



**UNIVERSITATEA
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TECHNICAL EDUCATION FROM CLASSICAL TO MODERN TECHNIQUES

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Content

- -Science, Spirituality, Education
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Science, Spirituality, Education

- -The “**connection**” established among Science, Spirituality and Education has its roots in the inferences of Pythagoras, N. Tesla, A. Einstein, D. Bohm, C. Castaneda, R. Sheldrake, M. Emoto, J. Krishnamurti, G. Gurdjief, R. Steiner, etc.
- -Technical technologies (components, services, design patterns, GUI, multithreading, J2EE, JMF, etc.) are used in a more efficient way by the students in the practical work if they take into consideration Science, Spirituality & Education

Brainstorming and Education

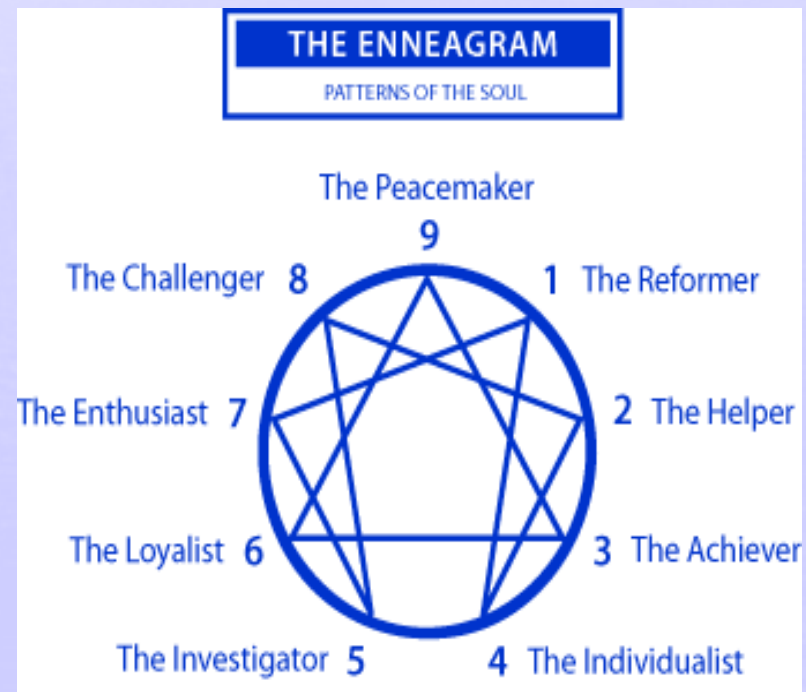
- -Brainstorming is a **lateral thinking** process.
- -It requires that people come up with ideas and thoughts that seem at first to be shocking.
- -You can then change and improve them into ideas that are useful and often original.
- -Ideas should only be **evaluated at the end** of the brainstorming session - you can then further explore solutions using conventional approaches

Group Brainstorming

- -Group brainstorming can be very effective as it uses the experience and creativity of all members of the group.
- -When individual members reach their limit on an idea, another member's creativity and experience can take the idea to the next stage.
- -Therefore, **group** brainstorming tends to develop **ideas in more depth** than individual brainstorming.
- -When you **brainstorm on your own –individual** you will tend to produce a wider range of ideas - you do not have to worry about other people's egos or opinions, and can therefore be more freely creative.

Enneagram and Group Brainstorming

- “The Enneagram figure is used for various purposes in a number of different teaching systems. In more recent years the figure has mostly come to prominence because of its use with what is often called the Enneagram of Personality. The historical origins of the figure are disputed but it seems possible that it was used within the Sufi religious tradition.”
- Wikipedia



Web-Base Education, Spiritual Concepts and Resonance

- -WBE as a simple alternative technique, is able to "satisfy" the technical information process but in order to understand in a deeper mode the human society evolution we must also introduce the "contented" point of view based on the human personality (Static and dynamic states)
- -We must consider a balance between the mind and the soul (as a synthesis of high level layers) specific to education

Resonance

- -Using the **(profound) resonance** concept, or resonance, we are able to eliminate some deviations and mistakes in the education process.
- -Alternative educations will offer facilities in selecting education paths as PhD-teaching, research, industrial, etc.
- -The resonance will realize a **selective interconnection** among systems with profound affinities that will be able to communicate.
- -For the human being the subtle aspects will resonate with the material and rational ones, as expressed Rudolph Steiner

Morphogenetic Resonance

- -The energetically fields of a human being are influenced by the **human thoughts**, the communication between the soul and the body, etc., all these being in accordance with the resonance.
- -**Rupert Sheldrake**, British biologist, considering some of Jung's ideas, uses the **morfogenetic field** as an alternative to the mechanist/reductionism approach and the **morfogenetic resonance** as a principle that operates in the entire universe, which are both able to describe some non-quantitative results.

Man of Knowledge Directions and Enemies

- -Considering the man of knowledge concept with the main directions and the enemies involved presented by Carlos Castaneda, American anthropologist, we are able to make a connection with the higher education process.
- -The main steps that have to be followed by a human in the attempt to become a man of knowledge are presented as follows.

Teaching

- -The main directions of a spiritual human will start with **teaching**. In teaching, the aim is not clear specified from the beginning - the intention is indefinite.
- The **first enemy** in this step is **fear**. If the fear will dominate, the instruction process will never finish.
- The instruction is difficult, but if it will be realized step by step, than the first natural enemy, the fear, will be defeated.

Clarity

- -In the new step, the **clarity** is the new enemy.
- -Clarity is very difficult to be obtained but at the same time **will blind** the human.
- -If this enemy **will defeat** the human, the human will sink in the education process, being unable to learn something else.
- -At this level, once the clarity is achieved, it will be impossible to return to darkness and fear, but the spiritual aspiration will be stopped (ego-selfishness).
- -If we want to advance, we must **defy the clarity**, using it only to “see” and to wait with passion until we understand that the clarity was only a point in front of the eyes.

Real Power

- In the next step, the clarity will be transformed into **real power**.
- -The power is the **most difficult enemy** and it is hard to overcome.
- The human seems to be invincible, will command, will assume calculated risks, and will finish by establishing rules because he is the master.
- -For the human it **is very difficult to perceive this enemy**, being transformed into a cruel and freakish one.
- -To **defeat the "power"** enemy the human must deliberately defy it.
- -If he understands that power and clarity without **self-control** are very bad, then he will be able to know when and how to use the power.

Wise maturity

- -The last enemy, "wise maturity", will stop reaching the last step of the knowledge man's way.
- -This is the **cruelest enemy** that will not be entirely defeated, only reprieved for some time.
- -If he gives up in this step by **tiredness**, he will lose the last round like a helpless **old age human**.

Man of knowledge

- If he does not give up by tiredness and if he reaches the initial aim, the human may be named a man of knowledge for a short time.
- -This moment of clarity, power and cognition is sufficient to obtain the advanced profound human status.
- In our material society, we generally do not understand that a human must fight to pass all these steps to reach an elevated status.

Professor-Students Connection

- -The Professor-Students **connection** must be considered a **spiritual force** that offers cohesion, community, serenity, welfare...
- -The **synergy** in this case will manifest as the Professor-Students **compound force**, being a spiritual force expressed by the **mind and soul**.
- -Synergy is the 8-th level considering a tree with 8 branches as steps in evolution, in the oriental conception (N. Tesla).

Software testing results

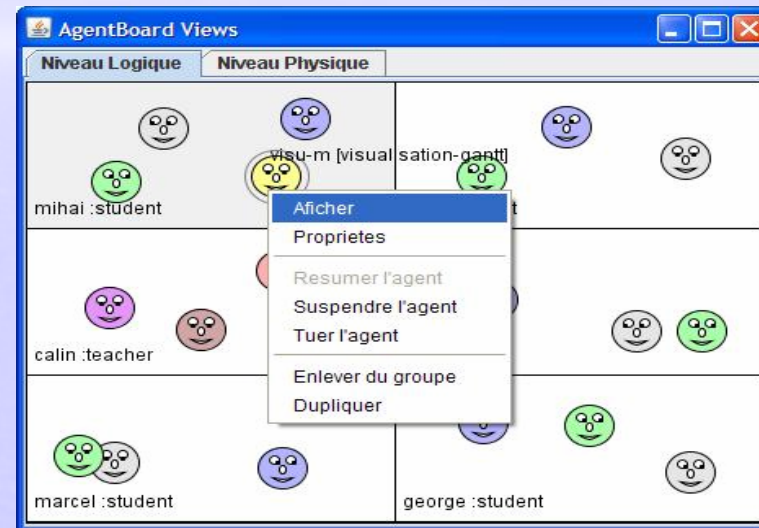
- -The education process based on **individual** work is not so efficient in many teaching activities.
- -By establishing a **group** of work based on resonance with a clear objective of learning, it is possible to offer a rapid and powerful evolution for all members.
- -A variant of the brainstorm technique including **enneagram** elements can be used in the technical teaching process using groups and having a perspective of quantization. The **rules** considered in such a group must be simple but not simpler.

Observation of pedagogical activities in an educational platform

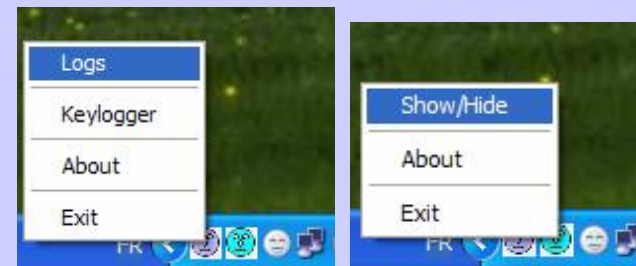
- The observation was based on traces using a multi-agent architecture (C++ and Java)
- FOPAM (Flexible Observation of Pedagogical Activities Model): a model for flexible observation
- Different actors categories :
 - teachers
 - developers of the activity
 - researchers used to interpret the results
 - students (two in a group – acting as individual)

Station Functionality

- Visualization agents



- Collectors agents

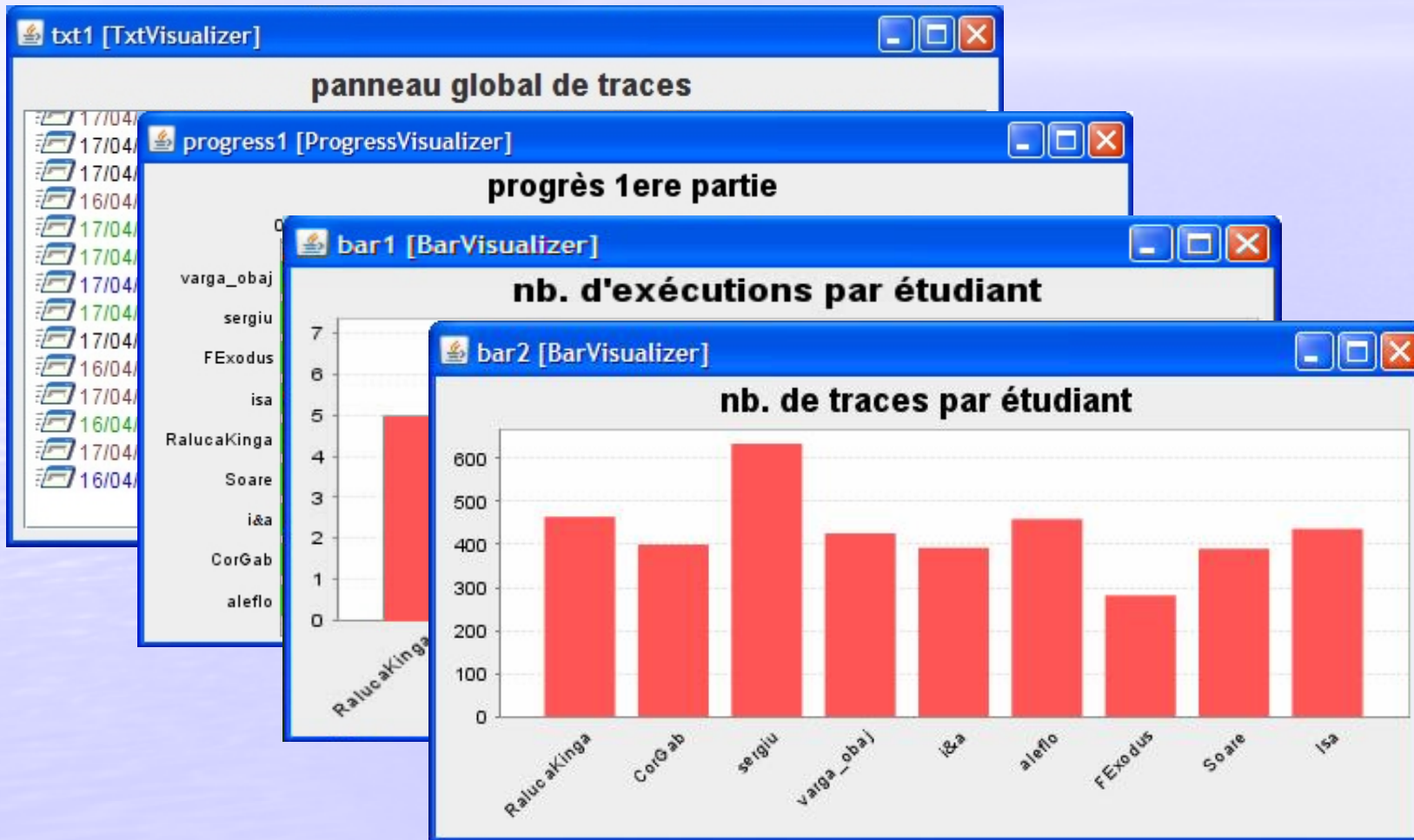


Experiment description

- Pedagogical scenario based on two steps:
 - step1: sequential development of an application
 - step2: develop and test dedicated small applications
- Pedagogical resources available on a station



Test results



Group brainstorming and Enneagram

- -Using an initial "Task Notebook" clear specified from the beginning, key solutions will be easy considered.
- -Such an integrated group will divide the main tasks to each member and in the "Extern/Intern Reunion meetings" the drawbacks will be clear specified and analyzed.
- -In this mode the creativity and the originality are possible to be manifested.
- -The final result is a "Specification Notebook" and the implemented technical product.

- -Such a technique was used for a test period for **software development products** at the Technical University of Cluj-Napoca, at the Software in Telecommunication discipline.
- -The number of members in a group was established from two to five. The medium number was three.
- -The total number of team groups established in the test process was 52. From these team groups only about half (25) accepted to use a brainstorm technique to develop mini-projects (in the test period the technique was optional).

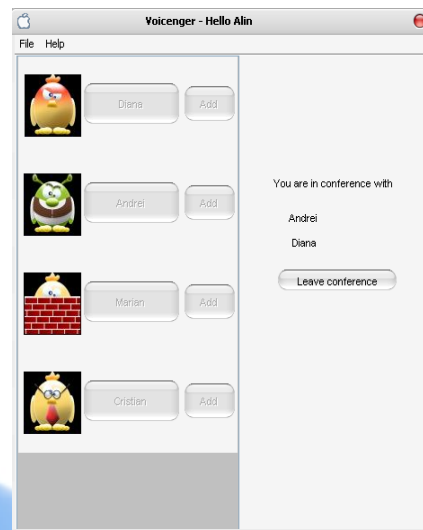
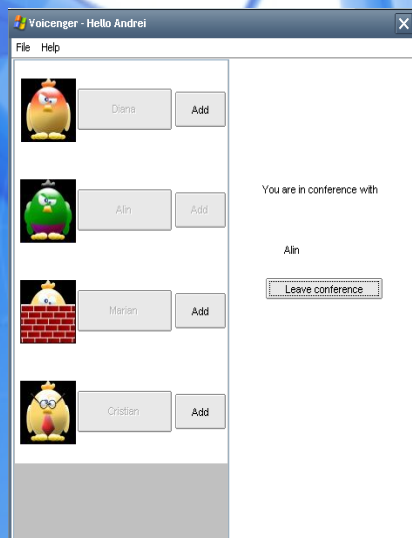
Voicenger application

- The **general overview** of the Voicenger product was specified in the Task Notebook as:
 - -to be developed as a distributed application for LAN voice communication
 - -designed for up to three users in a conference at once
 - -to support multiple conferences
 - -to offer a user friendly interface
 - -to be used in many possible applications



Three users conference

- Names of users you are in conference with in the right side
- All users unavailable



- Leave conference button
- When one user leaves, "Add" button becomes enable for the other two users left in conference

Enneagram Group Definition

- -It is possible to determine the typology of a person using different tests, as Riso-Hudson Enneagram Type Indicator (RHETI) or others.
- -Considering at least 3 persons it is possible to manifest the whole typologies by a synergetic process.
- -In the Voiceenger project, the team was composed by: 1 (reformer), 4 (artist), 7 (generalist) typologies
- -They represents compatible typologies that offer the possibility to realize spectacular evolution
- -NASA, CIA, etc. use the enneagram to establish group compatibilities
- -Dynamic adaptation in teaching process may use the enneagram principles to offer adaptive information

Summer first year students' software internship

Three periods of three weeks was allocated for the internships:

- best students, no criteria
- students with lower software capabilities, enneagram criteria (9)
- some personality criteria established by the software company (5)
- The final evaluation included obtained technical abilities, general training responses and team collaboration abilities.

- The **first group** obtained the best technical results with a linear evolution.
- The **second group** started with huge difficulties considering technical abilities.
- -The compatibilities of the members from the teams helped them to have an evolution in an exponential mode
- In the **third group** the teams were realized using some company criteria based on five personalities type.
- The **final evaluation** determined that the second group teams' evolution was more complete than the first and third groups as technical and social results

Conclusions

- -We consider that educational results obtained from a **flexible brainstorming group** by using enneagram principles are more relevant and that it's easier to generalize the methodology for a large number of students. The education power in such a group will increase in an exponential mode as the spiritual concepts specifies.
- -An important element in the education process is the **interaction** between the teacher and the students resulting in more interesting and attractive classes.
- -Using the **morphogenetic field** concept the interaction may be realized in a more complex mode

- -The **technical evolution** is based on the **human evolution** and the valuable spiritual ideas, which are used in different technical domains. Human **archetypes** (male and female) will also be considered in following tests.
- -Education in technical domain as programming languages and software applications is very close to these concepts.
- - The Human evolution, on all levels, is able to offer the **new revolutionary technologies** expected by many humans.

- **Thank You**