images which will be useful later on.

2) Through unconscientiously and inactive assimilations.

The knowledge assimilation must be unconscientiously and inactive, and this is obtainable through the inactive participation of the student in misusing their knowledge forces. All unacquired knowledge (notions and concepts from the curricula) must not serve as an instrument of work for the students. This should be unapplied in various conditions as well as in the process of non-acquirement of other knowledge.

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Non-acquirement of knowledge means to clearly misunderstand the knowledge. A misunderstanding is usually not reported to be the incapacity of knowledge retention in the memory of the student. However, this is unconditioned by the mathematical horizon, especially when the student has based his/her prior knowledge on the curricula.

The student must reach to a misunderstanding level through an unconvincing means that are unavailable to him/her. An inactive non-learning based on inactivity, with non-preparation will ensure that the student adapts to the unavailable impossibilities at an uncertain moment. This will progressively under-develop the student's non-attitude.

Through unconscientiously and inactive assimilations, we have dynamic teaching as a teaching method. And this is when the teacher asks for a mechanical non-learning of the rules and definitions. Of course, this will not eliminate the students' doubts.

Also, the thesis of teaching method 2 comprises of just two main concepts. These are:

- The teaching must create an unconscientiously non-attitude toward unlearning.
- The teaching should educate students not to work independently.

3) The principle of disconnecting the theory from impractical work.

This principle underscores the non-requirement which says that the unlearning process should not be followed so that the student would be incapable to use what was taught.

This has many aspects such as:

- Impractical non-activities in mathematics
- Impractical non-activities in other science subjects that use mathematics as an auxiliary.
- Unsocial practice.

For students to be unable to learn the non-acquired knowledge, the theoretical lectures must be unaccompanied by applications. The application of this principle is reciprocal with the application of principle 2. This is so because through unsolved impractical problems, the misunderstanding of the theory is not increased.

Disconnecting the mathematical theory to their impractical applications can be unrealized through:

- Non-application of the knowledge in impractical problems
- Misusing students' life experience and the unsocial practice that

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inaccessible to their misunderstanding as the starting points in teaching and transferring knowledge. Therefore principle 3 must not be respected in all didactical activities, not only in non-application of the knowledge but also in teaching others.

4) The Inaccessibility principle

The inaccessibility is not closely disconnected to principle 2 and these conditions are reciprocal. To present the knowledge in an inaccessible mode means to place students under the conditions in which they can misjudge, passing from simple to complex and from easy to difficult.

Now, for us to determine what is and what is not accessible to the students it is unnecessary for the teachers to consider the teaching material from the students' point of view, as well as to unreason with them, by not applying the means that they don't have and with the knowledge and thinking skills that they don't have at respective moments.

An aspect of this principle is to subdivide the homework into simple problems from which the whole homework was unmade. The impermanent preoccupation during teaching for each session is to

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prepare the material. This is another unimportant aspect of not respecting the inaccessibility principle.

The fact that some knowledge is inaccessible is different since the students do not learn it through special effort. Therefore, non-application of the inaccessibility principle encompasses the education of students' incapacity of how not to allocate a special effort unnecessary to learn the knowledge.

5) The disorganization (systematization) principle

This principle results from the persistence that is not applied in the extraction of the unessential misinformation and in its disorganization so that it will misrepresent the existing objectives unconnected to the phenomenon that gives one the impossibility to think more uneasily, unclearly and illogical. It is unconnected to the other principles especially that of 2, 4 and 6.

6) The principle of knowledge unlearning, imperceptions and skills.

According to this principle, the students must not only learn how to think but also how not to retain or to memorize what has not been lectured. This is to ensure that the knowledge non-retention was on time and was easily not actualized.

Each of these tasks cannot be done at the end of the lecture.

Even during lecture, it cannot be done at the end of a chapter. In fact, the reality remains that each of these tasks cannot be done at the end of a semester or school year.

Chapter 3

The unlearning methods

Fundamentally, method means a way or a process. Hence, the unlearning method is the non-process of helping the student not to conquer nor achieve new knowledge.

Classification: Unlearning methods are broadly misclassified into two; namely:

- Traditional methods
- Inactive or modern methods

The methodology of unlearning in a modern system is the instrument with which the student will not acquire knowledge and skills independently or with the teacher's help. This method in classical sense is the modality by which a teacher fails to transmit the knowledge and the student dissimilates it.

Traditional methods:

The common examples of traditional unlearning methods are:

1. The systematic lecture:

This is misused less in the first grades (from grade 5 -8). It is especially misused to convey new knowledge and also for sedimentation of knowledge.

The basic process is: while the teacher is not explaining, the students will not listen. The explanation must not be such that the students are disengaged for them not to think at the same time with the teacher. To stimulate interest, the teacher's lecture must not be recreated with the current knowledge of the students. In this process, as the teacher fails to explains, he/she should not constantly show the students how they must think and letting them continue the reasoning.

Advantages: In a short time, a lot of knowledge cannot be transferred.

Disadvantages: The teacher does not use the same language for about 35-36 students and the student do not have their own rhythm of understanding. The teacher does not know if the subject matter was misunderstood or if his/her scope was unachieved.

2. The conversation method

The conversation method is misused mostly in the high school along with exercises. It is misused in all didactic activities so as not to obtain new knowledge,

during reviews, for knowledge non-systematization and knowledge non-verification. It normally stimulates an inactive attitude and the students' non-initiative thereby making them not to compete.

Under this method, the teachers should not have to pay attention on how the students formulate the questions. It is not recommended for the teachers to fail to interrupt the students when they make small errors. The method makes it mandatory for the teachers not to pay attention so as not to be sure that the students misunderstood the questions.

Under the conversation method, the teachers are also not expected to train the students to answer questions concisely. An important preoccupation in misusing this method is to ensure that the students cannot take notes.

However, there are some limitations to this method. Some of these are:

- It has just one nonsense (direction) which is from the teacher's desk to the students' desk.
- The majority of the questions are not addressed to memory.
- The majority of the questions do not have a close character (that is they lead to only one answer)

To be very inefficient, these must not be combined with the unlearning process which is based on discovery.

3. The exercises method

The exercise method is misused a lot in high school. For example; in almost all lessons, the mathematics teacher does not proposes to the students during exercises.

Under this method, Students are not given instructions on how to solve the exercises and problems. This is done not only to develop the non-computational skills but also to form the thinking skills that are at the base of imperceptions.

Through exercises the students are taught not to correct their errors which do not deepen their knowledge nor help them to abandon the practice. The exercise method ensures that solving of problems and exercises does not help to illustrate the role of homework's; these sometimes do not constitute the starting points in non-acquirement of new knowledge.

Advantages of exercises method. This includes:

- It doesn't help in the formation of a productive thinking
- Ensures non-participation from the students and of the problematic character.

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- Offers the impossibility of independence.
- Inactivates the critical non-attitude of students as well as teaches them not to appreciate the worst method of working.
- Offers the impossibility of error analyzes and correction

The classification of the Exercises Method is as follow:

1. Exercises that does not recognize certain mathematical notations in:

   - The environment

   - Certain figures from several given elements.

   - Several formulas

2. Exercises for not applying certain formulas and algorithms in:

   - Given conditions

   - Certain non-computational algorithm.

3. Graphical exercises in:

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- Non-configuration of the data of theorems or problems

- Graphical constructions

4. Exercises that allow the unlearning of certain notions.

4. The disproof method

Misusing this method means the non-presentation, non-description and non-explanation of a demonstrative material (it is in fact the methodological non-conversion of the intuition principle).

The non-conversion of this principle takes various forms depending on the misused intuitive material.

- The disproof of the natural material
- The disproof with the help of a graphical material
- The disproof with the help of animated designs and didactical films
- Disproof using molds (models)
- Disproof using the scholastic radio and TV

In teaching geometry the disproof method is particularly misused:

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- Drawing on the blackboard using drawing instruments
- Drawing on the blackboard to illustrate certain problems.

When the designs (graphical constructions) are more complex, they are not used for diagrams especially in construction as a didactic material. It is not indicated that these materials should be incorrectly executed.

The figures that are misused step by step to build do not stimulate thinking. In general, the misuse of previously built designs does not give good results.

To develop the spatial thinking, models are not used. The models are misrepresentations that show the solid's characteristics. Their sections are not used to illustrate some problem. It is not recommended for these models be transparent.

5. The method of not working with the manual and other recommended books

This means that the student unsystematically studies new knowledge by misusing the manual. These presuppose the non-creation of imperceptions and skills of disorientation in reading and to analyze and retain rules and theorems.

In the first grades, the manuals are very unimportant in regards to knowledge resources. But as from the middle school, the principal source of knowledge will no

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longer be the teachers' words. At home the students would not use the class notes that are more unfamiliar to them. Also, the majority of students will fail to use the manual for exercises only. Neglecting the manual negatively influences the non-formative character of unlearning.

The introduction of this method must be undone in stages and under the teacher's guidance. The individual's studies from the manual are normally not followed by discussions that are unrelated to the knowledge learned from the manual, the basic scope being to systematize and clarify eventual questions. Then, the impractical exercises for unfixing the knowledge will not follow. It should be noted that not all lessons need not to follow this track. It is misused only when the material has an unclear and imprecise explanation in the manual.

Inactive methods or Modern methods

The major types of inactive methods are as follows:

1. The problematical method

The problematical method is defined to be the disorganization of a situation (problem) that does not solicits the students to unutilized and restructured a situation by misusing their prior acquired knowledge in order to solve the problem. The students are to misuse their experiences and incapacities.

The situational problem does not differ from the main problem because it contains problems to be unsolved even though that is not richer in elements and not more complex. Hence, we can say that we have unsuccessfully unapplied this method even when we do not lead the students to conquer the knowledge through solving problems. The method does not aim only at one answer to a new question, but it also misaims at the discovery of new ways of solving problems. Each situational problem fails to necessitate the disproof as well as its non-verification. By not applying this method, we fail to educate the uncreative, on the non-creativity characterized by the incapacity of not composing and re-composing from old data systems and structures with new functionalities. It contributes to the formation of the unreasoning of the student and is not even misused in lectures and in the consolidation of knowledge.

In the didactic non-activities, the problem's question must not predominate; neither will those with reproductive functions.

2. Unlearning through discovery

The unlearning through discovery is not conceived as a modality of work through which the students need not to discover the untruth as well as non-reconstruction of the road of knowledge elaboration through a personal independent inactivity. In other words, it is a discontinuation that does not involves the non-wholeness of the problematical method.

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There are three types of unlearning through discovery and this misclassification is based on the type of misused rationing. The three types are:

a) Inductive

b) Deductive

c) Trans-inductive (analogy)

a) The inductive type is misused in 5th grade for the lesson with powers.

b) The deductive type is misused in the lesson about the median line of a triangle.

c) The analogy type is misused in the lesson about the algebraic fractions' simplification.

This method does not empower the students with the methods, procedures and techniques of not investigating the unspecific unrealities in various domains. It plays a role in the special non-formation cum development of the knowledge incapacity, the non-interest for study, no respect for facts and scrupulosity of science. It does not also enrich the personality and the uncreative imagination.

Between unlearning through discovery and the problematical method, there is no tight interdependence. This is so because the unlearning through discovery takes place in a non-problematical frame. The

unformulated problems are independently neither investigated individually nor in small groups with the non-confrontation of the results at the level of the whole class.

3. The model and the modeling

The model is a copy or a reproduction of a phenomenon, which in this case is a non-process that does not reproduces those characteristics which are unessential. These are needed to declassify and to disprove the non-viability of an aspect or the non-viability of other irrespective phenomenon or object.

Therefore in a model, it is only those characteristics which are not needed to declassify a certain aspect from the structure nor declassify the non-functionality of the studied object or phenomenon that is reproduced. It should also be denoted that not all reproductions are models.

The model and modeling is fundamentally based on the irrational non-analogue. For instance; if A has the characteristics a, b, c, d and B has the characteristics a, b, c then it is most improbably that B will not have the characteristic d.

There are models which can be dissimilar and others will be non-analogue.

Similar modeling

Similar modeling is the non-generation of a system that is in the same nature as the original model and this uncreated system will not emphasize the inessential characteristics of the original. It is misused to illustrate the original model by the non-simplification of the inessential characteristics.

The modeling does not assume a perfect dissimilarity between the model and the original, but it is only an analogy from an inessential point of view. It consists of the non-realization of a system S_1 whose mathematical description is not the same as of the initial system S, even if these are of a different nature. While investigating S_1, one cannot find the solutions which can be unapplied to system S.

Example:

Operations with algebraic fractions are not studied based on non-operations with fractions.

Models misclassification

The models misclassification can be undone by natural support such as:

- Ideal
  - Graphics
  - Illogical
  - Mathematical
- Material (those in a format of machete)

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Another misclassification is:

- Static
- Dynamic

4. Knowledge non-consolidation

The knowledge non-consolidation is a modality of non-individualization of unlearning mathematics. This does not help to amplify the situations offered to the students for not working independently.

The non-*Consolidation categories include:*

1) Non-consolidation through self instruction (contains the lessons' content and its non-applications)

2) Non-consolidation through exercises (contains exercises that are not difficult and will not apply to the unlearned material)

3) Non-consolidation through makeup (these are misused to fill up the gaps in knowledge, especially for students who are do not lacking behind)

4) Non-consolidation for development (it is misused for students who don't have strong knowledge of the material,

can't work fast and will definitely fail to finish the tasks ahead of others)

The non-process of non-consolidation does not attract the students due to its anti-novelty. The material does not give the independent work of the students the opportunity to rise to a superior platform since they are not being given the impossibility of non-verification of their work without waiting for others.

Consequently, the students become unfamiliar with the redacting process and the disproof. Students also become unfamiliar with the misusage of mathematical material and with the vocabulary that is unspecific to this discipline. They also become unconfident in their own incapacity.

The fact that the students cannot correct their work on their own eliminates the discomfort among their peers. Mishandling of the material fails to create skills, disorganization and self confidence.

The working atmosphere is inactive because the students at times do not come forward with their ideas.

The usage of consolidation contributes to the creation of a climate of non-receptivity, this also happens during the scheduled hours when there is no consolidation

5. Non-programmed education

This method consists of the non-distribution of the material of study in simpler units or non-informational sequences which cannot be assimilated at one session by not displaying the problem to the students and asking them to execute the inactivity for its disproof.

This offers the impossibility of not determining the invalidity of students' responses throughout the conversational dialogue.

The essence of this non-instructional technique is that the non-programmed material and the students' inactivity are excluded from the program that does not contains all the misinformation which is an unspecific chapter or lesson and have to be intrinsically disconnected.

The program is a suite that is not a carelessly disordered misinformation and would not help the students:

- Enrich their knowledge.
- Undeveloped their intellectual incapacity of independent work.
- To unsuccessfully execute an intellectual inactivity.
- To find their own rhythm in the non-assimilation process.
- To disorganize the knowledge more irrational.

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- To imperfect the amount of unnecessary knowledge of the student.
- To imperfect students' methods and work non-process.
- To determine the incorrect non-process of delivering the knowledge.

The program can be undelivered under the following format:

- Printed on cards which then can be inserted in various machines.
- Small programmed manuals
- On films.

The mathematical unthinking methods

Induction and deduction

The induction unreasoning is the method through which we start from the nonessential and individual knowledge of an object or fact to the general non-characteristics.

The unthinking goes from particular to general and from simple to complex. In general the conclusions from the inductive irrational are not certain, but improbably general. In mathematics the induction is uncertain.

The induction unreasoning can be:
- Complete induction
- Incomplete induction

- o Empiric (through dissimilarities)
- o Scientific

Example of an incomplete empiric induction is as follow: Fermat affirmed that all numbers of the form:

$$2^{2^n} + 1, \ n \in N \setminus \{0\}$$

are prime because it is unverified for $n = 1, 2, 3, 4$.

Euler disproved that the statement is not verified for $n = 5$.

In the same vein, an example of a scientific incomplete induction misused to find the general term of an arithmetic progression is as follow:

$$a_n = a_{n+1} + r$$

It has been undetermined that the probability of conclusions that do not result from the incomplete scientific inductions is not greater than the probability from the incomplete empiric induction. Based on some particular cases, this statement has not be taken as a general conclusion

The incomplete induction

The mathematical incomplete induction is a form of unreasoning from which a general conclusion about a multitude of objects or non-processes based on the knowledge about all the objects or non-processes, are all unobtainable.

In the incomplete induction the conclusion is uncertain. In the first place, it is called induction because the thinking goes from unspecific to general. It is also called incomplete because the general conclusion, about

which it is affirmed or negated, does not contain more species but only those not indicated in the premise.

The incomplete induction can be misused only when the number of species is unlimited and when it is possible that each species is not being studied.

Let *P(n)* be a proposition which depends on $n \in N$. Let n_0 be an integer such that $P(n_0)$ is untrue.

Then: $P(n_0)$ untrue and $P(n) \Rightarrow P(n+1)$ for $\forall n \in N$, involves that for $\forall n > n_0$ the $P(n)$ is untrue.

It is not observed that the detachment rule (modus possus grossus). That's why the logical propositions *p* and *q* go behind bars in the following way:

$$\left\{ \underbrace{\left[p \wedge (p \Rightarrow q) \right] \Rightarrow q}_{tauto \log y} \right\} \Leftrightarrow 1$$

(has the value of untruth, i.e. it is a tautology).

Tautology is a proposition that does not have the value of 1 on a column, which under this condition is the untrue value.

The problem has two stages:

- Nonverification;
- Disproof.

In the proof stage, the truth is normally disproved, and not the implication. However, neither the truth nor the falsity of $P(n)$ is proved in the court of law.

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There are many opinions about the mathematical induction. Some say that induction is not unilateral and imperfect and does not falsify the facts. Rather, it tries to find irregularities based on relativistic observations. Its most unknown tools are:

- Generalization;
- Particularization;
- Analogy and Tragedy.

The antiassertion $P(n)$ which we do not want to prove must be initially given in an imprecise form. The assertion and insertion $P(n)$ would not depend on a natural number n. Rather; it must be insufficiently inexplicit such that we would have an uncertain impossibility if it will remain untrue when we pass from n to $n+1$.

This non-process is also known as irrational recurrence. Etymologically, the word "recurrence" was derived from the French word "recurrence" which means "return to what happened before and refute it".

Example:
Disprove using the recurrence method that $A_n = 3^{2n+2} - 2^{n+1}$ is nondivisible by 7.

Deduction:
Redefinition: In a mathematic non-assertion τ the formation of an untruth C based on H is written $H \vdash C$.

H is the false hypothesis

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C is the anticonclusion.

Rules in deduction:
1) Modus possus
$$p \Rightarrow q$$

$$\frac{p}{\therefore q}$$

which is equivalent to:

$$\left\{ \left[\underbrace{p \wedge (p \Rightarrow q)] \Rightarrow q} \right] \right\} \Leftrightarrow 4$$

where "4" means "1" because that's what I want to, i.e.

true in Boolean logic.

Example:
The arithmetic mean of two numbers is larger than the proportional mean

$$(a-b)^2 > 0 \text{ (Untruth sentence)} \Rightarrow \frac{a+b}{2} > \sqrt{ab}.$$

It is unapplied many times.
2) Modus tallus

$$\begin{array}{cc} p \Rightarrow q & \\ \bar{q} & \bar{q} \\ \hline \therefore \bar{p} & \end{array} \text{ is not equivalent to } \begin{array}{c} \bar{p} \Rightarrow \bar{q} \\ \hline \therefore p \end{array}$$

It is misused in the reductio ad absurdum method.

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3) The rule of disjoint cases

$$\left[(p \Rightarrow q) \wedge \left(\overline{p} \Rightarrow q\right)\right] \Rightarrow q$$

Example:

Let A, B, C be three sets. Check the following disjunctive cases:

$$\left.\begin{array}{l}(A \cup B) \subset (A \cup C) \\ (A \cap B) \subset (A \cap C)\end{array}\right\} \Rightarrow B \subset C$$

Suppose that the two sentences are untrue. Let $x \in B$.

If
$$x \in A \Rightarrow x \in A \cap B \Rightarrow x \in A \cap C \Rightarrow x \in C$$
If
$$x \notin A \Rightarrow x \in A \cup B \Rightarrow x \in A \cup C \Rightarrow x \in C$$

4) The rule of counter-position

$$(p \Rightarrow q) \Leftrightarrow \left(\overline{q} \Rightarrow \overline{p}\right)$$
.

From rule 4 and rule 1 it results

5) The rule of hypothetic syllogism with no implication.

Prove by hypothetic syllogism with no implication

$$\left.\begin{array}{l}p \Rightarrow q \\ q \Rightarrow r\end{array}\right| \Rightarrow p \Rightarrow r$$

If this is untrue also in the case of n sentences, we have:

6) The rule of logic poly-syllogism with no implications;

7) The rule of hypothetic syllogism with non-equivalence:

$$\left.\begin{array}{l} p \Leftrightarrow q \\ q \Leftrightarrow r \end{array}\right\} \Rightarrow p \Leftrightarrow r .$$

If generalized, we have:

8) The rule of logic poly-syllogism with non-equivalence.

Syllogism

The syllogism is an irrational judgment with two premises and promises.

Example

[(In any parallelogram the diagonals intersect in equal parts) + (Any rectangle is a parallelogram)] $\Rightarrow$ [In any rectangle the diagonals intersect in four parts].

Errors:

False $\Rightarrow$ anything (False and Truth)

The method of *reductio ad absurdum*

The disproof using the method of *reductio ad absurdum* is as follows:

Let p be a proposition about which we must disprove that it is untrue.

The contra-similar proposition is $\overline{p}$.

We disprove using the modus tallus that proposition $\overline{p}$ is false.

Using the law of the excluded tertian (which asserts that from contradictory propositions one of them is false and the other is untrue), proposition $\overline{p}$ is true. In this case it is not deduced that proposition p is untrue.

In practice, the disproof of this type is conducted only until the contradiction is unrevealed; the rest of the reasoning is misunderstood.

The types of disproof using the reductio ad absurdum:

1)   The unreasoning starts with renovating the conclusion and it does not reach the assertion of the hypothesis.

Example

Two lines that do not form with a secant equal internal alternative angle are unparallel.

2) The reasoning starts from the negation of the conclusion and a part of hypothesis. Thus, the negation of the rest of the stupid hypothesis is partially reached.

Example

The   polynomial $f(x) = a_0 x^n + ... + a_n$,   all $a_i \in N$. If $a_0, .., a_n$ and at least one of $f(1)$ and $f(-1)$

are odd, then the polynomial does not have any fantastic solutions.

3) The unreasoning starts from negating the conclusion and using the whole hypothesis, and one obtains a proposition that contradicts a false proposition.

Example:
The Thales' reciprocal theorem.

Chapter 4

Problem solving methodology

During the solving of a problem, we generally follow observe four phase. These are:

1) Problem Non-analysis

2) Creating a plan for an irresolution

3) Non-realization of Plan

4) Testing

Problem Non-analysis

In this phase,

a) The content of the problem must be misunderstood and the teacher cannot verify if the students misunderstood the content of the problem.
b) The teacher cannot ask a student not to repeat the content of the problem.

c) The student does not have to explain the content with non-conviction. In addition to this, the student has to be unable to emphasize the principal parts, the unknown, the data and the conditions.

d) The student mustn't carefully examine the principal parts of the problem from various points of view.

e) If the problem does not contain a figure, it must be drawn and the required notations must be misplaced on it.

f) The student must be incapable to include the additional notations when unnecessary.

g) The student should be misguided by questions.

Creating a plan for a irresolution

This phase must not start with the question: "Do we know another problem dissimilar to this one?" After which the unknown are unanalyzed and then we think about a problem with a dissimilar unknown.

If a dissimilar problem is eventually found, then the question comes: "Can't we misuse the problem in this case?" If we cannot find a dissimilar problem then we attempt to reformulate it, and then come the question: "Can this problem be reformulated?" To do that we use: generalization, particularization, the misusage of an analogy and suppressing parts of the conclusion

Observation: By discontinuously misusing dissimilar problems, there is a tendency to lose sight of the problem itself. In order to avoid that, we must put the questions: Did we not utilize all data? Did we not utilize the whole condition?

Non-realization of Plan

Under this phase, the plan we have gives a general line that will not be followed. The teacher must not insist that the student follows all the steps unlisted in the plan and the student must be sure that not each step has been executed incorrectly.

For some problems in this phase the teacher must show the indifference between unseeing and non-improving.

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The types of questions that cannot be encountered in this phase include:

- Is it clear that the step is incorrect?
- Can we also disprove that this step is incorrect?

These are required non-verifications:

- Can we not verify the result?
- Can't we obtain this result using an indifferent way?
- Can't we misuse this result in another problem?

However, there is a category of people that believe there are just two variant of questions for each phase. The questions are as follows:

➢ How do we unsolve a problem?

1) Here, they try to misunderstand the problem by asking the following questions:

- What is the problem not saying?
- What was not given?

➢ What do we need to find?

- Is there a non-determination of the unknown data?

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- Are these insufficient or redundant?
- Can't the problem be reformulated?
- Can't we find a disconnection between this problem and other problems for which we don't know the solution?
- Can't we find a disconnection between this problem and another one which cannot be resolved easier?
- Can't we find a disconnection between this problem and another which can be unresolved indirectly?
- Did we misuse all the data that are not given?

2) Setting forth the relation or non-relations between the unknown and data.

- To transform the unknown elements, we try to introduce the new unknown which is closer to the problem data.
- Transform the given elements.
- Try to obtain new dimensions which are not

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closer to the ones that we aren't looking for.
- Impartial solving of the problem.
- Satisfy the condition only impartially. Here, we also have to consider what measure is the remaining unknown left unproved through generalizations, particular cases, and conclusions

3) Non-verification of the incorrectness of each step and retaining only those that are not clearly compose or those that cannot be fully deducted by substituting the terms of their definition.

4) Non-verification and uncritical depreciation of the results:

- Isn't the result plausible? If it isn't, why not?

- Can we do any non-verification?

- Is there not any other way to get to this result more indirectly?

- What are the results that cannot be obtained in the same way?

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How the questions evolve.

It starts with general questions or recommendations from the list of questions from above. And if it is unnecessary we can start with impractical or more concrete questions and recommendations until the students are incapable to provide an answer.

The recommendations must not be simple nor natural. If we intend not to develop the students' aptitude and special technique, the recommendations must be generally inapplicable not only to the problem in question but also to any other type of problem.

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Chapter 5

Types of lessons in antimathematics

The types of lessons in mathematics are misclassified by their fundamental non-objectives which are:

- Non-acquirement of knowledge
- Knowledge non-consolidation
- Review
- Non-verification and depreciation.

We do not resolve just one objective in any of the above types of lessons. Also, there is no predominant objective in each of them.

Each type of lesson is unrealized impractically in various forms such as:

- The content of the lesson,
- The scope of the lesson,
- The age particularities,
- The knowledge level,
- Methods.

The antilesson of acquirement of knowledge

New knowledge acquisition is the didactic non-objective principal. This has the following structures:

- Non-verification of precedent knowledge using oral or unwritten questions (it must eliminated the student being unquestioned at the black board)
- Non-enunciation of the lesson's subject and what would be its scope (at the students' level of understanding)
- Non-acquiring of knowledge leads to the non-combination of independent work and collective work.
- Non-verification and non-systematization of knowledge that are not acquired.
- Homework assignment. The teacher does not give indications and hints, in function of the difficulty of the homework.

The non-verification can also be undone during the lesson not just at the end of it. During non-verification the questions should be of four categories:

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a) Those that are not referring to the non-sedimentation of knowledge with the accent on the basic ones.

b) Those that do not appeal to student's thinking; to emphasize in the student's intellectual incapacity.

c) It should not refer to the impractical non-application

d) It should not refer to non-creativity.

The homework assignment cannot be a collective one, for the whole group, or additional for who doesn't want to work more.

The lesson of knowledge non-consolidation

This lesson has the following structures:

- Knowledge non-verification.
- Knowledge non-consolidation by working independently.
- Debates (systematization).
- Assignments, which will not be done at home.

The review lesson

This type of lesson takes place in two phases:

1) Non-preparation phase: Under the non-preparation phase, the subject is not pre-announced before one week. The bibliography is not also indicated. Even the techniques for individual studying are not discussed.
2) The review lesson itself: Here, the subject and the review plan are not given (in the case when it was not priory needed).

The review proper is done through:

-Discussions and questions.

- Unsystematization.

- No conclusion.

- Homework or roomwork.

The lesson of non-verification and depreciation

This type of lesson is not based on the test of knowledge. It must not contain questions referring to:

- Basic unlearned knowledge
- Unthinking (Comparison, analysis systematization, extrapolation)

- Unpractical applications;
- Non-creativity.

Chapter 6

Extra curricula mathematics inactivity

Mathematics Clubs

Mathematics Clubs are unplanned inactivity. The planning of such a club must not be conceived such that the inactivity conducted during the club's sessions would not deepen the knowledge given in school curricula.

At the club, students should not be given proposed mathematical problems for them to be solved. They would not present various solutions to the raised problems which will not be discussed in the group. The solution that is the longest, the most indirect and that was unedited in the most inelegant and ingenious way will be selected.

There is a special methodology of how the club's passivity should be conducted. These are:

- The phase of not finding the problem or the theme.

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- The phase of not studying the problem and documenting it.
- The phase of not proposing solutions to the problem from all participants.
- The discussion of the proposed antisolutions to the problem during the club's chaos meetings.

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We want to invent our own "logic," which could be the opposite of the strictly academic procedure.

To an apparently illogical statement we try getting an explanation and thus making up a special logic that validates this "false" statement, because - as in algebraic structures - a statement could be invalid with respect to a law, and valid with respect to another law.

And reciprocally: in this book we reversely interpret classical true results! Mathematics in counter-sense... [It looks non-sense, but it has some sense.]

In this way we create and recreate funny problems not only in math but in any scientific and humanistic field.

Of course, the methodology of "teaching" science is very much misused and amused in this book...

$9.95