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A NEW EXPERIENCE IN ROMANIAN HIGHER EDUCATION: MASTER DEGREE COURSES IN INTEGRATED EDUCATION (TEMPUS Project S-JEP 09125-95)

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ABSTRACT. The reform of Romanian higher education adopted some important changes never dealt within the last four - five decades. Two examples are very relevant in this respect: the development of the Transferable Credit System as a way for compatibilization with the curricula of European Community Universities and starting the Master Degree Courses as an important stage between Licentiate and Doctoral Programs.

The above-mentioned changes as well as other innovative approaches, were very much sustained by TEMPUS projects not only by finance but also by pedagogical support from EU partner Universities.

After a preparation stage during two years, the Tempus Department of European Training Foundation gave the approval for a Romanian project entitled: **Master Degree Courses in Integrated Education.** This project started within a consortium which included: Babeş-Bolyai University of Cluj-Napoca (Contractor); the University of Bucharest (Coordinator), and other six partners (Al. I. Cuza University from Iaşi; the West University of Timisoara, the University of Birmingham, the University of Bologna, the Royal Danish School of Education and the University of Malaga).

1. Achievement of Outcomes 1995/96 - 1996/97

The project entitled *(Master) Degree University Courses for Specialists in Integrated Education* had as planned outcomes for 1995/96 and 1996/97 the following:

1.1. Report on Master Degree needs for integrated education in Romania and Detailed plan for monitoring project activities;

1.2. Assurance of training and integrating equipment;

1.3. Report on EU Universities Master Degree Courses. Basic components of curriculum;

1.4. Curriculum development for Master Degree Program in Romanian Universities;

1.5. Implementation of Master Degree Programs in Integrated Education in the four Romanian Universities (first year 1996/97);

1.6. Study periods within Master Degree Programs in EU Universities of 7 Romanian students;

1.7. Teaching mission in Romanian Universities of 16 EU professors for one week per professor;

1.8. Assurance of relevant books in Integrated Education for Romanian students and teaching staff.

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1.1. Report on Master Degree needs for integrated education in Romania and Detailed plan for monitoring project activities

Romanian universities gathered the information concerning this issue and developed a support material entitled *Master Program for Integrated Education. Report on Training Needs* (61 pages). The report was finished on 22 January 1996 and delivered to all Romanian partners. An English summary (two pages) of this report was submitted to EU partners in March.

During the development of this report, Romanian professors were supported by a visit of two professors from the University of Birmingham in Cluj-Napoca (end of November 1995).

The *role* of this outcome is to build a picture regarding the possibilities and opportunities for integrative education in Romania by describing:

* The legal frame in the field of Special Needs Education;
* Integrative process of children with special needs; statistics and qualitative approach;
* Teachers' attitudes towards integrative activities in ordinary and special schools;
* Opportunities and constraints for starting a Master Degree Program and related professional development activities;
* The range and extension of activities and professionals to be part of the integrative education.

This report had been discussed with all partners within a large meeting in Bucharest (January 1996), one month before the planned deadline (20 February 1996).

Coherence with other outcomes. According to the relevant data of the Needs Analysis Report, Romanian and EU professors selected the main topics of interest for the Romanian staff mobility program. For instance, a list of the objective of their visits was set up and followed by Romanian visitors at EU Universities (March -April 1996). The agenda of January meeting (Bucharest) and June meeting (Cluj-Napoca) were also based on this report in detail.

All Romanian partners were concerned with this outcome, but the main part of the task was performed by the Universities of Cluj-Napoca and Bucharest.

Detailed plan for monitoring project activities. During the meetings of partners: Cluj-Napoca (November 1995), Bucharest (January 1996), Birmingham (March 1996), Predeal (May 1996), Cluj-Napoca (June 1996) and Malaga (December 1996) an important aim was to design the future activities of the project.

The change in comparison with 1995/96 Revised Budget and Activity Plan is that this time the plan was being detailed during each meeting, therefore this outcome was not ended at the foreseen deadline (20 February 1996), but alongside the meetings.

In our organizational debates we decided to follow a strategy of priorities and link between activities and outcomes within S-JEP 09125 as well as between S-JEP and CME 01131-95. For instance, the main outcome of CME: *Partnership in Teacher Training for Integrative Education* (94 pages, July 1996) is a complementary material support for the *Report on Master Degree Needs* developed within S-JEP.

1.2. Assurance of training and integrating equipment

Between October - December 1996, the coordinator and contractor universities prospected the market for the necessary equipment. Three firms and itemized offers were received from the suppliers:

* HUNDHILL UK LIMITED, Great Britain (29.10.1995);
* ELECTRONUM S.A. Bucharest, (10.11.1995) and
* SIKUDA TRADING S.R.L. Bucharest (November 1995).

A Commission within "Babeş-Bolyai" University decided to acquire the equipment from ELECTRONUM S.A. Bucharest (Decision Act dated 28.11. 1996).

A Contract between "Babeş-Bolyai" University and the supplier was signed on 12.12.1995, and by 29.02.1996 the contracted equipment was installed and registered in the four Romanian universities.

Each Romanian University was equipped with computers, video cameras, videoprojectors, photocopiers, overprojectors etc., at the total amount of 75.000 ECU.

1.3. Report on EU Universities Master Degree Courses. Basic components of curriculum

During March, and April-May four groups of Romanian professors visited EU Universities for one month as follows:

* Three professors from the university of Bucharest visited The Royal Danish School of Education;
* Four professors from Babeş-Bolyai University visited the University of Birmingham;
* Three professors from the University of Iasi visited the University of Bologna;
* Two professors from the University of Timisoara visited the University of Malaga.

The main task for these groups was to accumulate material on Masters Degree Curriculum in EU Universities in order to design the teaching plan and syllabuses for Romanian students.

At the end of their visits (May 1996) each group developed a report on this issue which was discussed and enriched within May meeting at Predeal and June meeting in Cluj-Napoca through eight papers presented in the plenum followed by debates:

* *Teacher Training at the University of Birmingham* (Christine Tilstone and John Visser, The University of Birmingham);
* *Activity in Community* (Miguel Lopez Melero, University of Malaga);
* *Special Needs - A positive Resource* (Nicola Coumo, University of Bologna);
* *Supporting Changes in Schools* (Jesper Holst, Royal Danish School of Education).
* *Teacher Training in Romanian Universities* (Emil Verza, Bucureşti; Miron Ionescu, Cluj-Napoca; Teodor Cozma, Iaşi; Dorel Ungureanu, Timişoara).

This outcome played the role of a Key-Concept in developing the Report on Romanian Master Degree Program (Outcome 1.4).

1.4. Curriculum Development for Master Degree Program in Romanian Universities

Partners from Bucharest, Cluj-Napoca and Iaşi had a meeting at Predeal (May 1996) and developed the Key-Concept of Curriculum within a Report *"The Master Degree Program on Integrated Education"*.

This material includes several items as: (1) Project background; (2) Goals and objectives; (3) Structure and organization: (a) time characteristics, (b) admission, (c) modules and subjects, (d) evaluation, (e) administration; and (4) Problems. Future developments.

The content of this Report has been developed in the light of *curriculum definition* given within *Annex III/6 of Annual Report & Statement of Expenditure.*

The Report developed at Predeal meeting was followed by debates and lectures at Cluj-Napoca meeting in June 1996.

Each university developed the Syllabuses for the courses planned within Master Degree Program. At "Babeş-Bolyai" University was printed a support course material: *The Methodology of Integration for Blind Children, 137 pages)*, by translation and adaptation from up to date English literature.

The outcome gives in a clear view on the structure, modularization, and evaluation of the MDP which started in October 1996 within the four Romanian Universities. Besides these, at June meeting was established a Commission for evaluation which has developed a concrete program in this respect.

This outcome is a guide line in running all project activities during 1996-97 and 1997-98; modules to be taught, the nominated courses and practical activities within each module, timing, evaluation etc.

1.5. Implementation of Master Degree Programs in Integrated Education in the four Romanian Universities (first year 1996/97)

Based on the designed curricula and syllabuses, the four Romanian Universities received the approval from the Ministry of Education to start the Master Degree Courses in October 1996. The teaching plan developed within Master Degree Program includes several modules as follows:

* Learning Difficulties and Basic Principles of Integration
* Research-Action Projects
* Curriculum Development
* Educational Management
* Integration of Children with Special Needs
  (visual impairments, mental handicap, behavioral and emotional trouble etc.)
* Educational Consulting
* Informational Technology
* School development etc.

1.6. Study periods within Master Degree Programs in EU Universities of 7 Romanian students

During the first year of Master Degree Program, seven Romanian students were selected through a competition to follow their courses at EU partner Universities:

- five students fulfilled the full second term (two at the University of Birmingham, other two at the University of Malaga and one at the University of Bologna);
- two students studied for three months at the Royal Danish School of Education (during March - May).

Students' study periods were recognized by the sender and host universities within the Transferable Credit System. The evaluation reports and students' achievements were one important task of host universities teaching staff. More than that, each Romanian student had the duty to develop his or her activity report during the study period abroad.

1.7. Teaching mission in Romanian Universities of 16 EU Professors for one week per professor

The academic year 1996/97 was very exciting and reach in international contacts between the staff of Romanian Universities and EU professors focused on Master Degree in Integrated Education. For instance, four EU professors delivered their courses at the University of Bucharest, three at "Babeş-Bolyai" University in Cluj-

Napoca, three in Iaşi and three in Timişoara. Unfortunately, two EU professors canceled their teaching mission in Romanian universities due to their tasks at home universities.

We would like to point some important topics approached by EU professors in their courses and seminars in Romania:

* Professor Giancarlo Martelli - Life quality and social protection of children with special needs;
* Professor Fausto Telleri - Family involvement and school - family partnership;
* Professor Nicola Cuomo - Curriculum development and Integration of children with mental retardation;
* Professor Jesper Holst - Changes in schools and Life quality;
* Professor Frank Bylov - The integration program design;
* Professor Miguel Lopez Melero - Integration strategies and conditions. Teacher training for integration;
* Professor Christine Tilstone and Lani Florian - Characteristics of effective inclusive schools, Curriculum design and development, Co-operative learning works etc.

1.8. Assurance of relevant books in Integrated Education for Romanian students and teaching staff.

During 1996 and 1997 more than 40 books (at the amount of 4000 ECU) were bought from Dillon Book Store at the University of Birmingham and sent to Romanian Universities. These books are very useful to students and teaching staff in their courses and practical activities.

The following titles of the books can give a picture about the topics approached and their value for developing the Romanian experience in integrated education:

* Educating children with multiple disabilities;
* How to detect and manage dyslexia;
* Teaching pupils with severe learning difficulties
* Individual action planning;
* Teaching children with visual impairments;
* Starting drama teaching;
* Differentiation and the secondary curriculum;
* Person centred approaches in schools;
* Effective classroom management;
* Classroom success for the learning disabled etc.

2. Project Coordination

2.1. Day to day project activities coordination

An inter-university team was nominated including Doru Vlad Popovici (executive coordinator), Vasile Chiş (executive contractor) and the contact persons from partner institutions (Prof. Teodor Cozma, Dorel Ungureanu, Harry Daniels, Jesper Holst, Nicola Cuomo and Miguel Lopez Melero).

The principles for coordination methodology were adopted during the November (Cluj-Napoca) and January (Bucharest) meetings and they consist of:

* The decisions concerning Romanian Universities have to be initiated by Romanian partners and followed by negotiation with EU partners.
* The decisions initiated by EU partners should be negotiated with Romanian partners.
* All current decisions concerning the planned project activities should be acknowledged to all partners.

The very important coordination decisions have been adopted during the meetings of all members of the inter-university team, as they are concerning to:

* The structure of Needs Analysis Report.
* The objectives of Staff Mobility Program.
* How to develop the Master Degree Program for Romanian Universities.
* The agenda of meetings and other organizational issues.

Between the meetings of all partners we have had meetings of Romanian partners as well as meetings of EU partners. The issues and conclusions of these meetings have been disseminated to all partners.

Daily tasks were coordinated by phone and fax or by bi-lateral meetings (contractor - coordinator, coordinator or contractor and partners).

2.2. Changes required within methodology

(a). At the very beginning of the project (October 1995 - January 1996) a big amount of the project coordination was expertised by Professor Harry Daniels from the University of Birmingham, due to the lack of experience of Romanian professors in this matter. For instance, the meetings in Cluj-Napoca (November 1995) and Bucharest (January 1996) were conducted by Harry Daniels. His contribution to the outcomes of these meetings is remarkable.

Afterwards, alongside with the progress of learning, professors Miron Ionescu, Emil Verza, Vasile Chis and Doru Popovici assumed more and more initiative and responsibilities. They conducted the meetings at Predeal (May 1996) and Cluj-Napoca (June 1996).

(b). Not all the time the principles for decision making were considered by the persons in charge and this could be considered a weak point in the project coordination. For instance, regarding the grouping of people within East-West staff mobility flowchart was planned to build mixed groups. This methodology was appreciated by EU partners. Despite of this plan, partners from Bucharest and Iaşi chose to have homogenous groups, so it happened: each Romanian university sent a group of visitors in one EU university.

Fortunately, this change did not affect the outcomes more than that each group of visitors succeeded in starting a strong partnership with the host university. In our view, these strong bi-lateral relationship is an important base for building a real partnership network.

2.3. Unforeseen problems

(a). As we have mentioned several times in our letters to European Training Foundation, we had the unexpected opportunity to be granted within two TEMPUS projects at the same time: S-JEP 09125-95 and CME 01131-95. To this fact we must add that Romanian universities acted as coordinator and contractor for the first time, and we have been confronted with a very new topic: integrative education which is a new approach in our Educational System. Due to such developments, lack of experience, some anxiety owing to the possibility of making mistakes, and some hesitations at the level of institutional and personal involvement, the efficiency of some activities decreased, in our view.

This difficulty was overcome by advices from TEMPUS Department in Torino and National Tempus Office in Bucharest.

(b). The Financial Departments of Romanian Universities are not willing to administrate a TEMPUS grant. In fact, the Contractor's Financial Department refused to cooperate within TEMPUS financial activities. Due to this fact, several difficulties have been added to the contractor's tasks:

- A big amount of discussions with persons in charge (at Administrative and Human Resource Department, and some times at Rectorate), for instance in order to register the purchased equipment or to start some payments.
- A lot of time spent by bureaucracy in working directly with the Bank Office.

This difficulty was overcome as follows:

- All expenses have been stated, signed by the executive contractor and approved by the Rector himself or one of the Vice-Rector;
- Expenses were registered by bank statements, contracts, vouchers etc.
- The Executive contractor *enjoyed* to spend more time on the administrative tasks of the project.

(c). The planned periods for some meetings were not appropriate for all partners because of their daily duties or other unexpected tasks.

In such situations, the meetings were replanned or the partner who could not attend them has been informed and asked to give his opinion and suggestions on that issue.

(d). Communication difficulties with partners from Spain and Italy because of the language constraints. This difficulty still exists.

3. Functioning of the Network

The Romanian part of the Network functioned well enough: all partners accepted to be contacted by phone or fax any time. Many private phone calls have been used during the evening or night by the executive coordinator and contractor.

At the same time the contact with Cluj-Napoca, Bucharest, Birmingham and Copenhagen was permanent.

The partners assumed their roles and all of them participated in decision-making. Globally, we appreciate the consortium as being very active in decision -making.

The network has had a good functioning: the partners cooperated at an acceptable level, without negative but positive conflicts. Some disappointments or different points of view arisen during this year were overcome at last in the benefit of the project.

Finally, it is ensured that the project meets the needs of the partner country participants due to the followings:

* The four Romanian universities started a new Master Degree Program on Integrated Education which corresponds to their Institutional Development Plan;
* The four EU universities, through mobility programs, have the opportunities to experience exchanging, enlarging and sharing their know-how.
* New innovative approaches are opened through other projects as Multy Country Distance Education Scheme.

4. The institutional development of the four Romanian universities for the period 1995 - 2000 is based on the existing structures of 1995/96 academic year, Educational Act (1995) and The Chart of each university. The universities adopted their Development Plan where the structural changes aim at improving teacher training programs through Master Degree Courses.

Concrete, by the following developments have been achieved:

* Setting up the Departments for Teacher Training within the four universities. These departments are delegated to organize and monitorize all teacher training activities, including training teachers for Special Needs Education (SNE) not only in the local area but at the level of large zones, according to the Act of Ministry of Education No 4356 / 11 June 1996.

Following this support, with some specific differences, each university implemented important new structures and policies aimed to promote integrative education through Master Degree Courses and professional development activities.

- Implementation at licentiate and master level of Transferable Credit System as a way for compatibilization and integration in European Community. The credit system is used for the first time in our universities.

- Strengthening the co-operation between the four departments which formerly worked more separately at "Babeş-Bolyai" University: Department for Education, Department of Psychology, Department for Special Education and Department for Teacher Training. The new structure created at "Babeş-Bolyai" University is named: "Faculty of Psychology and Educational Sciences".

- Creation of an inter-university team in order to support implementation of SNE courses at the West University of Timişoara.

- Development of the existing departments for special education and new courses in order to promote integrative education at the University of Bucharest and "Al. I. Cuza" University from Iasi.

The changes have been introduced in all four Romanian Universities according to the new *Master Degree Program on Integrated Education* and the creation of the Department for Teacher Training.

The external factors with impact on the project, e.g. the educational policy at the level of Ministry of Education have been supportive. As it has already been mentioned, the structural development of the four universities are agreed within the Ministry of Education Act (1996) and Educational Act (1995).

UNICEF, Ministry of Education and Local Educational Authorities also kept a close relation with our project; they joined our June seminar in Cluj-Napoca.

The National Tempus Office (NTO) in Bucharest provided us with any piece of information we requested; the Director of NTO participated in our meeting in June.

5. Curriculum Development

(a). The curriculum development activities which took place within EU Universities have been very much assisted by institutional support. Individual study of the host universities program was combined with debates, visits, participation courses and evaluation sessions etc.

The Romanian group had developed their Master Degree Curriculum at a standard appreciated by the EU partners.

The relevant outcomes of these activities are:

- Master Degree Programs of Romanian universities including common and specific features;
- Syllabuses for the courses which are going to be taught by Romanian Professors;
- Course support material.

(b). The new modules and courses within Master Degree Program have been recognized by the Romanian Ministry of Education and they are already approved and included in the *Annual Teaching Plan* of Romanian universities.

The number of students targeted for the academic years of 1996/97 and 1997/98 are:

University	Students within MDP	Undergraduate
Bucharest	10 students	250 students
Cluj-Napoca	20 students	320 students
Iaşi	10 students	160 students
Timişoara	10 students	120 students
Total	50 students	850 students

The courses are delivered in Romanian and EU Languages, mainly English and possibly Italian and Spanish.

5.1. Teaching material is still in the developing phase. Each professor who is planned to deliver courses accepted to work the teaching material concerned on individual base, using translation and adaptation.
These materials will be disseminated over all interested professors and future meetings will focused on their evaluation.

A support course: *The Methodology of Integration for Blind Children* (Miron Ionescu, Vasile Preda, Vasile Chiş, 137 pages) was already printed at "Babeş-Bolyai" University.

The suitability of the materials will be proved by evaluation sessions during the second course year (June 1997).

5.2. Staff Development. The 1995/96 project year has not been planned for staff retraining, but staff development took place through curriculum development activities within study visits abroad (T3).

6. Conclusions

We appreciate that the key successes of our project were the following:

* The large consortium including 4 EU and 4 Romanian universities started to materialize a Net-Work for integrative education in Romania. Each European country and each University has a specific experience on this topic. The *diversity approach* is an important paradigm of the integration we benefit by.

* People involved in the project showed their willing to introduce changes in education and they reached important institutional developments in their universities. Institutional changes are supportive for the next years of the project.

* A Master Degree Program in Integrated Education has started for the first time in our country in the four universities. The courses will be attended by the students from all over the country. They will be prepared to play the role of the main factors in education changes.

- The East-West and West\ -East Mobility Program, meetings and debates were productive. However, some disappointments were stated :

- The agreement to provide to EU partners with two-page English Summary of the Needs Analisis at the January meeting in Bucharest had not been kept that time but later on.

- The EU partners advised the Romanian partners to arrange the grouping for the Mobility Program with cross-university personnel. They chose not to do so that way, and had arranged visits with all the personnel from one university visiting an EU partner.

-However, EU partner generally appreciated the meetings as being productive and the Romanian part accepted that new targets agreed by all parties have to be kept in the future.

- The equipment purchased is a solid base to introduce Romanian professors and students into the using modern teaching aids.

- A large number of institutions members of the National Network for Information in the field of Special Needs Education, as well as the Pilot Centers for Integrative Education, the Ministry of Education and UNICEF showed a permanent interest in our project. They attended a part of the project meetings and appreciated the outcomes.

- The cooperation among partners in the project was gratifying except some items concerning administrative work: payments, collecting the proving documents for travel and stay etc.

- There was a permanent link among Romanian, English and Danish partners, and English partners supported the project very much.

Because of the language constraints, Italian and Spanish partners needed interpreters and the discussions have been developed slowly.

- We consider that TEMPUS Scheme is very wise designed, but its implementation in Romanian context could benefit by the followings suggestions:

When Romanian Universities are granted with two TEMPUS projects at the same time (CME and JEP, as we have been granted), they should have the possibility to chose only one project and the other one is wise to be replanned for the following year(s). Such opportunity is in the benefit of concentrating the energy and efforts on the area of the objective of that project. On the other hand, the consortium of the project is not so much overcrowded with a big amount of project activities, they have enough time for reflection, good decisions and optimal efficiency.

European Training Foundation, through International and National TEMPUS Departments are asked to have a discussion with Financial representatives from the Romanian Ministry of Education and from the universities, in order to stimulate them for a better involvement in TEMPUS projects. Unfortunately, the lack of support and co-operation from the financial department of the universities confronted us with more difficulties than we have expected. This is, in our opinion, a negative feature for developing very helpful TEMPUS projects in our country.

In order to make clear the tasks and responsibilities of persons who are acting as contractor and coordinator, it could be of great help to use a *Contract* between TEMPUS Department and those persons. This Contract should be signed only after the competence of the persons are assessed.

At the very beginning of the project activities, executive coordinator and contractor would benefit very much by having a kind of CHECK LIST developed by experienced people. These Check Lists should include: *what can be done and what can not be done* in different project activities; *who are the experts in what kind of European projects etc.*

Some annexes within S-JEP and CME could have the same format (e.g. Mobility Grantholder, Convention etc).

The relevant documents for travel (train tickets etc.) are, in our opinion, enough when they are only submitted alone. In our country double tickets are not in use yet, and to collect the return tickets from people is not amusing but a very hard and embarrassed work.

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L'ÉDUCATION RELIGIEUSE

VOICU LĂSCUŞ

ABSTRACT. The paper brings to discussion the main problems religious education in the Romanian educational system of today having in view that it has been reintroduced in the teaching system after almost half a century. Here are some of the problems discussed: the aim and content of religious education; the principles and methods of religious education; the present attitude of scool towards religious education. The author brings historical, philosophical and pedagogical arguments in favour of maintaining and developing religious education, underlining the structure of the social and the individual conscious within the religious consciousness held in general.

Dans cet article on se propose d'identifier et d'aborder la problématique religieuse dans l'école de nos jours.

Si d'abord une telle entreprise semble facile, à mesure que l'on étudie plus profondément la problématique religieuse dans notre école on a constaté que la manière d'aborder et l'élucidation de cette problématique ou, au moins d'une de ses parties, la plus importante, prouvent être difficiles.

Premièrement il y a le problème de celui qui réalise la recherche dans le domaine de l'éducation religieuse; d'autant plus si on envisage que l'objectivité scientifique dans ce domaine peut être facilement influencée d'une manière négative par des idées préconçues et des convinctions partisanes. Suite à ce danger on peut affirmer que les personnes situées à ces points extrêmes - la religiosité profonde ou l'athéisme combatif - ne sont pas du tout indiquées pour l'étude du processus de l'éducation religieuse de l'intérieur de l'école parce qu'elles sont tentées à céder dans un tel contexte du principe fondamental de l'objectivité scientifique.

Deuxièmement, la difficulté de la recherche dans ce domaine est accentuée par le manque des études objectives pendant la deuxième moitié du siècle. D'ailleurs, la problématique de l'éducation religieuse à l'école n'a pas été étudiée d'une manière rigoureuse, il n'y avait pas un grand nombre d'études objectives, scientifiques ni pendant la période d'avant la réforme de l'enseignement de 1948 bien que, jusqu'alors l'éducation religieuse à l'école fût pratiquée d'une manière permanente.

Il est intéressant que de 755 titres notés par I.C.Petrescu dans la *Bibliographie pédagogique roumaine*, publié en 1939, seulement 14 études traitent le problème de l'éducation religieuse.

Troisièmement, l'éducation religieuse à l'école de nos jours envisage des particularités issues (engendrées) des effets de la campagne antireligieuse et de l'éducation athéiste développées au cours de 40 années qui, même s'ils n'ont pas atteint les objectifs envisagés par l'idéologie et par la politique communistes, qui les ont imposées, ont eu des effets qui durent encore.

Leur considération veut être strictement nécessaire mais, de l'autre côté, elle impose des études larges et systématiques prolongées.

Puisqu'on est convaincu de la nécessité de telles recherches au long de nos préoccupations sur la problématique abordée, on est justement dans la phase initiale, d'ailleurs on se propose d'en revenir avec un nouveau compte-rendu, l'année prochaine.

Finalement, au cadre de l'étude de la problématique de l'éducation religieuse dans notre école on impose la réponse à plusieurs questions, pas du tout commodes, concernant ses aspects principaux.

On essaie de répondre à une partie de ces questions, aux plus importantes.

La question qui se pose le plus fréquemment pendant les dernières années est la suivante: si l'éducation religieuse à l'école est utile ou inutile, si elle est nécessaire ou contre-indiquée ou indifférente; est-elle acceptée ou contre-indiquée?

Si l'on envisage ce problème historiquement, on constate que la tradition de l'école roumaine, (d'ailleurs comme dans d'autres pays chrétiens), apporte un argument à la faveur de la présence de l'éducation religieuse dans l'école. L'école roumanine s'est constituée et elle a duré comme institution longtemps (même des siècles) dans et à côté des institutions ecclésiastiques, le contenu de l'enseignement et de l'éducation étant, aussi, longtemps prépondérant religieux. Même si, avec le temps le contenu de l'enseignement religieux a été diminué en faveur de celui humaniste, réaliste, professionnel etc., la religion s'est maintenue comme objet d'étude à l'école jusqu'à la réforme de l'enseignement de 1948, occupant même longtemps, la première place dans les plans d'enseignement.

L'argument historique vient donc à appuyer la présence de l'éducation religieuse dans notre école. Cet argument ne suffit pas, mais il n'est pas l'unique. En cherchant la réponse à la question antérieure, on a constaté que, en fait, le problème de la présence de l'éducation religieuse dans l'école n'est pas exprimé en termes d'utilité, nécessité, opportunité ou le contraire de celles-ci et que la présence de l'éducation religieuse dans l'école est inaliénable, étant même une obligation.

L'argument de cette constatation est très évident. La conscience religieuse est une forme de la conscience sociale, à côté des autres formes de celle-ci (morale, juridique, philosophique, artistique, scientifique, politique) que même les plus représentatives études sur la philosophie matérialiste et sur l'idéologie communiste ne l'ont pas pu nier ou ignorer. De plus, même ces études soulignent que, en fait , la conscience religieuse est l'une des plus anciennes formes de la conscience sociale et l'une des plus résistantes aux attaques qu'elle a subies pendant les deux ou trois derniers siècles. D'ailleurs, l'échec final de l'éducation athéiste et de la propagande antireligieuse des quatre dernières décennies de leur action s'explique justement par le fait que, d'une manière artificielle on ne pouvait pas écarter de l'esprit de l'homme une forme de sa conscience sociale.

La religion ne pouvait pas être remplacée par une philosophie ou par une idéologie que si les deux constituaient une nouvelle religion qui aurait pu être plus indiquée aux nécessités spirituelles de l'homme que la précédente. Mais, c'est toujours une religion! On aurait établi seulement le contenu et non pas la forme de la conscience religieuse. L'homme a donc, par son esprit, un côté religieux.

Il faut mentioner qu'aucune des formes de la conscience sociale qui ont été constituées au long de l'évolution de l'homme n'a disparu et qu'on ne saisit pas de signes de disparition de l'une ou de l'autre. De plus, la conscience sociale, dans toutes ces formes est toujours présente et indispensable pour la formation de la conscience individuelle.

L'école a le but de former et de développer la conscience des élèves et de les préparer pour la réflexion et l'intégration dans la conscience sociale. Or, ce processus ne peut pas se réaliser par la troncation de la conscience sociale sans arriver à la troncation de la conscience individuelle de l'élève et de l'harmonie du développement de sa personnalité car les formes de la conscience sociale ne se manifestent pas séparément mais par l'interprétation, ce qui détermine l'influence de certaines sur la formation et la manifestation des autres.

On constate que pendant les dernières années on pose fréquemment la question douteuse si l'éducation religieuse contribue réellement à l'éducation morale?

Il faut souligner que la manière de poser cette question reflète un niveau culturel réduit de religion chrétienne et certains effets de la répétition, aurant quatre décennies de certaines formules dans lesquelles la morale chrétienne était considérée vraiment retrograde, inhumaine, vieillie etc.

N'oublions pas que six de dix commandements qui établissent les cadres et le fond de la conduite chrétienne tient du côté de la morale et que la religion chrétienne est une religion morale et, par la suite, éducative.

Dans une étroite liaison avec la problématique discutée plus haut une autre question fondamentale, apparaît ça veut dire: *Quel est le but de l'éducation religieuse dans l'école*?

Si on va chercher la réponse à cette question parmi les auteurs qui ont fait des références dans ses écrits au problème du but de l'éducation religieuse, les représentants de l'église et les pédagogues, on trouve deux formulations auxquelles on offre la même signification: la formation d'un bon chrétien ou la formation de l'homme croyant. Sûrement que la question suivante peut apparaître: si être un bon croyant c'est suffisant pour se conduire comme un chrétien? Pour les auteurs représetants de l'église, ce problème signifie implicitement se conduire *comme les chrétiens*. En sachant qu'entre la conscience et la conduite peuvent exister de grandes différences, de notre point de vue la question d'avant reste valable. On croit que la formulation "bon chrétien" que G.G. Antonescu préfère, est la plus adéquate, en appelant signifiant l'unité entre la conscience religieuse et la conduite religieuse.

Mais cette affirmation ne résout pas entièrement le problème, car on peut formuler (on ne sait pas si forcement ou pas) la réserve ou la contestation que l'école n'a pas le but de faire d'une manière forcée, de chaque élève d'aujourd'hui un adulte bon chrétien de demain, car celui-ci (l'adulte) doit avoir la liberté d'être chrétien, libre pensant ou même athée.

A une telle position on peut repondre corectement par ce que Vasile Băncilă a dit "L'homme religieux ne peut se former que s'il bénéficie de l'éducation religieuse à partir de l'enfance. Mais si à la maturité, l'un ou l'autre n'est pas attiré, intéressé ou satisfait par la croyance chrétienne, il est libre d'y renoncer; s'il veut devenir libre pensant ou athée il est aussi libre de le faire.

Maintenant c'est bien connu et reconnu le fait que l'éducation athéiste pratiquée dans une école *idéologisée* et politisée pendant quatre décennies a eu de nombreux effets négatifs parmi lesqueles celui de la stimulation de la conduite duplicitée (à l'école les enfants apprenaient et disaient que Dieu n'existait pas etc et à la maison ils été éduqués dans la tradition religieuse) avec des conséquences négatives dans la formation et l'harmonisation de la personnalité.

En partant de cette expérience négative une question assez sérieuse peut apparaître: si *la présence de l'éducation religieuse n'emmène pas, d'une certaine manière l'élève à des états conflictuaux par la confrontation entre ce qu'ils ont étudié à la religion avec ce qu'ils apprennent, par exemple, en sciences naturelles (biologie)?*

De cette question se préoccupe l'église aussi et le fait même dans un plus large cadre; ça veut dire du rapport existant entre la religion chrétienne et la science contemporaine. Dans ce sens la réponse se contoure au fur et à mesure. En tout cas, l'église est intéressée (et il paraît que dans une grande mesure le culte catholique et protestant et moins l'ortodoxisme) de se mettre en accord avec les progrès de la science.

On considère que dans ce problème est utile de prendre en considération et d'utiliser les dits de Mircea Eliade sur la connaissance humaine; c'est-à-dire que celle-ci a enregistré trois modalités (ou a parcouru trois stades) de réflexion de la réalité: mythique, mystique (religieuse) et scientifiques, et que, en plus, celles-ci coexistent aujourd'hui. (C'est, peut-être, suffisante l'exemplification que les gens d'aujourd'hui ressentent le besoin des mythes, exprimé par la mythification de grands sportifs, acteurs, chanteurs etc. Donc le problème est de réussir leur faire comprendre et accepter qu'un seul et même objet de la connaissance peut être réfléte en même temps de façons différentes - scientifique, mystique (religieux) et même mythique.

Une autre question porte sur *celui qui est appelé à faire l'éducation religieuse dans l'école*?

Traditionnellement, l'éducation religieuse dans l'école roumaine était confiée aux curés. Le dernier temps , après l'introduction de la religion dans l'école, les facultés de théologie nouveau-créées ou réorganisées comprennent des sections appelées de didactique dans lesquelles se préparent des professeurs de religion dans l'idée que la religion soit enseignée par les diplômés de ces sections. Dans certaines écoles ils sont apparus comme diplômés mais aussi comme étudiants.

La réalité c'est que dans la période entre les 2 guerres mondiales, les pédagogues avaient une attitude critique envers la prestation des curés dans l'école en leur reprochant, comme G.G. Antonescu l'a fait, l'efficacité diminuée dans l'éducation religieuse de la jeunesse écolière. De telles critiques se rencontrent même aujourd'hui envers ceux qui enseignent maintenant la religion dans l'école.

Les causes de l'inéfficacité mentionée trouvées par G.G.Antonescu, portant sur la situation de plus haut, sont multiples, entre elles en incluant une méthodique et une autre de conception. Ainsi il constate que ceux qui enseignent la religion n'avaient pas (maîtrisaient) une méthodique adéquate et que, d'une autre façon, la religion était traitée comme un objet d'enseignement et pendant ce temps G.G. Antonescu propose que la religion soit vue comme un principe d'éducation. En plus, le même auteur démontre expérimentalement que l'éducation dans l'esprit chrétien peut se faire plus efficacement si elle ne se heurte pas de la transmission la reproduction de quelques connaisances religieuses.

Il y a encore d'autres arguments qui soutiennent la présence du curé aux classes de religion, comme par exemple, celui par lequel le prêtre peut arriver à une révélation plus profonde avec l'élève par le fait qu'il puisse être son confesseur et la confession est traitée par Simion Reli comme une méthode d'éducation religieuse et non pas seulement comme une pratique religieuse.

Mais on peut affirmer que n'importe qui fera l'éducation religieuse dans l'école - le prêtre ou le professeur de religion - le problème fondamental de ce point de vue est que celui-ci doit doubler sa culture religieuse par une bonne préparation pédagogique (méthodique) et psychologique.

Mais même si on avait à ce moment de cadres (prêtre et/ou professeurs de religion) avec d'une bonne préparation pédagogique, l'efficacité de l'éducation religieuse d'aujourd'hui ne serait pas significative car ceux-ci se confrontent avec le *manque des principaux instruments nécessaires* à leur activité: le programme de l'objet de la religion et de l'éducation religieuse conçu adéquemment par des périodes d'âge et de niveaux de classe, les manuels de religion (qui existent seulement pour l'école primaire), les matériels didactiques adéquats. Dans ces conditions l'éducation religieuse se déroule aujourd'hui dans des conditions précaires et sous le niveau de celle déroulée il y a un demi siècle ou même plus.

A ces mots on ajoute la reconnaissance de certaines réalités spécifiques de la situation actuelle de chez nous: quelle est l'attitude des parents et de la jeunesse écolière vers la religion, l'église et l'éducation religieuse; à quel niveau se manifeste maintenant le phénomène religieux chez nous; quelle est l'attitude des cadres didactiques vers la présence de l'éducation religieuse dans l'école; les prévisions de la loi actuelle de l'enseignement sont insuffisantes envers la nécessité de l'éducation religieuse, on rappelle que cette loi prévoit la religion comme obligatoire dans l'école primaire, optionnelle dans le collège et facultative dans le lycée (or les lycées ne se sont même pas proposé d'offrir l'opportunité pour le déroulement du cours facultatif de religion; que devrait être le statut de l'éducation religieuse dans l'enseignement préécolier (la maternelle etc.)

Ce sont des aspects et des problèmes pour lesquels, comme on a montré dans la première partie de cet article on a besoin de recherches plus rigoureuses et plus aproffondies.

On ajoute que, à part celles-ci, s'impose aussi la clarification de certains problèmes parmi lesquels: les principes de l'éducation religieuse; le rapport optimum entre l'éducation religieuse de l'école et celle de la famille et de l'église; le raport entre l'enseignement de la religion et d'autres formes de réalisation de l'éducation religieuse et l'éducation morale; la méthodique de la religion etc; des problèmes qui attendent leur recherche et leur résolution.

BIBLIOGRAPHIE

1. Antonescu, G.G., *Din problemele pedagogiei moderne,* Ediția a II-a, Editura Cartea Românească, Bucureşti, 1934, Cap.II.3. *Religia creştină ca principiu educativ*, p. 168-184.
2. Băncilă, Vasile, *Cine va preda religia în cursul primar?*, în *Revista generală a învățământului*, Anul XIII, 1925, nr.2, p.103-108, nr.3, p. 148-146.
3. Băncilă, Vasile, *Inițierea religioasă a copilului*, Editura Anastasia, 1996.
4. Blaga, Lucian, *Învățământul religios*, în *Cuvântul*, Anul II, 1925 nr. 154, p.1-2.
5. Bologa, Lucian, *Psihologia vieții religioase*, Editura Cartea Românească Cluj, 1930.
6. Bulacu, M., *Pedagogia creştină ortodoxă*, Tip. Seminarului Monahal Cernica-Ilfov, Buc., 1935.
7. Chircev, Anatole, *Psihologia atitudinilor sociale cu privire specială la români*, Editura Inst. de Psih. al Univ. din Cluj la Sibiu, 1941, Cap. IV *Studiul diferențiat al atitudinilor sociale*, p. 121-166.
8. Kelle, V; Kovalson, M., *Formele conştiinței sociale*, Editura Ştiințifică, (Buc.), 1961, p.35-38, 141-166.
9. Le Bon, Gustave, *Psihologia maselor*, Editura Ştiințifică, Buc., 1991, p.47-51.
10. Mărgineanu, E., *Atitudinea față de biserică* în *Revista de psihologie*, 1938, Nr.1, p.10-22.
11. *** *Mic dicționar de filosofie*, Ediția a II-a, Editura politică, Buc., 1973, p.103, 480-482.
12. Popescu, Teodor M., *Din cerințele învățământului religios*, în rev. *Biserica Ortodoxă Română*, Anul LII, 1934.
13. *** *Psihologia religiei*, Editura Ştiințifică şi enciclopedică, Buc., 1976.
14. Reli, S., *Însemnătatea pedagogică a Sf. Taine a Mărturisirii*, în *Revista de pedagogie*, Anul IX, 1939, Caiet I-II, p.151-167.
15. Reli, Simion, *Rolul învățământului laic în educația moral-religioasă a tinerimii*, în *Revista de pedagogie*, Anul VI, 1936, Caiet I, p.67-91.

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LES CARACTÉRISTIQUES D'UNE MÉTHODOLOGIE DE L'ÉDUCATION INTÉGRÉE

VASILE PREDA

ABSTRACT. Characteristics of a Methodology for Special Educational Needs. The first part of this study is a synthesis of contemporary ideas concerning the philosophy of normalization, the levels and types of the integration of persons with special needs. The second part is the presentation of results of survey done using a questionnaire about the integrational problem in our country. The final part summarizes the main qualities of an efficient methodology in integrated education. The accent falls on the evaluation criteria of the individualized educational programmes deviced for children with special needs.

1. *La normalisation et les niveaux d'intégration*

Toute l'histoire de l'éducation des enfants handicapés se résume en une tendance constante qui peut être qualifiée «d'inclusion progressive» (C.M. Reynolds, W.J. Birch, 1982). Cette évolution vers une éducation intégrée ne représente en aucun cas une négation des efforts entrepris en matière d'éducation spéciale par les praticiens ; elle en constitue plutôt l'aboutissement. Dans d'autres mots, il y a continuité, évolution naturelle et logique inéluctable dans l'éducation intégrée des enfants avec des besoins spéciaux. Le courant de la *normalisation* et celui de l'*intégration* sont en fait à la base d'une nouvelle idéologie. L'idéologie du «changement de la condition d'inadaptation» prescrit une nouvelle organisation des écoles et des services éducatifs, à même de favoriser l'interaction maximale des enfants handicapés avec les enfants et les individus «normaux», afin de promouvoir des comportements sociaux adaptés.

Le principe de normalisation suppose des services, une formation et un soutien nécessaires pour créer des conditions de vie similaires à celles offertes aux autres individus. «Il y a des degrés de normalisation et le principe implique qu'on doit assurer une gamme de structures de soutien, en fonction des besoins et des capacités des individus» (S. Ionescu, 1987, p. 73).

Le courant de l'intégration est fondé sur le principe selon lequel les personnes handicapées se développent mieux ou s'épanouissent davantage en interaction avec des individus «normaux». Il est nécessaire de considérer *l'intégration* comme un processus, plutôt que comme un fait ponctuel (M. Sack, 1992, p. 16) et, également, de considerér les différentes formes que celle-ci peut prendre. Ainsi, M. Söder (1981, p. 20-22) distingue:

a) *L'intégration physique*, qui implique «la réduction de la distance physique» entre les personnes déficientes et les autres. Il s'agit, donc, d'une simple cohabitation, condition première pour qu'une *intégration fonctionnelle* puisse être réalisée.

b) *L'intégration fonctionnelle*, qui implique «la réduction de la distance fonctionnelle» entre les membres des deux groupes - personnes handicapées et personnes valides - et suppose que l'utilisation des ressources et du matériel offerts par le milieu soit possible pour tous.

c) *L'intégration sociale*, qui implique l'idée d'instaurer des relations sociales au sein desquelles la personne handicapée bénéficie d'échanges significatifs, de la solidarité sociale et des sentiments d'appartenance à un groupe. L'intégration sociale suppose que les deux niveaux aient été réalisés. Elle implique, aussi, que la différence prenne une valeur intrinsèque et que le modèle de la personne valide cesse d'être la référence obligée pour tous.

d) *L'intégration sociétale*, qui concerne les adultes, implique que l'individu prenne place dans une communauté sociale et qu'il puisse y exercer un rôle productif, voire créatif.

L'intégration sociale et *l'intégration sociétale supposent la mise en oeuvre du* principe de valorisation des rôles sociaux (W. Wolfensberger, 1984). Cette nouvelle reformulation du principe de normalisation met l'accent sur les rôles sociaux que la personne handicapée peut s'attribuer et se voir attribuer par des «milieux socio-culturels reconnus».

Selon N. Montreuil (1987), ces différents degrés des formes d'intégration peuvent caractériser également les modalités de *l'intégration scolaire* des enfants avec des besoins spéciaux. Ainsi, l'*intégration* d'un enfant dans une classe ordinaire peut être caractérisée comme:

a) *physique* - l'enfant intégré côtoie des enfants «normaux»;

b) *fonctionnelle et d'apprentissage* - l'enfant handicapé intégré et les autres enfants de la classe vivent ensemble les mêmes activités scolaires;

c) *sociale* - l'enfant intégré partage avec les autres enfants de la classe des activités tels les jeux, les repas, la récréation, les fêtes etc.

Donc, quand on parle *intégration*, plusieurs questions doivent être posées: s'agit-il d'une intégration scolaire physique et/ou sociale et/ou fonctionnelle? (M. Söder, N. Montreuil), partielle ou totale? épisodique ou permanente? (J. Simon, 1988; M. Sack, 1992).

Un modèle plus complexe et plus flexible d'organisation de *l'éducation spéciale* est apparu au Canada, au Québec, en 1976 (*Rapport COPEX* - Ministère de l'Éducation), où la *normalisation* est vue dans une perspective dynamique et selon «un système en cascade» (Tableau I). Il s'agit de la répartition des différents types de placement selon un «continuum» (G. Magerotte, 1985, p. 67), désigné par le terme de «modèle en cascade». Ce modèle se réfère à un système d'organisation comportant une diversité de mesures graduelles, le choix de l'une ou de l'autre s'opérant en fonction des besoins de l'enfant en difficulté. Le principe est de «ne pas aller plus loin que nécessaire dans la direction du niveau **8**, et de revenir dans la direction **1** le plus rapidement possible» (*Rapport COPEX*, 1976, vol. 2, p. 584).

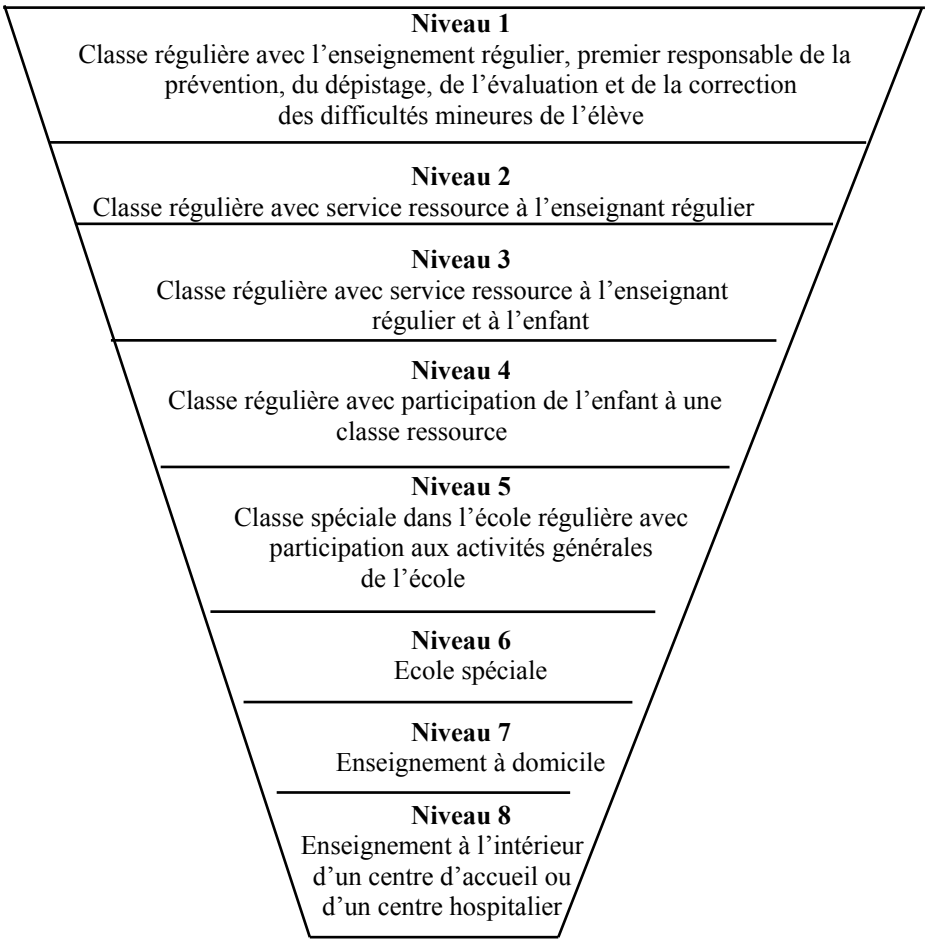

Tableau 1: Le système en cascade. Modèle intégré des mesures spéciales d'enseignement de Gearheart (cité in *COPEX*, 1976, vol. 2, p. 595) - apud M. Sack, 1992, p. 35 -

Selon ce «modèle en cascade» d'organisation des mesures spéciales d'éducation, l'enfant en difficulté devra être scolarisé, dans la mesure du possible, dans le milieu le plus normal. Le modèle inclut huit niveaux à partir des lieux de scolarisation et d'éducation les «plus restrictifs» - par rapport à la normalisation - et s'élèvent jusqu'aux milieux les plus normalisants, représentés au sommet par la classe régulière.

Cette tendance en faveur de l'intégration est relativement difficile à mettre en oeuvre dans les pays où l'enseignement s'est divisé en deux systèmes éducatifs cloisonnés l'un par rapport à l'autre: enseignement ordinaire et enseignement spécial. Or actuellement, la problématique de l'intégration des enfants en difficulté dans les classes régulières suscite un intérêt croissant aussi bien auprès des chercheurs que des éducateurs. Ces derniers se préoccupent de plus en plus d'évaluer les différents modèles de scolarisation mis à la disposition des enfants avec des besoins spéciaux. Ces modèles varient, entre autres, en fonction des difficultés des enfants, mais aussi en fonction *des attitudes adoptées envers l'intégration*.

En 1995 nous avons utilisé un *questionnaire d'opinion* concernant l'application de la conception intégrationniste dans la scolarisation des enfants avec des besoins spéciaux. Il s'agit d'une enquête par questionnaire sur un échantillon de 180 enseignants, qui a été réalisée dans les écoles ordinaires de Cluj-Napoca. Ce questionnaire comprenait des variables regroupées en cinq catégories: a) l'opinion générale sur la possibilité d'intégration des enfants avec des besoins spéciaux dans les écoles et dans les classes ordinaires; b) des variables qui concernent la nature, la typologie et la gravité du handicap; c) les conditions psycho-pédagogiques d'intégration; d) les conditions de nature économique et d'administration; e) les variables qui concernent des attitudes adoptées par la famille face à l'intégration des enfants handicapés dans les écoles ordinaires.

L'intégration des enfants en difficulté dans les écoles ordinaires est considérée comme souhaitable, du moins à certains moments et dans certaines conditions pédagogiques, par la majorité des enseignants (91,2%). Certains enseignants envisagent encore cette situation avec appréhension et pensent que pour les enfants gravement handicapés l'intégration ne saurait être qu'éphémère. Alors que la plupart des enseignants (84,4%) ont compris que l'intégration est dans l'intérêt de l'enfant avec des besoins spéciaux, ils sont un peu inquiets quant à ce que l'on peut attendre d'eux, de leur façon d'enseigner à ces enfants en difficulté. Plusieurs enseignants (98%) demeurent sceptiques quant à la capacité des programmes actuels des classes ordinaires à satisfaire les besoins spéciaux de certains enfants. L'enseignant serait donc tenu à explorer la dimension orthopédagogique, c'est-à-dire individualisée, de son travail. L'établissement d'un programme individualisé implique que soit prises, pour chaque enfant, de manière individuelle, des décisions visant les objectifs à atteindre, les méthodes d'enseignement et le matériel à employer, le mode et le type de réponse attendue de la part de l'enfant avec des besoins spéciaux et enfin les renforcements disponibles et/ou utilisées.

Les enseignants des écoles «normales» sont très divisés et fournissent des réponses fort ambigues face à la proposition qui leur est faite d'intégrer dans leurs classes des handicapés mentaux graves et des enfants avec des troubles de comportement. Les enseignants sont favorables à l'intégration des handicapés physiques (91,5%). Ils (58,5%) déclarent également que l'intégration n'aide pas seulement les enfants avec des besoins spéciaux mais qu'elle a également un impact positif sur l'éducation en général.

2. *Qualités d'une méthodologie de l'éducation intégrée*

Une méthodologie de l'éducation intégrée devrait être articulée autour de *trois perspectives majeures* (G. Magerotte, 1992, pp. 17-28):

1) *L'enseignant doit reconnaître la dimension orthopédagogique et «clinique» de son travail*. L'enseignant devient «le gestionnaire» de l'apprentissage et de l'éducation des élèves. *L'accent est mis sur*:

a) *des programmes éducatifs individualisés (P.E.I.)* avec objectifs individualisés, méthodes d'évaluation et échéances précises, ainsi que des programmes d'apprentissage pour chacun des objectifs retenus;

b) *l'organisation des horaires de chaque élève*, facilitant la participation maximale de chacun, en fonction de ses potentialités et de ses caractéristiques personnelles;

c) *l'organisation des horaires/activités du professeur et de ses collaborateurs*, en fonction des tâches requises par l'horaire des élèves; l'utilisation des autres élèves comme *tuteurs* - dans un double bénéfice, celui des élèves ayant un handicap et celui des élèves tuteurs;

d) *l'organisation de l'environnement physique et social*, permettant le déroulement harmonieux des apprentissages des divers élèves, par groupe ou individuelement (apprentissage, maintien et généralisation des connaissances et des habiletés).

2) *Les curricula* intégreront des objectifs également importants pour les élèves ayant un handicap et pour les autres: apprendre à travailler indépendamment; apprendre les relations sociales et les interactions avec autrui, ce qui est différent: apprendre à gérer les transitions entre les différents niveaux, les milieux. D'une manière générale, les *curricula* seront davantage fonctionnels et centrés sur l'acquisition des stratégies ou de compétences générales.

L'intégration exige, donc, de la part des enseignants des classes régulières une plus grande responsabilité face aux enfants qui ne réussissent pas. D. Little (1987, pp. 17-37) dénonce l'organisation des écoles, des classes, des programmes qui n'envisagent que «l'élève moyen» et il donne également quelques pistes pour des solutions qui permettent d'individualiser l'enseignement. D. Little explique comment aujourd'hui nous disposons de toute une gamme de possibilités lorsque nous décidons de spécialiser, ou, pour être plus précis, d'individualiser, d'adapter le programme scolaire régulier et l'enseignement, d'organiser le temps, l'espace et le matériel, de faire varier le rythme, la durée et l'intensité de diverses tâches.

En conséquence, entreprendre une éducation efficace demande une programmation efficace. Une *programmation efficace* exige: a) que les programmes éducatifs et les soutiens soient conçus en fonction des dons et des besoins spécifiques de l'enfant, de la communauté éducative, et qu'ils soient exploités le mieux possible; b) une action et un suivi régulier de cette action par l'école et la famille; c) le suivi et l'évaluation devraient amener à corriger la direction de l'action si besoin est; d) la participation de l'entourage de l'enfant à l'action et aux décisions; e) la participation de la totalité de la communauté scolaire, et non seulement de celle d'un «maître spécialisé».

3) ***Le fonctionnement de l'équipe sera centré sur les programmes éducatifs individualisés*** **(P.E.I)**

Cette équipe sera intégrée dans un réseau de services spécifiques et ouverts à tous visant: a) la participation des parents aux diverses étapes du processus éducatif; b) l'intégration de la démarche éducative et des actions des travailleurs médicaux et para-médicaux dans le cadre des objectifs du P.E.I.; c) l'utilisation des ressources externes, si nécessaire, en fonction du P.E.I.

3.1. Critères de qualité des programmes éducatifs individualisés

L'établissement d'un programme individualisé implique, comme nous l'avons précédemment affirmé, que soient prises pour chaque enfant, de manière individuelle, des décisions quant aux objectifs à atteindre, aux méthodes d'enseignement et au matériel à employer, au mode et au type de réponse attendue de la part de l'élève et enfin aux moyens disponibles/utilisé, pour étayer ce programme (N. Montreuil, 1991, p. 41).

Les différentes composantes d'un programme éducatif individualisé (P.E.I.) peuvent être représentées selon le schéma suivant (M. Sack, 1992, p. 40):

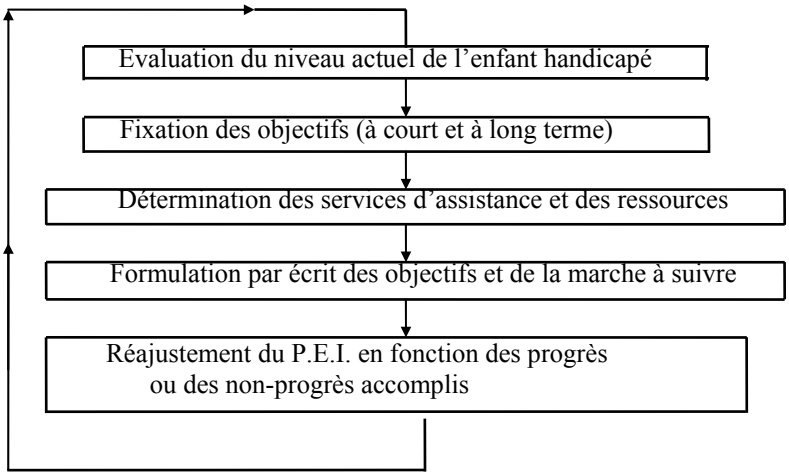

Tableau 2: Les différentes composantes d'un programme éducatif individualisé dans le cadre de l'intégration scolaire.

L'établissement et le développement des P.E.I. implique forcément une grande souplesse - en fonction du profil individuel de l'enfant - dans la matière (ce qui sera enseigné) et dans la manière d'application de cette démarche orthopédagogique (comment elle sera enseignée).

Selon un certain nombre d'auteurs (P. Hunt, L. Goetz, J. Anderson, 1986) les objectifs retenus dans les P.E.I. devraient répondre à des *critères de qualité*: a) l'objectif doit correspondre à l'âge chronologique et mental de l'enfant; b) l'objectif doit être fonctionnel; c) l'objectif doit être généralisé dans plusieurs environnements.

Le programme éducatif individualisé peut fort bien s'insérer dans les divers éléments du programme d'enseignement scolaire de la classe: dans l'horaire régulier quotidien incluant des activités de groupe et les séances individuelles de formation. L'horaire est établi en tenant compte des objectifs individuels retenus dans les P.E.I. des élèves et du temps nécessaire pour l'apprentissage des compétences dans et hors de la classe.

Les objectifs individuels retenu dans les P.E.I. répondent à un besoin identifié dans au moins *un des domaines suivants: motricité, communication, comportement, socialisation*. Pour réaliser l'activité, l'enfant handicapé doit participer/collaborer avec un pair non-handicapé (*activité interactive*, *tutorat*). Le comportement doit être enseigné en envisageant plusieurs situations et en utilisant du matériel différent, y compris dans les conditions naturelles, c'est-à-dire dans les conditions où il devrait réellement se produire.

Le professeur orthopédagogue, qui est un *professeur des méthodes et ressources*, apportera une aide directe au professeur de la classe régulière dans la planification et la mise en oeuvre des programmes individuels pour les élèves qui présentent des besoins spéciaux.

Les responsabilités du professeur orthopédagogue concernent: a) le développement des programmes; b) la liaison et la collaboration avec l'école, le personnel du district, les parents et les services extérieurs; c) l'évaluation (G. Porter, 1991). Aussi, ses tâches supposent-elles les activités suivantes:

a) *Développement des programmes*

- Rassembler les informations quant au niveau scolaire et comportemental de l'élève et déterminer dans quelle mesure un examen psychopédagogique complémentaire est nécessaire;
- Administrer et interpréter les résultats à des tests scolaires afin de déterminer le programme scolaire de l'élève;
- Aider les professeurs à adapter les programmes et les procédures de manière à rallier les besoins des élèves qui présentent des besoins spéciaux;
- Aider les enseignants à inclure les recommandations issues de l'évaluation dans les P.E.I. ou dans les programmes adaptés.

b) *Liaison et collaboration avec l'école, le personnel du district, les parents et les services extérieurs*

- Offrir le soutien nécessaire au personnel afin de l'aider à aller à la rencontre des besoins des élèves;
- Développer et évaluer les programmes individuels;
- Organiser des équipes de «résolution de problèmes» pour aborder et trouver des solutions aux situations difficiles;

• Obtenir des informations concernant les stratégies à utiliser lorsqu'on travaille avec des élèves ayant des besoins particuliers et difficiles à atteindre.

• Sélectionner et former des tuteurs. On a identifié différents critères de sélection des enfants-tuteurs: capacité de suivre les instructions ou demandes du professeur de la classe; présence régulière; absence d'interactions sociales négatives avec l'enfant-cible; volonté exprimée de participer au tutorat;

• Coordonner les rencontres et le transfert des informations concernant les élèves au moment des transitions (par exemple, d'année en année ou d'école à l'école);

• Demander l'aide des spécialistes lorsque nécessaire.

c) *L'évaluation*

• Contrôler la coordination du personnel impliqué dans les cas individuels;

• Contrôler les horaires des élèves et les procédures utilisées pour identifier «les enfants à risque» et pour répondre à leurs besoins;

• Evaluer l'efficacité des programmes individuels et évaluer l'éducation intégrée des enfants qui présentent des besoins spéciaux.

Par *l'éducation intégrée* les écoles assument la responsabilité de promouvoir et de soutenir les relations positives entre les membres des communautés scolaires; elles font valoir les acquis positifs concernant la communauté en géneral, de même qu'elles proposent une réponse adéquate aux besoins spécifiques des enfants. Elles deviennent ainsi les hauts lieux d'une harmonisation sociale garantissant les chances des enfants handicapés d'accéder à la «normalité».

BIBLIOGRAPHIE

1. *** *COPEX. L'éducation de l'enfance en difficulté d'adaptation et d'apprentissage au Québec. Rapport du Comité provincial de l'enfance inadaptée*, Ministère de l'Éducation, vol. 1 et 2, Québec, 1976, p. 693 (cité in M. Sack, *École ordinaire et Handicap*, Recherche pédagogique en action, Centre bruxellois de recherche et de documentation pédagogiques, Bruxelles, 1992.
2. Hunt, P., Goetz, L., Anderson, J., *The Quality of IEP objectives associated with placement on integrated versus segregated school sites*, *Journal of the Association for Severely Handicapped*, vol. 11, nr. 2, pp. 125-130.
3. Ionescu, S., *L'intervention en déficience mentale*, vol. 1, Mardaga, Bruxelles, 1987.
4. Little, D.M., *Un crime contre l'enfance - l'uniformité des programmes scolaires et de leur enseignement ou un nouveau regard sur l'intégration à la majorité*, in *Éducation Intégration. Une collection d'écrits sur l'intégration dans le système scolaire actuel, des enfants qui ont un handicap intellectuel*, Institut G. Allan Roeher, Downsview, 1987, pp. 17-36.
5. Magerotte, G., *L'intégration scolaire des handicapés mentaux* in *Travaux et documents d'orthopédagogie, Document 318*, Département d'orthopédagogie, Université d'État de Mons, 1985.

6. Magerotte, G., *L'éducation intégrée des enfants et des adolescents présentant un handicap mental. Condition d'une (r)évolution tranquille* in A. Roig et all., *La personne handicapée mentale et la société: quels moyens pour favoriser son intégration?*, Association suisse d'aide aux handicapés mentaux, Berne, 1992, pp. 17-28.
7. Montreuil, N., *Pour une intégration active. Séminaire destiné aux instituteurs intégrant un enfant handicapé mental dans leur classe maternelle ordinaire*, A.P.E.M., Verviers, 1987.
8. Montreuil, N., *L'éducation intégrée des élèves présentant un handicap mental*, *Handicap-Info, Bulletin d'Information scientifique en orthopédagogie*, vol. 6, nr. 4, supplément, 1991.
9. Porter, G., *The Methods and Resource Teacher: A Collaborative Consultant Model* in G. Porter, D. Richler, *Changing Canadian Schools. Perspective on Disability and Inclusion*, The Roeher Institute, North York, 1991, pp. 107-154.
10. *** *Retard Mental. Définition, classification et systèmes de soutien*, 9e édition, AAMR, Edisem, Maloine, 1994.
11. Reynolds, M.C., Birch, J.W., *Teaching Exceptional Children in all America's Schools*, The Council for Exceptional Children, Reston, Virginia, 1982.
12. Sack, M., *École ordinaire et Handicap*, Recherche pédagogique en action, Centre bruxellois de recherche et documentation pédagogiques, Commission Communautaire Française, Bruxelles, 1992.
13. Simon, J., *L'intégration scolaire des enfants handicapés*, P.U.F., Vendôme, 1988.
14. Söder, M., *Notre tâche consiste à amener les handicapés au sein de la communauté dont ils ont été exclus*, *Le courrier de l'UNESCO*, Juin 1981, pp. 20-22.
15. Wolfensberger, W., *La valorisation du rôle social: une nouvelle «conceptualisation» de la normalisation* in *Déficience mentale*, vol. 34, no. 2, 1984, pp. 26-30.

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TEACHER TRAINING IN EUROPE[1]

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ABSTRACT. The main idea of this presentation is to focus some of the key issues of teacher education. It is an open question how should the problems of teacher training be faced understood and resolved; it is also likely that each educational system or country has to make its own choice according to what is best known and practised in this domain.

1. Teacher Training: the enterprise

In the last decade most countries, not only those in Europe, have engaged in educational reform. Wherever this has taken place the reform of teacher education and training has been one of the key issues. Reasons for focusing on teacher training are not difficult to discover. Teacher training is a large enterprise. Throughout Europe more than half a million student teachers are to be found in up to a thousand institutions. Their training involves over fifty thousand teacher trainers (ATEE 1989). It is estimated that in-service training for teachers who have already received their initial certificate involves over five million individuals each year. In the 1960s and 1970s there tended to be a rapid turn around within the profession with a high degree of drop-out, particularly of women. This is no longer so and a profession is now an ageing one. In the 1990s most teachers are over forty years old.

One of the problems confronting reformers is that there is much diversity across Europe. In different countries different institutions are charged with the initial training of teachers. This includes secondary schools, colleges of initial teacher education, institutes of higher vocational education and universities. There are different degrees of co-ordination between the practical work which is normally done in schools and the theoretical study of education which normally takes place in an institution of higher education. The length of courses also varies, some taking up to five years while in some cases one year is provided (for vocational training courses). The amount of course given over to practising teaching can vary from zero to over fifty per cent. However, most European countries now have a minimum of three years training for primary and four years for secondary. Some countries separate certification into two phases so that a new teacher must first pass the theoretical part of the course before later on gaining the practical qualification. In other countries, however, no qualification is given unless the student passes the practical work in schools.

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[1] *We wish to express here our deep gratitude to Mr. John Fox from the International Bureau of Education, Geneva, for granting us the copyright free of charge for this article.*

Thus, would-be reformers in different countries across Europe find there is little consensus and because of this diversity the pattern of reform tends to see some countries moving in the direction which other countries are tending to move away from.

2. Teacher Training: an inefficient system

Despite these difficulties, however; the search for a solution to the problems of teacher training continues. There are a number of reasons for this. The period of the 1980s was characterised by a number of trends across the whole of Europe, not least among members of the CDCC, concerning the reform of teacher training. That decade, because of the extensive economic, political, demographic and cultural changes taking place, demanded reform of the school system. Increasingly, in the 1990s, evidence form such innovations has demonstrated that instead of changing teaching methods in ways which were congruent with the objectives of the new programmes, teachers have tended to "bold on" new content and procedures to their existing practice. Another reason why teacher training has increasingly become the focus of European government concerns the spiralling costs of education: the result of increasing pressures from a well-educated, intelligent public for high quality education for their children. In these circumstances, teachers as the most expensive resource within the education system have been required to become more accountable for what they do and for the results they achieve with pupils.

This attempt to create a more effective, flexible teaching workforce, however, has had to face, what on the surface, appears a major weakness in the existing systems of training teachers. Research reveals that the novice teachers tend to model themselves on their school mentor with whom they gain their first school experiences. At the same time, these more experienced mentors tend to operate in a conservative manner when asked to change their own practice in response to school reform. Each new generation of entrants to the profession is, therefore, inducted into this conservative mode, despite the best efforts of the tutors in the training institutions. For the past thirty years, therefore, most countries have operated a model of teacher training whereby new entrants to the profession rapidly absorb the practices of existing, more experienced colleagues, while at the same time vast sums of money are devoted through in-service training in efforts to change the practice of these more experienced teachers. Attempts to break out of this cycle of training and retraining have been at the heart of most attempted reforms of teacher education within member states of the Council of Europe.

3. Key Issues

In teh late Eighties, the Fifteenth Session Of the Standing Conference of European Ministers of Education took steps to address the above issues at its meeting in Helsinki on the theme "New challenges for teachers and their education" (CDCC, 1987). Ministers agreed that it was vitally important to attract better candidates into teaching and to help them to be more effective in meeting the needs of a changing

educational system and, in particular, to equip their pupils to respond successfully to challenges of the twenty-first century. Among the themes which the ministers recommended that the CDCC should address were:

- the procedures used in different countries for the selection of candidates for teacher training;
- the selection and professional development of trainers providing basic teacher training;
- the need to train teachers to improve their methods of coping with children of widely varying abilities and backgrounds;
- the analysis of the selection procedures and the professional development of the trainers who provide basic teacher training;
- the creation of more relevant systems of appraisal of teachers and of their teaching;
- the development of induction programmes within schools for newly qualified teachers.

In addressing these issues more fundamental questions have been raised. The chief of these concerns the government's role in the control of schooling and teacher education. Many European governments, notably that of the United Kingdom, have sought to lay down in a very clear and concise fashion both the content of the initial training curriculum and the processes by which that content should be delivered. There are changing conceptions of pedagogy, partly because of the concern about basic standards of literacy and numeracy but also because of the influence of information technology. Throughout the 1980s the position and status of girls in school and women in teacher education has also grown in importance reflecting the wider issue of women in society (Galton and Moon, 1994). Another major concern has resulted from the expansion and democratising of education in the post-compulsory years. In many countries there has been a tendency to delay specialisation and to strive for greater equality of opportunities. Another particularly important issue in many countries has been the question of the status of vocational education where, in general the standard required to gain entry into the profession has been much lower than for more academic subjects.

4. Similarities and Differences in Initial Teacher Training

Mention has already been made of the wide diversity which exists across Europe with regard to teacher training. In order to investigate this matter the Association of Teacher Education in Europe (ATEE, 1989) undertook a survey of practices within the different countries of the CDCC in order to identify the more successful practices as well as the commonalties and differences within each member state's training procedures.

This work, carried out by Professor Friderich Buchberger, is summarised in Galton and Moon (1994). Among the key findings of the survey was the wide diversity of practice, although there were some common elements:

- most countries have linked the need for improved qualifications with the notion of professionalisation of teachers;
- most systems, however, follow a static conception of initial teacher education and disregard the need for the continuous professional development of teachers following their training;
- in most countries, the emphasis given to different elements within the educational system (primary/secondary/vocational etc.) largely dictates the nature of the training programmes and determines whether the "historic European schism between primary and secondary schools and the teachers in them" is maintained (Judge, 1992).

Most courses contain a number of common course components, including studies in educational sciences, academic/subject studies, studies in subject matter methodologies and a period of teaching practice. There are major differences in the length of courses, for example, training for teachers in vocational, commercial and technical schools in many countries is often very limited compared to the concurrent models used for training teachers in primary and secondary schools, which usually last between three and five years.

There is also a wide diversity in the way in which these elements and themes are implemented. For example, primary teacher training can take place at post secondary school (Austrian Paedagogische Akademie), in colleges of education (Danish Staats Seminarium), in institutions of higher vocational education (the Netherlands), at universities (UK, Germany). Most teachers training for primary education follow a concurrent programme in which these various components are studied in parallel to each other. For teachers of subjects in secondary schools, however, the most usual route is a consecutive model in which the student studies their subject to degree level and then takes a further year of professional studies (eg. The Postgraduate Certificate of Education route in England and Wales).

Another important difference is the distinction which can be made between one phased and two phased of training. In one phased models the completion of the training provides the teacher with a qualified status and allows them to take up appointment in schools. In other countries, however, the training is only a first phase and then has to be followed with a period in schools in which a local school board or a local pedagogical institute, separate from the university, assess the competence of the prospective teachers.

Within these divergent systems, however, the balance between subject study, teaching practice and educational studies varies considerably. For example, the amount of teaching practice varies from almost zero to more than 60%.

As mentioned earlier, this wide diversity tends to result in different countries moving in different directions when engaged in reform. This can be illustrated by considering the case of recent reform in the United Kingdom and France respectively. Formerly, in the United Kingdom teacher training was very diverse. There appeared to be as many different programmes as there were institutions. Over the last fifteen years, however, first through the Council of Accreditation for Teacher Education (CATE) and now through the Teacher Training Agency (TTA) greater uniformity has been imposed. Now all primary and secondary training takes place in universities. Provision for nursery training (the rising five year olds) takes place in Further Education Colleges. At the moment no special training in required for vocational teaching although there are voluntary courses available in some universities.

At least sixty-six per cent of all primary school and secondary school teacher training must take place in the schools themselves. Training institutions are now regularly inspected and rated "good", "satisfactory" and "unsatisfactory". This rating determines the quota of students allocated to the institution. An unsatisfactory rating can lead eventually to closure. Currently courses consist of either four year Bachelor of Education (BEd) or three year Bachelor of Arts / Bachelor of Science (BA/Bsc) courses followed by a one year Post-graduate Certificate of Education (the PGCE). The award of these qualifications automatically gives Qualified Teacher Status (QTS). Recently there have been moves to institute a three year BEd course for primary teachers.

The curriculum is determined by the Teacher Training Agency. The number of hours to be offered per subject and the amount of time to be spend in schools is strictly controlled. A student teacher is only certified for QTS if they have reached a satisfactory standard on a number of specified competences. Currently, in an effort to expand the numbers of teachers and to create greater diversity, the government has also licensed a number of alternative routes. These include the licensed teachers scheme, for experienced, well qualified individuals who have had previously successful careers but who whish to train "on the job". There are also several distance learning PGCE courses and, more recently, the School-Centred iNitial Teacher Training (SCITT) scheme has been introduced. Under SCITT the whole of the training can be done in school with no reference whatsoever to a teacher training institution.

In contrast teacher training in France has replaced its equivalent of the SCITT model. Previously in France students took academic subject courses in college and were then attached to a school for training. At the end of one year’s probation these new students took an examination which then licensed them to teach. This system, therefore, has some resemblance to the recently instituted SCITT courses now being developed in the United Kingdom. However, in the late 1980s concern was increasingly expressed about the quality of this training and particularly the lack of any theoretical underpinning of the school practice. Since 1991, therefore, all primary and secondary training, including vocational secondary, takes place at an Institut Universitaire de Formation de Maîtres (IUFM). These are regional institutes and closely linked to universities. The courses last two years. In the first year the balance is made up of sixty-six per cent theoretical studies and thirty-three per cent school work. In the second year

which is only undertaken if the year one examination (concours) is passed, then this ratio is reversed and the students spend two thirds of their time in school and a third of their time at the IUFM. Students are paid on the teacher salary scale during this time. There is now an all-graduate entry or, in the case of the vocational secondary training, the equivalent vocational qualification.

In all, primary student teachers spend nineteen weeks in school during the two years. For eight of these the student must take responsibility for a whole class. The secondary course consists of three hundred and fifty hours of which one hundred and twenty hours is shared with the primary students. During the second year of the course students receive two visits from an inspector and two visits from staff at the IUFM. They receive their licence to teach after passing the examination at the end of year one.

In France, therefore, greater attention is paid to pedagogic issues whereas in the United Kingdom there has been a decrease in these theoretical studies in favour of more subject-based work and increased mentoring by teachers in schools.

5. Post Initial Training

In most European countries in-service training is separate from initial teacher education. Furthermore, the arrangements for INSET are usually determined by administrative bodies, such as school board and local authorities, rather than the schools themselves. Such a strategy conflicts with the findings of the school effectiveness movement which suggests that school-based training, based on the result of school appraisal, is more effective than sending teachers on externally organised courses (Reynolds et al., 1994).

In many European countries there is an on-going debate about the entitlement of teachers to INSET training and whether it should be voluntary or compulsory. Most INset training takes place in the teachers' spare time but there is a growing argument that each teacher should be given an entitlement to a certain amount of retraining throughout his or her career. Against this view, however, is an emerging critique of the school effectiveness which accounts for less than 20% of the variation in pupils' progress. Such variation is much less than that which often exists between teachers within the same school. This suggests that school-based models of training, by providing a programme based on the perceived school goals, may neglect the individual needs of teachers since these are likely to vary considerably within any institution (Turner, 1996). Hence the debate on the balance between school-based in-service training and courses organised to meet particular needs of teachers remains a vibrant one. In particular, the question of induction, that is the transition from student teacher to the self-directing professional, is claimed to be "the great omission in education" (Vonk in Galton and Moon, 1994).

However, in those countries where there has been a shift towards greater amounts of school-based initial training, increasing attention has focused on the role of the school mentor and this has carried over from initial training into induction. Currently, there appears to be a debate between whether the mentor should primarily be

the transmitter of practical knowledge and skills to the new teacher or, through process of action research, be seen as a partner in developing personal theories of teaching (Vonk in Galton and Moon, 1994).

Because there is so little systematic study of the effects of in-service training, there are many questions to be answered before it becomes possible to create a developmental model in which new teachers learn to teach and experienced teachers learn to teach better but these questions, identified by the Association of Teacher Education in Europe's (ATEE, 1989) survey include the selection of new teachers for both training and for their first teaching post, the selection of experienced teachers for posts of responsibility, particularly school leadership, and the necessary training programmes for headship. Even less information is available concerning the teachers trainers themselves. Little is known of the qualities used to select teacher trainers for their posts. In most countries, once a selection is made, there is very little training for the post and in many cases the appointment to a post guarantees a job for life without any requirement for further re-training.

6. Some Key Issues for the Future

The present position, therefore, is one of considerable flexibility. The main reason for the divergent approaches to the problem of improving teaching, according to Eisenhart *et al* (1991), is that there are no adequate theories of how teachers learn to teach. Without such a theoretical base it is difficult to plan a coherent programme of professional development which more teachers successively through initial training, then induction until finally they become experienced competent teachers. Recent reviews in the United States (Reynolds, 1992) have attempted to develop such models of professional development. Such approaches call seriously into question the present paradigm of the "Reflective practitioner" which is commonly used as the basis for teacher training programmes. Critics of these developmental models, however, argue that they undervalue the importance of subject expertise. Research on the links between pedagogy and subject knowledge is not well developed.

Within this debate the growing importance of new technology, both in providing closer links between teachers and pupils in different countries but also for its capacity to organise and control knowledge, has only begun to be investigated. The use of technology such as e-mail and video conferencing will undoubtedly play a part in creating more effective, coherent and efficient teacher training systems in the future.

The question of the reflective practitioner still occupies a considerable amount of the literature on teacher training. Those who argue for the model of professional development based on growth of expertise argue that novice teachers are only able to reflect at technical and practical levels but no at a critical level as assumed by some. By this it is meant thai it is not possible for such teachers to develop their own professional theories of how to teach but merely to make decisions about whether what they did during the lesson was technically correct and practically effective. Depending on one's point of view, therefore, the question of who makes the best mentor will vary. Those

who believe in the reflective practitioner theory argue that is the expert teacher that makes the best mentor because they have the flexibility and the necessary inspirational qualities to look at problems arising in the classroom in a number of different ways. However, those who reject this view argue that it is the competent teacher who largely problem solves through the use of rules (or maxims) who is most use to the student teacher because the major purpose of initial teacher training is to induct the student into basic routines. Undoubtedly, this debate will continue but if it is to be resolved then there is a need for researchers across Europe to begin to work more co-operatively together in order to carry out comparative studies of different systems. Only in this way it will be possible to arrive at some broad principles which will help future policy makers when they engage in the reform of teacher education. Such broad agreement is essential now that teacher mobility within European countries, particularly those within the European Union, has become a reality.

REFERENCES

1. Association of Teacher Education in Europe (ATEE), 1989, *The Selection and Professional Development of Trainers for Initial Teacher Training: Case Studies,* Strasbourg, CDCC (CC-TE (89) 22).
2. Council of Europe CDCC (1987), *New Challenges for Teachers and their Education*, Raport on the Standing Conference of European Ministers of Education, Helsinki, 5-7 May, 1987, Strasbourg, CDCC (MED-15-a9).
3. Eisenhart, L., Behm, L. and Romagnano, L. (1991), *Learning to Teach: Developing Expertise or Rite of Passage ?*, "Journal of Education for Teaching", (17), 1, pp. 51-71.
4. Galton, M. and Moon, B., (1994), *Handbook of Teacher Training in Europe,* London: David Fulton for the Council of Europe.
5. Judge, H. (1992), *Teacher Education,* in Clark, B. and Neave, G. (eds.), *The Encyclopaedia of Higher Education*, Oxford, Pergamon Press.
6. Reynolds, A. (1992*), What is Competent Beginning Teaching ? A Review of the Literature,* "Review of Educational Research" (62), 1, pp. 1-36..
7. Reynolds, D., Creemers, B.P.M., Nesselrodt, P.S., Schaffer, E.C., Stringfield, S., Teddlie, C. (1994), *Advances in School Effectiveness Research and Practice*, Oxford, Pergamon Press.
8. Turner, J. (1996), *The State and the School: An International Perspective*, London, Falmer Press.

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ACADEMIC SELF-ESTEEM AND ANXIETY IN CHILD-PARENT RELATION

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ABSTRACT. This study examined the causal relationships between the level of self-esteem and the level of anxiety of the pupils in their own and their parents' view. Data were collected from two cohorts of pupils (grade IV, N = 108, and grade VIII, N= 155) and from their parents. In our hypothesis the anxiety, neuroticism and psychotism of the pupils with high level of self-esteem are lower than in the case of pupils with low level of self-esteem. On the other hand, the parents of pupils with high or low self-esteem judge in the similar way their child's self-esteem and anxiety. Our experimental data proved the above mentioned hypothesis to be true.

Significance and objectives of the study

Anxiety and academic self-concept. Self-concept and anxiety are proved to be connected and reciprocical conditioning notions. Some psychologists use the terms self-concept, self-esteem and self-attitudes interchangeably. They see self-concept as a person's perceptions and descriptions of himself including feelings of personal satisfaction, worth and affectiveness. Most authors (Oerter, 1989; Rosenberg, 1986) prefer to use self-esteem as a distinct construct and define it as the evaluative component of the self-concept. It involves feelings of self-acceptance, self-liking and self-respect. Important areas of self-conceptualization are physical ability and appearance, academic competence, emotional stability and adequacy of social relationships.

Regarding the different forms of self-concept the researchers of this problem distinguished: a global or general self-concept and a discipline-specific self-concept of ability. General academic self-concept was defined as the individuals general feeling of doing well in school and his or her satisfaction with his or her achievement (Skaalvik, 1990, p. 594). In this sense Skaalvik regarding the global self-concept said that this "… as individuals' general self-acceptance or their general positive or negative attitudes toward themselves". Thus, high self-concept or high self-esteem implies that individuals see themselves as people of worth, although they do not necessarily believe they are superior to others; low self-concept/self-esteem implies self-rejection, self-dissatisfaction, or self-contempt.

Self-concept of ability or discipline-specific self-concept "as the individual's general feeling of doing in school" (Skaalvik, 1983, p. 299).

In the case of general academic self-concept and also in that of discipline-specific we distinguish high and low self-concept levels. Naturally, the effects of different levels of self-concept result in different performances. Methodologically, the positive concurrent relationship between self-concept and academic achievement, has been demonstrated by a vast literature.

The relation between self-concept and achievement is direct or indirect. In order to answer this question we found three theories: the first one is the self-enhancement theory that maintains that self-concept is primarily a cause of achievement; the second theory is the skill-development theory which maintains that self-concept is primarily a result of past achievement (Calsyn & Klenny, 1977). The third theory is Helmke's (1987) bifactorial theory (two-stage model) after which the self-concept exerted no direct influence on later achievement, but this relation between self-concept and achievement is realized by intervening motivational processes.

In accordance with Helmke we claim that the key variables mediating the influence of self-concept on academic achievement are, on the one hand, the students' quality (or intensity) of effort spent (both in the preparation of school and by their active engagement during instruction) and the amount of time spent on homework (the time spent on homework can be regarded both as an indicator for motivated learning and as an indicator of time needed to learn) and, on the other hand, the cognitive inference (par example, the cognitive component of test anxiety).

One of the main factors of the mediating process between children's academic self-concept and academic achievement is anxiety. It is well known in the context of anxiety and performance, that moderate amounts of anxiety improve children's academic performance. When anxiety is very high or very low, academic performance decreases. In general, anxiety reflects a state of high- or low motivation.

Anxiety as a mediating motivational factor compared with self-concept is more mobile and susceptible. There is the possibility on one hand, in the case of high anxiety-levels to use a desensitization procedure (Tyron, 1980), on the other hand, in the case of very low anxiety-level there is a possibility to raise its level. Even if the procedure of desensitization modifies in the first place the emotional components of anxiety, we have the possibility to modify the worry (cognitive) component, too with the help treatment trough cognitive procedures. This cognitive procedure aimed at helping students focus on the task (say, by imagining reinforcement for doing so) was effective in reducing the worry component.

The self-concept researchers emphasized academic self-concept can only be studied "in the context of academic and non-academic areas" (Shavelson, Hubner & Staton, 1978), that it is not enough to concentrate only on school-factors, but we must regard "out-of-school factors, too" (Coopersmith, 1967; Rosenberg, 1965).

"School-factors" and "out-of-school factors" can both be considered as motivational mediating factors, which make possible this connection between academic self-concept and academic achievement concept. Between these factors we can find in one way or another anxiety, also as a mediating factor such school-factors as school-climate, teachers and class-mates, which are potentially important influences on young children's self-concept, are at the same sources of anxiety determining the level of

anxiety, too (Hoge, Smit & Hanson, 1990). But "out-of-school factors", non-school environment (parents, siblings, peers and mass media) have a determining role in determining the levels of self-concept and of anxiety (Felson, 1990).

Pupils' anxiety and self-esteem in the family. From the factors of non-school environment the parent and the parent-child interaction have a special role in determining the self-concept, the self-esteem and the level of anxiety. In Lytton's (1990) opinion in the parent-child relation we must consider three main factors: *a)* Parental environment (e. g., marital discord; *b)* factors residing in the child (e. g., temperament), or *c)* reciprocal effects arising from the interaction of these parent and child factors.

Scott et al. (1991) showed in their studies that in the child-parent interaction parental conflict is associated with low self-esteem, parental rejection produces anxiety and low self-esteem. Scott and his collaborators studied the relations between family characteristics and children's personality in an international context (communities: Hong Kong, Taipei, Berlin, Osaka, Winnepig, Brisbane) by questioning in total 2699 children. In the children's opinion they found the following correlations: between family harmony and self-esteem: $r = .32$, $p<.05$; between nurturance and self-esteem: $r = .27$, $p<.05$; between family harmony and anxiety: $r = .26$, $p.<.05$. The above data also proves that family harmony and nurturance strenghten self-esteem and decreases the level of anxiety.

Parental appraisal can also be an important source of the child's self-esteem and anxiety. Felson (1990) found a significant correlation between the self-appraisal of children and fathers ($r = .41$, $p < .05$) and of children and mothers ($r = .55$, $p < 01$). "Children with more successful parents' - shows Felson (1990, p. 265) -, may have higher standards and may judge them selves more harshly as a result." This is understandable if we consider that the family is achievement-oriented and the child's achievement is not indifferent for it, the performance being either in play or learning. The family's expectations of the child are maintained and increased by the fact that school is achievement-oriented, and that also "produces inevitably the child's anxiety about the fact that be will not be up to the expectancies and this creates uncertainty, the feeling of loneliness and menace" (Olechowski & Stretenovic, 1983).

For parent to be able to appreciate the child's school performance without creating anxiety in his child and to form his self-esteem in a correct way, he must know the child's individual characteristics: physical status, capacity for understanding and assimilating new informations, motivation to learn, level of enduring success and failure, place in the community of the pupils, the nature of his anxiety (anxiety connected with a specific situation). The parent must be also aware of the fact that the family must provide a social support for the child, a support that can protect him from physical distress.

As we saw above many studies proved that the family harmony is a force which shows positive correlation with the child's self-image and significantly negative correlation with anxiety. But, intrafamily conflicts, tensions between the demands of work and family, loss of relatives, and illness are factors which contribute to increase the level of anxiety of the children.

Because of the fact that in the family the emotional relationships are main relation we intended to study the social-self and in the first place self-esteem in the context of anxiety as a dimensions of personality. We based our study on the fact that there is normally a high correlation between a high level of anxiety and a low level of self-esteem. As a definition of social-self we accepted S. S. Brehm and S. M. Kassin's (1990) concept. The authors mentioned refer to three aspects of social-self. First, they consider *the cognitive self-concept*, and the question of how people come to understand their own actions, emotions, and motivations. Second, they consider *self-esteem*, the affective component, and the question of how people evaluate themselves and defend themselves against threats to their self-esteem. Third, they consider *self-presentation*, the behavioral manifestation of the self, and the question of how people present themselves to others (Brem & Kassin, 1990, p. 47).

The role of self-esteem in forming the personality is beyond doubt. "Positive self-esteem operates as, in effect (Branden, 1983), the immune system of consciousness, providing resistance, strength, and a capacity for regeneration." So we can say that self-esteem is a basic human need, that is an essential contribution to the life process, which is absolutely necessary for the development of a normal and healthy personality. Lacking positive self-esteem, the personality growth is stunted. This gives the developing personality personal efficacy, self-efficacy, personal worth and the development of self-respect.

Self-esteem is in fact a disposition to experience oneself in a particular way as fundamentally efficacious and worthy. If a person does not develop his authentic self-esteem it leads to the appearance of anxiety, insecurity and self-doubt. This state is extremely painful and it motivates the person to evade it, to deny his fears, relationalize his behavior, and fake a self-esteem he does not posses. So a pseudo self-esteem is formed that is the illusion of self-efficacy and self-respect without the reality.

Results of studies on self-esteem suggest that one of the best ways to have good self-esteem is to have parents who have good self-esteem, that can be a model for the child (Coopersmith, 1967). Our influence on the development of self-esteem is not direct because self-esteem is an intimate experience so it is as a consequence a product of internally generated practices. Family and school can be able to create an environment that supports and reinforces the practices that strengthen self-esteem. Branden (1983) considers six practices fundamental in the development and reinforcement of self-esteem. These are the following: the practice of living consciously, the practice of self-acceptance, the practice of self-responsibility, the practice of self-assertiveness, the practice of living purposefully, and the practice of integrity. These practices can lead to the development of a high self-esteem.

In this research we attempt to examine the impact of the level of anxiety on self-esteem in the context of child and the parent.

The major research questions assessed in the study include the following: *1)* Can we separate the levels of self-esteem and of anxiety of 10-11 and 13-14 year old children ? *2)* The effects on each other of the levels of self-esteem and anxiety? *3)* Does the parent know sufficiently his child's level of anxiety and self-esteem ? *4)* Is there a connection between the self-esteem and anxiety level of parent and his child ?

METHOD

Sample. In this study there were 108 pupils in grade 4 and 155 pupils in grade 8 of elementary school and their parents. We carried out the investigation of the parents on the occasion of parent-teacher meetings. We asked the parents to try to put themselves in their child's place and to answer the questionnaire's items as their child would answer these items. We tried to find out in this way how well the parent knows his child and in what extent he can project himself into his child's personality. We were also curious as to how the parent would like his child to be. We carried out the investigation with children individually in the classroom.

Instruments: *Self-Esteem Inventory* , the scales of which measured: the child's self (e.g., "I am self-confident"; "I am happy") the child's self connected with school (e.g., "I am satisfied with my school performance") self-appreciation regarding the home and parental-self (e.g., "I like very much to do something together with my parents"), his relation with children of the same age - sociological-self (e.g., "I am easy to love"; "Children like to be with me"). The maximum point value of these four subscales is 100 and it shows the level of the child's self-esteem. The Coopersmith-Scale also measures the child's social desirability (e.g., "I always tell the truth").

With the *General Anxiety Scale for Children* we measured the level of anxiety of pupils from the 4^{th} grade. The maximum score was: 34 points. With the *Children's Manifest Anxiety Scale* we measured the level of anxiety of pupils in the 8^{th} grade. The maximum score was: 42 points. We used the *Manifest Anxiety Scale* to measure the level of anxiety of the parents. The maximum score was: 40.

With the *Junior Eysenck Personality Questionnaire* we measured the pupil's extroversion-introversion (maximum score: 22), neuroticism (maximum score: 24), psychoticism (maximum score: 17). The *Eysenck Personality Questionnaire* was used to measure the dimensions of personality of the parents.

RESULTS AND DISCUSSION

D.W. Dewhurst (1991) considers today's school's main mistake lies in the low level of the pupil's self-esteem or even its total absence: "… one of the maladies of the schooling system at present is that there is a pervasive lack of self-esteem among pupils".

Tabel 1

Comparative presentation of the indexes of pupils with high and low self-esteem: (Grade IV and VIII)

G r a d e IV

Dimension of personality	Level of self-esteem					
	High			Low		
	M	SD	t	M	SD	t
Self	35,3	6,88	5,59; p<.01	20.3	2.57	-
Scholar-self	13,3	5,22	6,22; p<.01	5,7	7,06	-
Parental-self	15,0	2,83	4,22; p<.01	11,3	3,63	-
Sociological-self	12,0	2,66	1,91; p .10	9,4	9,82	-
Social desirability	7,6	11,20		8,9	9,34	0,88;p .N.S.
Self-esteem	75,6	7,56	9,40; p<.01	46,9	3,27	-
Anxiety	14,3	4,89	-	23,6	6,39	4,008; p<.01
Extro-introversion	13,6	3,89	1,43; N.S.	11,3	6,83	-
Psychoticism	2,1	0,35	-	3,8	4,23	1,77; p<.10
Neuroticism	10,5	3,91	-	13,6	4,04	1,55; N.S.

G r a d e VIII

Dimension of personality	Level of self-esteem					
	High			Low		
	M	SD	t	M	SD	t
Self	39,5	3,75	9,75; p<.01	19,5	8,69	-
Scholar-self	10,7	6,94	4,24; p<.01	5,1	6,38	-
Parental-self	14,2	3,44	4,46; p<.01	8,0	6,66	-
Sociological-self	14,7	1,94	5,39; p<.01	7,1	2,54	-
Social desirability	10,0	9,00	-	13,5	3,36	1,73; p<.10
Self-esteem	79,2	3,93	39,7; p<.01	58,1	6,83	-
Extro-introversion	10,8	5,21	-	13,6	2,89	1,23; N.S.
Psychoticism	2,3	0,77	-	3,1	0,54	2,00; p<.01
Neuroticism	7,2	6,44	-	12,5	8,5	3,25; p<.01

Our results (see table 1) reflect the facts mentioned above stated by Dewhurst. In grade 4 (75, 6) as well as in grade 8 (79, 2) the highest levels of self-esteem were below the maximum score that is 100. In the context of subscales this relatively low index is lowest in the case of the "self"-subscale (grade IV = 35,3; grade VIII = 39,5, compared with the maximum 100 score). This fact is due to the mistakes of parents and of teachers. Self-esteem as it is emphasized by M. Rosenberg (1965) "… is of importance to educators both because it is gratifying to the student and because it aids personal development".

The data in ***table 1*** prove in the same time that pupils with high and low level of self-esteem can be well separated both in grade IV and VIII with the help of Coopersmith's-test (**t** = 11,18, p< .01). We can see in ***table 1*** that in the case of pupils with high and low self-esteem the subscales of self-esteem (self, scholar-self, parental-self, sociological-self) show significant differences in the favour of pupils with high self-esteem. From this table we can see that dimensions of personality especially anxiety (grade IV: t= 4,008, p<.01; grade VIII: t= 4,68; psychoticism (grade IV: t= 1,77, p<.10; grade VIII: t= 2,00; p<.10) and neuroticism (grade VIII: t = 3,25, p<.01) are higher in the case of pupils with low self-esteem. The data mentioned proves that the higher the level of self-esteem is the lower is the level of anxiety and neuroticism. The increase of the level of self-esteem can cause important changes of the whole personality. This can be explained by the fact that by perfectioning self-esteem the pupil can have a view of different components of his own personality, of its limits of its possibilities, he can know better the motives of his own behavior, its system of motives and he can judge better the role of his personality in the interpersonal relations. We must not forget that the way of getting to know others leads through knowing ourselves.

Tabel 2

Pupils with high level of self-esteem in their own and their parents' view (Grade VIII)

Self-esteem	Pupils			Parents		
subscales	M	SD	t-test	M	SD	t-test
Self	39,5	3,75	0,98; p N.S	35,7	8,66	-
Scholar-self	10,7	5,52	0,00	10,7	7,50	-
Parental-self	14,2	3,44	2,38; p<.05	10,7	1,92	-
Sociological-self	14,7	1,94	2,44; p<.05	12,5	3,75	-
Social desirability	10,0	9,00	1,94; p<.10	5,5	8,75	-
Self-esteem	79,2	3,93	1,43; N.S.	69,7	7,57	-

Table 2 demonstrates that parents do not know well enough their child's attitude towards his family (grade VIII: t= 2,38, p<.05). Data in ***table 2*** show the differences between pupils with a high level of self-esteem and their parents from which we can see that the parents' expectancies towards their children did not show a higher level than of the pupils even in one subscale.

If we compare the data of pupils with high self-esteem and their parents (***table 2)*** with the data of pupils with low self-esteem and their parents (***table 3***) we can see that the expectancy towards their children is higher in the case of the parents of pupils with a low level of self-esteem almost in every self-esteem subscale.

One of our aims was compare the expectancies of the parents of children with low and high self-esteem regarding their child's self-esteem. We found significant differences in the favour of the parents of pupils with high self-esteem. This shows that these parents know better and increase their child's self-esteem.

Tabel 3

***Pupils with high level of self-esteem in their own and their parents' view* (Grade VIII)**

Self-esteem subscales	Pupils			Parents		
	M	SD	t-test	M	SD	t-test
Self	19,5	8,69	-	25,1	4,10	1,60; p N.S.
Scholar-self	5,1	6,38	-	6,4	6,47	0,90; p N.S.
Parental-self	8,0	6,66	-	8,8	8,20	0,50; p N.S.
Sociological-self	7,1	2,54	-	9,7	8,15	1,33; p N.S.
Social desirability	13,5	3,36	4,23; p<.01	8,2	2,88	-
Self-esteem	39,7	8,16	-	50,2	5,60	1,73; p<.10

The subscales of the self-esteem of pupils in grade IV as well as the judgment of the different dimensions of personality in the view of the children and their parents. On the one hand, pupils consider that from the subscales of self-esteem their own indexes of parental-self and social desirability are higher than those of their parents and they are more anxious (t= 2,02, p<.05) and more psychotic (t= 4,47, p<.01) than their parents consider them to be. On the other hand, parents by not knowing well enough their child consider that their child's self, scholar-self and his self-esteem, in general, are higher than they are in reality. We must reflect on the fact that the parent cannot judge well enough the fact that his child considers significantly more important (t= 3,00, p<.01) his relation with the family than does the parent.

Table 4

Indexes of the levels of anxiety in the context of self-esteem and some dimensions of personality (grade IV and grade VIII)

Grade IV

Self-esteem subscales and personality dimension	Ss with level of anxiety					
	High			Low		
	M	SD	t	M	SD	t
Self	21,5	3,09	-	36,0	4,88	4,02; p<.01
Scholar-self	6,4	6,95	-	11,2	2,01	2,71; p<.02
Parental-self	12,0	5,71	-	15,2	2,55	2,64; p<.02
Sociological-self	10,0	5,14	-	10,8	2,56	0,68; p N.S.
Social desirability	8,8	8,98	-	9,2	7,36	0,47; p .N.S.
Self-esteem	50,0	5,32	-	74,0	3,60	19,79; p <.01
Anxiety	28,0	2,60	34,28; p.01	11,2	0,56	-
Extro-introversion	9,7	3,17	-	13,8	2,05	0,65; p N.S.
Psychoticism	3,3	1,37	1,37; p.10	2,2	0,51	-
Neuroticism	14,2	1,64	1,88; p.10	9,8	6,56	-

Grade VIII

Self-esteem subscales and personality dimension	Ss with level of anxiety					
	High			Low		
	M	SD	t	M	SD	t
Self	25,6	2,54	-	38,0	9,60	3,91; p<.01
Scholar-self	6,8	1,89	-	9,6	6,40	1,86; p<.10
Parental-self	10,1	3,05	-	12,8	3,60	1,45; p N.S.
Sociological-self	8,6	1,49	-	13,2	4.16	2,19; p<.05
Social desirability	11,4	7,72	1,37 N.S.	9,2	2,56	-
Self-esteem	51,4	9,91	-	73,6	3,04	3,27; p<.01
Anxiety	27,0	5,73	13,81; p.01	7,8	2,16	-
Extro-introversion	13,8	4,42	-	13,8	7,76	-
Psychoticism	2,8	0,78	-	3,4	1,04	1,20; N.S.
Neuroticism	11,2	1,40	2,08; p.10	7,6	6,64	-

If we analyze the problem of self-esteem from the aspect of anxiety (***see table 4)***, what we have established is strengthened in the sens that, in general, low levels of self-esteem are associated with high level of anxiety. We can see from the data in ***table 4*** that in the case of self-esteem (and all its subscales) of the subjects of the experimental group who have high levels of anxiety the indexes are lower than in the case of subjects with low levels of anxiety. The differences are significant in the favour of the latter group both in the case of pupils from grade IV and grade VIII, too.

Table 5

Pupils with high level of anxiety in their own and their parents' view (Grade VIII)

Self-esteem scales	Pupils			Parents		
	M	SD	t-test	M	SD	t-test
Self	25,6	2,24	0,67; p N.S.	23,7	7,07	-
Scholar-self	6,8	1,89	0,37; N.S.	6,5	3,05	-
Parental-self	10,1	3,05	1,43; N.S.	9,2	1,66	-
Sociologicalself	8,6	1,49	-	10,6	4.15	1,29; p N.S.
Social desirability	11,4	7,72	-	12,32	1,80	1,37; p N.S.
Self-esteem	51,4	9,91	0,42; N.S.	49,2	9,12	-

It is an interesting phenomenon that the parents of pupils with high level of anxiety consider their childrens' self-esteem even lower than their children consider it to be (see ***table 5***), meanwhile the parents of children with low anxiety consider their children's self-esteem higher than it is (***see table 6***).

Table 6

***Pupils with low level of anxiety in their own and their parents' view* (Grade VIII)**

Self-esteem scales	Pupils			Parents		
	M	SD	t-test	M	SD	t-test
Self	38,0	9,60	1,03; N.S.	30,8	8,33	-
Scholar-self	9,6	6,40	0,39; N.S.	8,4	1,39	-
Parental-self	12,8	3,60	0,86; N.S.	10,8	1,53	-
Sociologi-cal-self	13,2	4,16	1,63; N.S.	9,6	1,66	-
Social desirability	9,2	2,56	1,48; N.S.	6,4	1,18	-
Self-esteem	73,6	3,04	1,12; N.S.	59,6	6,04	-

The parents of children with high and low level of anxiety about their childrens' self-esteem we can say that even though the parents do not know their children's self-esteem still the main tendency is that the parents of children with different level of anxiety give different values. This can be explained by the fact that in the case of our experimental groups we found significant correlations between the child and the parent's anxiety ($r= .43$, $p<.01$), their neuroticism ($r= .45$, $p<.01$) and their self-image ($r= .45$, $p<.01$).

In our opinion we put accent on self-esteem, on the emotional aspect of social self by which self-concept and the component of self-presentation develop especially in the parent-child relation. On the other hand, we can say that the pupils' self-esteem - that implicates their self-image, their attitude towards school and learning, parental and sociological-self - in the parents' perception, is also shaped after the rules of low and high level of anxiety. If we consider that the child's anxiety can be shaped in school, it can be decreased to an optimal level, the parent must know his child's anxiety and self-esteem level and the ways it can be influenced. Even the improperly organized learning conditions in school (including the methods, too) and in the home can create many problems, especially for pupils with high levels of anxiety, and low levels of self-esteem.

REFERENCES

1. Brehm, S.S.; Kassin, S.M. (1990), *Social psychology*, Boston: Houghton Mifflin Company.
2. Branden, N. (1983), *The psychology of self-esteem*, New York: Bantam.
3. Calsyn, R.J.; Kenny, D.A. (1977), *Self-concept of ability and perceived evaluation of others: Cause of effect of academic achievements?*. In: Journal of Educational Psychology, 69, 136-145.
4. Coopersmith, S. (1967), *The antecedents of self-esteem*, San Francisco: W. Freeman.
5. Dewhurst, D.W. (1991), *Should teachers enhance their pupils' self-esteem*. In: Journal of Moral Education, 20, 3-11.

6. Felson, R.B. (1990), *Comparison process in parents' appraisals of academic performance*. In: Social Psychology Quarterly, 53/3, 264-273.
7. Helmke, A. (1987), *Mediating processes between children's self-concept of ability and mathematics achievement: A longitudinal study*. In: Max-Planck-Institute for Psychological Research, Paper, nr. 6, Munchen.
8. Hoge, D.R., Smith, E.K. & Hanson, S.L. (1990), *School experiences predicting changes in self-esteem of sixth - and seventh - grade students.* In: Journal of Educational Psychology, 81/1, 117-127.
9. Lytton, H. (1990), *Child and parent effects in boys' conduct disorder: A reinterpretation.* In: Developmental Psychology, 26/5, 683-697.
10. Oerter, R. (1989), *Structural, ecological and psychosocial variables of schooling and their impact on the development of student's self-concept.* In: International Journal of Educational Research, 13, 133-245.
11. Olechowski, R. & Sretenovic, K. (1983), *Schule ohne Angst? Eine empirische Interventionstudle zur Verminderung der Schulangst*. Wien, München: Jugend und Volk.
12. Rosenberg, M. (1965), *Society and adolescent self-image*. N.J.: Princeton, University Press.
13. Rosenberg, M. (1986), *Self-esteem and self-concept from childhood to adolescence*. In: J. Suls & A.G. Greenwald, Eds., "Psychological perspectives on the self", N. J., Erlbaum, 107-136.
14. Scott, W.A., Scott, R. & McCabe, M. (1991), *Family relationships and children's personality: A cross-cultural,cross-source comparison*. In: British Journal of Social Psychology, 1-20.
15. Skaalvik, E.M. (1983), *Academic achievement, self-esteem and valuing of the school. Some sex differences*. In: British Journal of Educational Psychology, 53, 299-306.
16. Skaalvik, E.M. (1990), *Gender differences in general academic self-esteem and in success expectations on defined academic problems*. In: Journal of Educational Psychology, 82/3, 593-598.
17. Shavelson, R.J., Hubner, J.J. & Staton, G. (1978), *Self-concept validation of construct interpretations*. In: Review of Educational Research, 46, 407-444.
18. Tyron, G.S. (1980), *The measurement and treatment of test anxiety*. In: Review of Educational Research, 50, 343-372.

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L'ÉTIOLOGIE DES DYSHABILETÉS D'APPRENTISSAGE

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ABSTRACT. This paper examines the very complex probleme of the conditions and factors that contribute to or cause the disorder of learning disabilities. Our goal was to identify symptoms, caracteristics and causes of learning disabilities, necessary to discover methods of preventing and treating that disorder. A large scale of different symptoms and potential causes of specific learning disabilities was examined. It was found that the nature of learning disabilities suggests no single etiology but rather a wide range of etiologies. The results and the main classes of the various etiologies are discussed in terms of the need for a better understanding in the perspective of instructional practice.

L'abord d'une perspective éducationelle des problèmes étiologiques des dyshabiletés d'appretissage représente une question d'une importance centrale, dans la mesure où seulement à base de la connaissance différenciée des facteurs déclencheurs et souteneurs des dyshabiletés on peut entreprendre les mesures pédagogiques et thérapeutiques, respectivement les programmes efficaces de récupération qui ménent effectivement à l'amélioration significative des difficultés que les enfants rencontrent dans le domaine de l'apprentissage scolaire. Il y a un consensus presque général entre les auteurs en ce qui concerne l'idée conformément à laquelle les dyshabiletés d'apprentissage peuvent être d'une part prévenues et d'autre part, à base du diagnostic précoce et par mesures psychopédagogiques formatrice, elles peuvent être améliorées ou entierement neutralisées. Dans la perspective de cette possibilité réjouissante, les recherches théoretiques visant la mise en évidence des causes génératrices de dyshabiletés d'apprentissage, tout comme la dissociation differenciée des symptômes caractéristique présentent une importance particulière. Mais quelqu'importante que la mise en évidence des causes génératrices des dyshabiletés d'apprentissage dans la perspective de la projection de la stratégie générale d'amelioration et des techniques spéciales de récuperation soit, aussi difficile se présente cette activité, parce que sur le fond des manifestations intellectuelles inadéquates, facilement observables par les enseignants, ont trouve une multitude des facteurs de nature extremement différente, où on peut entrevoir de possibles causes de déclanchement. Cette multitude de facteurs détermine des le début la nécessité que les informations révélatrices de point de vue pédagogique concernant le comportemenet cognitif général des enfants recueillies par le professeur practicien pendant les activités didactiques soient corroborées avec des

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informations obtenues par des techniques non pédagogiques, surtout psychologiques, sociologiques, médicales etc. La mise en évidence des causes génératrices est une opération plus difficile encore pour la fait que les différents facteurs étiologiques ont des significations spécifiques et une contribution variable d'un enfant à un autre. L'expérience demontre que grâce à la complexité extreme du phénomène de dyshabileté d'apprentissage, les causes génératrices sont souvent omises par le professeur practicien. La situation où le professeur se révèle incapable de donner une répons satisfaisante aux parents qui lui demandent pourquoi donc leur enfant a des difficultés dans l'activité de l'apprentissage est non seulement genante, mais aussi dramatique. Elle est dramatique parce que le professeur est l'expert de l'instruction scolaire, il est le spécialiste formé avec de hautes competences visant la projection, l'organisation et l'evaluation de l'instruction des élèves dans l'école. La practique scolaire prouve le fait, que le professeur est capable d'identifier les enfants aux dyshabiletés, même d'établir la nature, le type et les formes de manifestation de différentes difficultés dans l'instruction, mais il est moins habile à découvrir et à exeminer les causes qui déterminent ces difficultés. De cette façon il peut implementer seulement des mesures symptomatiques, qui probablement atténueront dans une certaine mesure les difficultés, mai qui ne meneront pas a l'éradication totale du phénomène en question. Les facteurs qui entravent la découvert des causes des dyshabiletés d'apprentissage par les enseignants se rapportent surtout à la persistance de la confusion du concept en question, aux insuffisance de la formation initiale des enseignants, à l'ambiguité et à la faible révélation des données des recherches entreprises dans ce domaine, à la complexité et au caractère multidisciplinaire, tout comme la détermination multicausale de phénoméne, a la courieuse conception conformément à laquelle, la découvert des causes génératrices de dyshabiletés dans l'activité de l'apprentissage scolaire serait plutot un problème médical qu'en problème d'éducation. Il est vrais que l'étude des causes des dyshabiletés dans l'apprentissage implique nécesserement l'emploi de certaines modeles, techniques, concepts et termes de source médicale. Malheureusement la situation n'a pas beaucoup changé depuis l'année 1975, lorsque VALLACE et McLOUGHLIN (1975, p.40) remarquaient que: "Par malheur nombre de ces termes étaient ignorés par les éducateurs".

En abordant le problème difficile des causes des dyshabiletés d'apprentissage, il est impérieusement nécessaire de faire quelques références au fait que pas rarement on confond les modalités d'extériorisation, les formes, les signes, les symptomes et les causes réelles du phénoméne. Dans la pratique éducationelle on rencontre frequemment des cas ou par exemple les difficultés de lecture, les troubles de la perception ou les insuffisances de la memoire sont considérés tantot symptomes, tantot causes des difficultés rencontrées par les éleves. Pour prévenir ces phénoménes on considere que l'adoption d'une vision psychopedagogique nette des dyshabiletés d'apprentissage est imperieusement nécessaire dans l'étude des facteurs étiologiques. Selon ce qu'on a déja vu, nous commencons par la conception conformement à laquelle les dyshabiletés répresentent en fait d'une part des discordances manifestes entre le rendement scolaire attendu (à la base des possibilités psychointelectuelles) et celui réellement materialisée, d'autre part la cohabitation bizarre dans la personnalité de l'élève des habiletés bien

élaborées, fonctionelles et des aptitudes déficitaires. Dans ce sens on doit absolument dissocier les manifestations extérieurs palpables des dyshabiletés et les fondaments psychologique, physiologique, biologique et génetique.

Dans l'abordation éxperimental des causes des dyshabiletés d'apprentissage - en les dernières décennies - on peut distinguer quatre plans majeurs. Une partie importante des recherches s'appuient sur des théories neuro-psychologiques. Cette recherches partent de la considération que les dyshabiletés d'apprentissage sont provoquées par des affections cérébrales minimales qui ne sont pas suffisamment développées pour déterminer des retards mentaux, mais qui par leurs effets sélectifs peuvent déterminer des dysfonctionnement des plus divers et peuvent engendrer les symptomes les plus variés. Mais les recherches n'ont pas pu mettre en évidence d'une manière sans équivoque la relation causale entre les lésions cérébrales minimales et les dyshabiletés dans l'activité d'apprendre, dans la mesure ou il y a la possibilité que des enfants aux lésions cérébrales minimales évidentes dans des conditions d'ambiance favorables ne présentent pas des symptomes spécifiques des dyshabiletés (même les éxamens neurologiques cliniques ne peuvent pas mettre en rélief les signes anormaux) et inversement, que des enfants sans lésions présentent ces symptomes. Mais on a souligné la présence de certaines liaisons significatives entre les dyshabiletés d'apprentissage et les dysfonctionnements cérébraux minimaux (comme troubles prioritairement fonctionneles). On peut reconnaitre les dysfonctionnements cérébraux minimaux par exemple dans l'hésitation de grands mouvements, tout comme dans les déficiences des actes moteurs de petite envergure, respectivement dans les micromouvements de l'enfant. Dans le cas des dysfonctionnement cérébraux minimaux les difficultés de la sphère de l'apprentissage sont mises en relation avec certaines troubles concernant les liaisons des tractus nerveux centraux. On considere d'habitude qu'un certain trouble central peut engendrer des symptomes et des difficultés variées dans le domaine de l'apprentissage scolaire. CLEMENTS (1966, p.13) a décrit dix caractéristiques qui contribuent au diagnostic du dysfonctionnement cérébral minimal. Celles-ci sont les suivantes, dans l'ordre de la fréquance:

* l'hyperactivité;
* les troubles de la perception et de l'activité motorique;
* l'instabilité émotionelle;
* les déficits généraux de coordination;
* les troubles de l'attention (distractibilité, faiblesse de la concentration etc.);
* l'impulsivité;
* les troubles de la penséee et de la mémoire;
* les troubles spécifiques d'apprentissage dans le domaine de la lecture, de l'écriture, du calcul, de l'orthographe;
* les signes neurologiques ambigus et les irrégularités EEG.

Dans le contexte ci-dessus il est nécessaire qu'on fasse référence a deux interprétations majeurs actuelles des dysfonctionnements cérébraux minimaux. Au premier abord ceux-ci sont compris commes des formes mineures de certaines traumatismes cérébraux ou de certaines lésions cérébrales de nature infectieuse. Les déficits consécutifs a celles-ci ne dépendent pas tant de l'étiologie, que de la dimension des lésions. A un second abord les dysfonctionnements cérébraux minimaux sont considérés des troubles de nature biochimique ou avec une détermination génétique. Les deux modalités d'attaquer le problème soulevent une série de questions, par exemple:

-Peut-on supposer l'existence des lésions cérébrales sans signes neurologiques anormaux?

-Dans quelle mesure ces lésions ont-elles des conséquences sur le plan psychologique?

-Quel serait ce seuil au-dessus duquel les lésions provoquent des conséquences psychologiques négatives?

-Comment peut-on reconnaitre les dysfonctionnements cérébraux organique en l'absence des déficits de l'examen neurologique?

-Dans quelle mesure les lésions peuvent-elles produire des conséquences cognitives et comportementales sans troubles neurologiques et dans les conditions d'une intelligence normale?

-Est-ce que les dysfonctionnements cérébraux minimaux qui déterminent des conséquences cognitives et comportementales sont-elles vraiment minimaux?

A coté de ces signes incertains un fait semble être mis en évidence de façon incontestable, plus exactement le fait que les facteurs de risque de nature biologique (par exemple les traumatismes périnatals) qui peuvent être mis en relation avec les dysfonctionnements cérébraux minimaux déterminent ultérieurement des conséquences négatives seulement s'ils se combinent avec des facteurs d'insuffisance ambientale.

Une second direction des recherches se dirige vers les théories sensorio-motrices. Des recherches multiples, par exemple celles de CRUIKSHANK (1967), FROSTIG (1964), KEPHART (1971), PORKOLABNE (1994) arrivent à la conclusion qu'en dernière instance les difficultés d'apprentissage sont déterminées par des problèmes en liaison avec l'activité sensorielle. La structure insuffisante de differents fonctions sensorio-perceptifs, l'intégration impropre des fonctions sensorielles et motrices peuvent déterminer l'apparition des dyshabiletés d'apprentissage, de l'efficacité inégale de certaines fonctions, en dernière instance du rendement scolaire déséquilibré et dissonant. L'intégration inadéquate des systemes perceptifs et moteurs détermine nécessairement par exemple le développement défficitaire de l'orientation spatiale qui, a son tour, influence d'une manière négative les relations quotidiennes de l'enfant avec son milieu de vie.

Le troisieme orientation des recherches concernant les dyshabiletés d'apprendre, la représente les abords ayant comme base la psychologie du comportement. LAHEY (1979), ROSS (1976), ZARKOWSKA et CLEMENTS (1994) et beaucoup d'autre chercheurs considerent qu'au-dela de différentes formes des difficultés dans l'instruction on trouve non pas des problèmes psychologiques ou du systeme nerveux, mais des troubles de

conduite. Par conséquent le remède de ces difficultés pourrait se réaliser avant tout par des thérapies comportementales.

La quatrième dimension des recherches s'appuie sur les théories qui amenent au premier plan les niveaux de développement du langage, respectivement des aptitudes lingvistiques. Le fait qu'en l'absence de certaines aptitudes lingvistiques adéquates il n'est pas possible l'apprentissage scolaire efficace semble être inattaquable. Dans cette orientation par exemple les difficultés d'articulation ou l'emploi insuffisant du langage comme processus symbolique, dans les conditions d'une intelligence normale, peuvent constituer des signes qui pronostiquent de futures dyshabiletés dans l'activité d'apprentissage scolaire.

Après ce sommaire passage en revue de principales directions de recherche des dyshabiletés d'apprentissage, nous croyons que les plus importants éléments symptomatiques de ces dyshabiletés peuvent etre délimités. Cette chose présente une importance particulière dans la perspective des efforts de distinction des causes génératrices de dyshabiletés dans l'apprentissage des connaissances aux écoliers.

De la sorte, une première catégorie de symptômes se réfere aux troubles au niveau de comportement et de l'activité, par exemple l'impulsivité, l'hyperactivité, l'intolerance etc. Ces enfants ne peuvent pas satisfaire les exigences de la vie scolaire a cause du fait qu'ils ne peuvent pas diriger d'une manière adéquate leur activité et leur conduite, ils bougent sans cesse, ils commentent toujour quelque chose, ils n'ont pas la patience d'attendre leur tour, ils interroment le déroulement de la leçon, de la classe, ils troublent l'activité des autres, ils ont une conduite désorganisée et non systématique, ils sont catalogués comme indisciplinés (fait qui conduit a des conflits multiples avec les éducateurs, et les fréquantes admonestations et punitions vont conduire ou a l'agressivité, ou a l'anxiété), ils présentent de l'instabilité motrice, ils ne peuvent pas plonger avec calme dans le jeu ou dans l'étude etc.

La deuxième catégorie de symptômes consiste dans les formes variées d'inattention. On pense surtout à l'instabilité de l'attention, à des oscillations de l'intensité de la concentration, à la possibilité accrue de la distraction, ou volume réduit, à l'inflexibilité de l'attention, à des problèmes de sélection liés aux éléments essentiels.

En troisième lieu on doit faire référence aux troubles qui se distinguent dans la sphère de la percepcion et de la motricité, comme par exemple les problèmes de rapport, à la perception inverse du fond et de la figure, aux difficultés de coordination des grands ou des petits mouvements etc.

Quatrièmement on se réfere à des problèmes de l'orientation spatiale. Il s'agit tout d'abord des troubles de l'image de soi somatique, du schéma corporel, du maintien de la direction, de la latéralité.

La cinquième catégorie de symptômes consiste dans les troubles concernant le développement lingvistique: faibles capacités articulatoires, difficultés dans la formation des propositions, difficultés dans la trouveille des mots justes etc.

Dans la sixième et dernière catégorie on pourrait inclure les symptômes de type secondaire, comme par exemple: haut niveau d'anxiété, anticipation des insuccès, agressivité, isolement, conduite inhibée, timidité, comportement bizarre, d'attirance de

l'attention, autoconnaissance déficitaire, niveau bas de curiosité, niveau bas d'aspiration, pérséverance, attitudes rigides etc.

Sans tenir compte de la position théoretique à partir de laquelle l'éclairessement de la symptomatologie et la délimitation des causes génératrices des dyshabiletés d'apprentissage des éleves se réalisent, ceux-ci représente la condition sine qua non de la projection des mesures d'amélioration et thérapeutiques. Dans la perspective de l'assistance spéciale et individualisée de tous les enfants avec des difficultés dans l'activité de l'apprentissage, le problème des causes structurales ou fonctionelles qui se trouvent à la base des troubles et des insuffisances de rendement scolaire doit être abordé d'une manière beaucoup plus différenciée, sans tenir compt de la symptomatologie présentée.

Nous croyons venir en aide des éducateurs practiciens si nous tâchons (dans les conditions où l'enfant aux dyshabiletés d'apprentissage ne peut pas être inclus dans certaines catégories, et la symptomatologie est d'une grande diversité) de réaliser une classification de possible causes, malgré toute l'ambiguité du rôle que quelques-unes d'elles jouent.

À notre avis un premier facteur qui peut être incriminé est celui éducationnel. Il s'agit d'une réalité triste, mais évidente (et vraie) que certaines stratégies, méthodes ou procédés éducationnels inadéquats peuvent être remarqués derrière beaucoup de difficultés d'instruction. Il n'est point difficile de supposer qu'à certaines dyshabiletés d'assimilation correspondent de variées dyshabiletés d'enseignement. De façon très suggestive BRUNER (1971) intitule l'une de ses études relatives à la problématique en question avec le syntagme "troubles de l'enseignement". En vérité, l'expérience démontre que certaines enseignants n'ont pas réussi a former les aptitudes pédagogiques nécessaires en vue d'un processus d'enseignement et d'assimilation efficace, ils n'ont pas gagné la compétence didactique capable de satisfaire les besoins éducationnels divers des enfants. À un certaine niveau de scolarisation les enfants peuvent présenter des difficultés dans l'assimilation des connaissances correnspondantes à cause du fait que, à des époques antérieures, sur le fond d'une instruction inadéquate et insuffisamment fondée du point de vue scientifique, ils n'ont pas acquis à des niveaux correspondants ces habitudes qui sont absolument nécessaires pour la réalisation des rendements didactiques attendus et du progrès scolaire adéquat. La projection et l'organisation d'un processus d'instruction à base de stratégies inopportunes, l'interprétation déficitaire des contenus, l'emploi de certaines pratiques éducationnelles erronées, l'emploi inadquat de certaines méthodes, procédés, techniques et moyens, la rationalisation impropre du temps destiné aux activités d'instruction, la méconnaissance et l'omission volontaire des caracteristiques psychologiques d'âge et individuelles, et conséquement à se fait la réalisation des sé\uences didacti\ues nondifférenciées, la conception et la distribution erronées des tâches d'instruction, l'omission de certaines troubles de perception, de mémoire, de langage, d'attention, de conceptualisation etc. sont autant des conditions pédagogiques qui peuvent provoquer a certaines enfants des retards, des vides, des confusions, l'incompréhension de certaines phénomènes ou processus, en un mot des difficultés d'apprentissage aux éleves. Il s'agit de graves insuffisances de l'enseignement, cas où le syntagme dyshabiletés d'apprentissage peut changer pour celui de dyshabiletés

de l'enseignement. Dans cette situation la cause des problèmes a été dénommée d'une manière très suggestive par COHEN (1971, cité par LERNER, 1976, p.122) par le terme de dyspédagogie.

Deuxièmement nous devons faire référence à la diversité des facteurs d'ambiance (hors de l'école) qui peuvent se constituer comme des éléments favorisant ou même produisant des problèmes dans l'instruction. des enfants écoliers. Il s'agit en premier lieu de facteurs qui peuvent plus ou moins léser les fondaments psychologiques et physiologiques du processus d'instruction. Il semble que la plupart des conditions et des éléments structuraux du milieu social se reflètent d'une façon ou d'une autre dans le comportement scolaire de l'enfant. Des recherches plus lointaines ou plus récentes (MASLOW,1954; NAGY, 1980; WONG, 1988) ont mis en évidence d'une manière extrêmement convaincante le fait que l'instruction scolaire optimale nécessite un riche support ambiantal. L'assimilasion des connaissances et de variées habitudes, capacités et aptitudes aussi est assurée, respectivement facilitée par ces acquisitions psychologiques et émotionelles qui se dessinent sous l'influence directe des conditions de milieu social. Dans le cas où ces conditions présentent des carences ou elles exercent des influences inadéquates le processus de l'instruction scolaire sera affecté. Les carences plus ou moins prononcées des stimulations sociales, sensorielles et lingvistiques, les désagréments concernant la sécurité physique et psychologique de l'enfant dans la famille, les déprivations émotionelles, les abus de toutes sortes etc. peuvent affecter ces structures de la personnalité qui se constiuent comme base pour l'activité d'instruction. Des enfants qui sous l'influence des facteurs nocifs du milieu social ont développé des traits comme anxiété, l'impulsivité, la curiosité estompée, les habitudes erronées ou insuffisamment élaborées, les sentiments d'incertitude, d'impuissance et d'infériorité, l'autoconnaissance déficitaire etc. apprécieront et assimileront avec peine les valeurs transmises dans l'école.

Une autre catégorie importante et extrêmement diversifiée des causes des dyshabiletés d'apprentissage se réfère selon notre opinion aux facteurs de nature psychologiques. Généralement on connait que l'assimilation des connaissances, des habitudes et des aptitudes dans le cadre du prosessus de l'instruction scolaire est dépendante dans une grande mesure du niveau de développement des plus variés processus, activités et fonctions psychiques mais, bien entendu, surtout de ceux de nature cognitive. L'état et le fonctionnement déficitaire de ceux-ci produisent des difficultés sévères dans l'acquisition des connaissance et des habitudes intellectuelles. Ainsi le développement incompatible avec l'âge donné de l'activité perceptive (en premier lieu de l'activité visuelle et de celle auditive), de la mémoire, de l'attention etc. peut être mis en relation avec des formes variées de difficultés que les élèves rencontrent dans leur activité d'instruction. Beaucoup d'auteurs (WALLACE et MCLOUGHLIN, 1975; PORKOLABNE, 1984; SALAMON, 1983; LERNER, 1989; ARIEL, 1992) sont d'accord avec le fait que les multiples dyshabiletés psychologiques, surtout celles qui se réfèrent à la zone cognitive, hypothétiquement, peuvent déterminer, respectivement peuvent contribuer à la structuration de certaines difficultés dans l'acquisition des connaissances, des accoutumances, des habiletés, des habitudes, des aptitudes, des attitudes etc. Par

exemple le fait d'apprendre à lire, où environ 18-27% même d'entre les enfants normaux se heurtent à des difficultés plus ou moins intenses (PĂUNESCU et colab., 1982), dépend du développement correspondant de toute une série de structures psychiques, à partir de la perception visuelle, motrice et tactile jusqu'a la coordination oeil-main et l'organisation de la pensée. On doit avoir donc en vue le fait que des phénomènes comme la discrimination auditive ou visuelle déficitaire, la compréhension pénible des notions, l'habileté réduite des opérations de généralisation, abstraction, comparaison, materialisation, systematisation, hiérarchisation, mise en évidence des liens causals etc. les aptitudes verbales insuffisantes, la mémoire (de courte ou de longue durée) pauvre etc. peuvent être mises en relation directe avec des problèmes neurologiques ou avec des dysfonctionnements cérébraux minimaux. Plusieurs fois, les difficultés d'assimilasion aux enfants s'exteriorisent par des processus, fonctions ou manifestations psychiques déficitaires, respectivement troublés, comme par exemple l'inattention, l'hyperactivité etc.

Une autre catégorie de facteurs d'une grande complexité la répresente celui génétique. Beaucoup de recherches ont souligné des données qui démontrent le fait que certaines formes des dyshabiletés d'assimilasion, comme par exemple la dyslexie, ont une provenance génétique. Les enfants des parents dyslexiques deviennent dyslexiques en proportion d'approxivement 80%. Les études sur les jumeaux univitellins ont mise aussi en évidence l'étiologie génétique des dyshabiletés d'assimilation (HALLAHAN et KAUFFMAN, 1994). En ce qui concerne le caractère récessif ou dominant du facteur génétique, les choses attendent encore des clarifications, tout comme la dispute héréditaire-ambiantale. La difficulté de la projection des méthodologie efficaces de recherche fait \ue les généralisations et les conclusions pertinentes se laissent encore attendues.

Les facteurs biochimiques, entre lesquelles des troubles multiples de nature métabolique ont été incriminés comme des facteurs qui provoquent les dyshabiletés d'assimilation scolaire. On connait d'habitude que, par exemple, des troubles comme la phénylkétonurie ou la galactosémie provoquent de graves retards mentaux. Le fait que le traitement médicamentaux et diététique de ces troubles prévient les conséquences intellectuelles négatives, l'intérêt des recherches dans cette direction s'est sensiblement diminué.

En ce qui concerne les causes génératrices des dyshabiletés d'assimilation, beaucoup plus d'indices conduisent à des facteurs prénatals, périnatals et postnatals. Un grand nombre d'auteurs ont entrevue une relation entre les dyshabiletés d'assimilation et la grossesse à complications, parce que dans le cas des enfants avec des difficultés de lecture ils ont trouvé de tels problèmes dans une proportion beaucoup plus élevée que dans le cas des enfants avec une lexie normale. On a mis en évidence également comme des causes possibles des aspects comme la sous-pondéralité de nouveau-né, la prématurité, les maladies de la mère pendant la grossesse (rubéole, rougeole etc.), les états toxiques etc. PASAMANICK et KNOBLOCK (1973), cités par WALLACE et McLOUGHLIN (1975, p. 48) associent les dyshabiletés d'assimilation à dix facteurs prénatals neurologi\ues: le facteur Rh, les troubles endocrines maternels, les radiations, l'âge de la mère, les médicaments et les drogues, la rubéole, l'anoxie, l'habitude de

fumer, la prématurité, les accidents divers. Il semble donc que les facteurs périnatals doivent être pris en consideration comme des aspects causatifs potentiels des dyahabiletés d'assimilation des connaissances. D'autre aspects qui peuvent être incriminés se réferent a des lésions (traumatismes) de la tête (du cerveau), des intoxications, des déficits nutritionels (à effet nocif direct sur le développement du system nerveux central et sur la croissance et la maturation biochimique de cerveau), au rapport de distorsion entre la pesanteur de la tête et la pesanteur du corps, des déprivations sensorielles et émotionelles (à consequences négatives sur la constitution des bases neurologiques et psychologiques de l'instruction etc.). Au sujet de ces facteurs on doit remarquer le fait que leur action néfaste sur les capacités d'instruction s'augmente dans les conditions où ils s'associent à d'autres facteurs de risque. En ce cas la dissociation des facteurs est particulièrement difficile. Toujours dans ce contexte on doit faire référence à la liaison existante entre les retards de maturation de certaines structures dans cadre du système nerveux central (sur fond de malnutrition, infections, traumatismes précoces etc.) et l'apparente immaturité de certaines enfants avec des dyshabiletés d'assimilation. Beaucoup d'auteurs, parmi lesquels des sommités comme HALLAHAN et KAUFFMAN (1994); CRUICKSHANK (1967) considerent qu'un premier et fondamental facteur qui peut être incriminé comme élement générateur de quelques dyshabiletés d'assimilation est sans doute la lésion cérébrale ou la lésion du systèm nerveux central. Mais il semble que pour arriver à des conclusions valides de nouvelles études concernant les implications des lésions cérébrales minimales et neurologiques non seulement dans l'instruction, mais aussi en d'autres aspects de l'activité cognitive de l'enfant sont nécessaires.

Finalement nous devons faire référence au fait que l'accentué caractère hétérogene du groupe d'enfants avec dyshabiletés d'assimilation, le fait que ces enfants ne peuvent pas être catégorisés en certaines groupes spécifiques, tout comme la multitude des facteurs causals impliqués, déterminent la nécessité de l'abordation individualisé des dyshabiletés. Cela veut dire, que certaines facteurs étiologiques incriminés en dyshabiletés peuvent ne présenter aucune signification en d'autres cas ou à d'autres enfants. C'est la raison pour laquelle la délimitation des causes des dyshabiletés observées devient possible seulement dans la mesure où on étudie le processus précoce de développement, les données anamnestiques et les caractéristiques des influences ambiantales pour chaque enfant séparément. De même, la prise en consideration de la situation où l'interaction de nombreux facteurs impliqués (psychologiques, biologiques, sociaux, neurologiques, génétiques, pédagogiques) est celle qui mène à l'apparition de diverses dyshabiletés d'assimilasion s'avère impérieusement nécessaire.

A l'heure actuelle nos écoles, comme les enseignants d'ailleurs, disposent de conditions et de possibilités tout a fait insuffisantes concernant tant le diagnostic des difficultés, que l'identification des causes génératrices. Cette regrettable situation procède d'une part des carences de la formation des enseignants et d'autre part du caractère extrêmement complexe, pluridimensionnel et multicausal du phénomène de dyshabileté dans l'apprentissage. Après la dissociation des facteurs révélateurs pour les dyshabiletés d'assimilation, l'enseignant doit compléter ses informations avec les résultats des investigations psychologiques, physiologiques et neurologiques. Il semble

que l'abord multidisciplinaire dans ce domaine est une nécessité évidente et une condition indispensable dans la perspective de l'élaboration des mesures instructionelles amélioratives.

BIBLIOGRAPHIE

1. Ariel, A., (1992):*Education of Children and Adolescents with Learning disabilities*, Macmillan Publishing Co., New York.
2. Bruner, J., (1971): *Teaching disorders*, in: Learning disorders (ed. Bateman B.) Special Child Publications, Seattle, vol IV.
3. Clements, S.D., (1966): *Minimal Brain Dysfunction in Children*, NINDS monograph no.3., Public Health Service Bulletin no.1415, Washington.
4. Cohen, A.S., (1971): *Dyspedagogia as a Cause of Reading Retardation in Learning Disorders*, in: (Bateman B., edit), Learning Disorders - Reading., vol.4. Seattle, Special Child Publications.
5. Cruckshanck,W., (1967): *The Brain-Injured Child in Home, School and Community*, Syracuse, N.Y., Syracuse University Press.
6. Frostig, M., (1964): *The Frostig programm for the Development of Visual Perception*, Follett Educational Corporation, Chicago.
7. Hallahan , D.P., Kauffman, J.M., (1994):*Exceptional children: Introduction to special education*, Allyn and Bacon, Boston.
8. Lahey, B.B., (1979): *Behavior Therapy with Hyperactive and Learning Disabled Child*, Oxford University Press.
9. Lerner, J., (1989): *Learning disabilities*, Houghton Mifflin Co., Boston, Princeton, N.J.
10. Lerner, J.W., (1976): *Children with Learning Disabilities*, Houghton Mifflin Co., Boston, Princeton, N.J.
11. Maslow, A., (1954): *Motivation and personality*, New York, Harper and Row.
12. Nagy, J., (1980):*5-6 éves gyermekeink iskolai készültsége*, AK, Budapest.
13. Pasamanick, B., Knoblock, H., (1973): *The epidemiology of reproductive causalty*, in: Sapir et Nitzburg (edit.), Children with learning problems, Brunner/Mazel, New York.
14. Porkolábné, Balogh Katalin, (1984): *A tanulási nehézségek korai felismerésének lehetöségei*, Pedagógiai Szemle, nr. 6., P. 536-544.
15. Porkolábné, Balogh Katalin, (1994): *A tanulási képességet meghatározó pszichikus funkciók fejlödése, a tanulási nehézségek korai felismerésének lehetöségei, a fejlesztés perspektívái*, in: Pszichológiától-Pedagógiáig, Biró A. (edit.), Alex-typo, Budapest.
16. Păunescu, C., şi colab. (1982): *Metodologia însuşirii limbii române în şcoala ajutătoare*, EDP, Bucureşti.
17. Ross, A.O., (1976): *Psychological aspects of learning dysabilities and reading disorders*, State University of New York.
18. Salamon, J., (1983): *Az értelmi fejlödés pszichológiája*, Gondolat, Budapest.
19. Wallace, G., McLoughlin, J.A. (1975): *Learning Disabilities*, Charles E. Merill Publishing Company, Columbus, Ohio.
20. Wong, B.Y.L., (1988): *The ABS sof Learning Disabilities*, Academic Press, San Diego.
21. Zarkowska, E., Clements, J., (1994*): Problem Behaviour and People with Severe learning disabilities*, Chapman and Hall, London.

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CONSIDERATIONS ON THE EDUCATION REFORM IN ROMANIA

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ABSTRACT. The education reform is not solely a particular case of the economic and social reform, but one of the most important elements of the development of the society as a whole. The changes that are to be made at the educational level concern mainly the modernisation and efficiency of the education system. The success of the education reform depends in a high degree on a precise and accurate definition of the goals and objectives, on the identification of main obstacles that may be encountered and on the design of most adequate means to obtain them.

The success of the modernisation of education in any country is linked, in our opinion, to the global social-economic context of the social system. To ignore the importance of the education reform as one of the most important elements of the development of the society and to reduce it to a simple case of the economic reform may cause major unbalances. Thus, on a medium and long run, the most likely consequence of such a way of thinking is the transformation of the natural relation of complementarity between the education sphere and social-economic sphere into a subordination relation, fact that would bring up negative implications for all fields of activity.

For the particular situation of Romania, which underwent a major change from a totalitarian society to another (democratic) type of society, the education reform was imposed by the logic of the transition itself: a social change of such dimension requires the global re-structuration of the system of educational goals and objectives, the modernisation of all components of the education process and the re-design the policy of human resources for the framework of a free labour-market.

An analysis of the hindrances of the first period of reform of education in our country we notice the presence of two main categories of impeding factors: obstacles of objective nature, that are inherent for any type of reform, and subjective obstacles, due to historical determinations, at the level of the most of the agents of reform's mentalities and attitudes towards change. Thus, if we take into account the category of subjective factors, it is enough to mention the opinion of a group of specialists which, referring to the major problems of the debut of the education reform in Romania, draw the following conclusion: the Romanian school seems unable, for the moment, to assume and go over its own state of crisis; the main difficulty is not owed to the lack of space, of trained instructors in the rural area, or to the poor quantity and quality of the means of instruction, but to the state of accustomed to these deficiencies.

In other words, the main subjective obstacle to be defeated during the process of modernisation of the education was the passivity of some of the people involved in the education system, people which got used to stand and accept as normal or at least 'endurable' the situation of crisis.

Of course, the factors which constituted this type of mentality were of different kind. We can distinguish a number of aspects of the rejection of radical changes in education: from attitudes completely shaped by the way of thinking of the previous social order, to refusals due to whims or ignorance or to the wish to continue to hold a certain status, also to the argument of the failure of similar previous experiences.

If we analyse these reactions from the perspective of a specific typology, we may notice that, or the majority of these cases, the resistance to change took the expression of a massive and undifferentiated refusal, rather than the form of an open, direct, and thus easier to handle, conflict. This fact caused considerable more difficulties to the education reform. To this situation also contributed the strategy of change accredited in the first phase of the education reform, that is the strategy based on the 'research-development model' (Cristea, S., 1994).

The research-development model introduces a paradigm of change which states a clear, univocal, orientation from theory to practice, from a small group of specialists-theoreticians ('innovators') to the large mass of teachers employed in the educational system ('beneficiaries'). The lack of input from the beneficiaries to the innovators , or the purely formal role of the former in the design of the main direction of the education reform and of the concrete ways to achieve the modernisation of the education system, induced a feeling of distrust or even hostility to the majority of teachers, in what concerned the changes in education.

This early manner of elaboration and implementation of changes in education eroded and diminished in a high degree, we believe, the positive potential of the measures taken for the modernisation and increase of efficiency in the process of education.

One of the major consequences at the level of the agents of change was, beside the restrain of the reform to provision of specific laws, to consider the education reform as a providential act to be gradually imposed by the central educational authorities. This passivity, doubled by the overrate of the policy of 'small steps' in the introduction of the reforming measures, slowed the process of modernisation of the Romanian education.

In the following we would like to present, beyond these general considerations, the specific dis-functions encountered during the process of elaboration of the education reform. A first dis-function concerned the primary investigative approach of the state of the education, revealing the main deficiencies, a stage that is essential for any reforming process. To fulfil a full diagnose of the state of Romanian education proved to be a complex and difficult task, because of both the inertial perpetuation of a decisional system and the complexity of the educational phenomenon.

Heritage of the previous regime, the lack of a coherent educational policy negatively influenced the first stages of the education reform. We refer mainly to the difficulties of identification and definition of clear and precise objectives, also to their insufficient operationalisation.

Also, the set of the goals concerning the education reform was not followed by a proper elaboration of the package of measures and strategies to apply them. Another difficulty encountered was what we may call the 'human resources crisis'. We refer to the initial crisis of the system of teacher-training and to the relatively high number of teachers employed in the pre-university level without a proper qualification. This fact had negative effects not only over the process of instruction and education, but also over the way of implementation and operation of the innovative strategies.

In the same category of problems we may include the lack of a properly qualified staff in the field of change management. The ignorance towards the strategies and alternatives of reform also contributed, through a cumulative effect, to the slow of the rhythm of the education reform.

In this framework we may add the insufficient motivation of the didactic corps which, cause of the still low salaries and social status, do not involve in the necessary effort of transformation of the Romanian education system into a successful, modern and efficient system, characteristic to a democratic society. A particular part in the brake of the education reform belongs to the crisis of design-framework, that is the agents of change often found themselves in the situation to act within an inadequate operational space, that of the generalised planification, exercised in one direction from a 'decisional core' to an 'executing periphery'. This proved to be completely inoperative and inefficient in the context of transition, limiting and even eliminating the natural and necessary possibility of 'on the move' optimisation and adaptation to the particular conditions existing in the territory. The immediate consequence of this fact was the deprivation of the 'decisional core' of a real and correct feed-back over the actual results of the application of the reform education strategies.

We may also mention as difficulty the crisis of leadership. We envision here two main categories of factors: centralisation of the leadership structures, excessive at that time, and the extremely low level of involvement in consultation and decision of the representatives ofteachers (Păun, E., 1992). Thus, the factors of decision were deprived not only of suggestions of in-practice teachers concerning the concrete ways of optimisation of the educational process, but also produced a certain reserve, reticence and lack of-involvement with respect to the necessity and viability of the proposed measures to be applied in schools.

No less important is the problem of the financial and material resources. The global context of the transition imposes a policy of economic austerity for the education system, too. The schools are insufficiently and inadequately endowed materially for training graduates, so that they are in the extremely difficult position to look by itself for financial resources. This would require a better management of the material and financial availability. A higher level of the education reform in our country requires the outline and elaboration of clear principles for the changes to have a coherent, unitary and efficient character. Probably the first thing needed is the switch from an evolutionary reform to a structural reform , and this demands the consensus of the main actors of change and firm action in the view of long-term options (Ionescu, M., 1993).

The consistency of the principles in time, obviously necessary, is by no means sufficient. We must stress on the correlation between the education reform with the economic reform in order to maintain a functional balance of the educational system, so that the present day generations of pupils are not sacrificed. There are needed concerted actions in order to use at maximum the own development resources and potentialities of every actor of change and of every actor involved in the educational system. Taking into account all that was mentioned before with respect to the dis-functions and difficulties of the educational system in Romania. We consider necessary the application of a set of concrete measures, which could lead to the re-start of the process of modernisation of the education.

We refer here to the global re-structuration of the organisation and function of the educational system. The measures concern the de-centralisation of the system of financing, so that there may be identified additional sources, the set up of a coherent system of laws and principles to direct on medium and long term the national education, and the re-organisation of the decision structures on the criteria of efficiency and functionality.

For a real feed-back over the quality of the instruction-educational activity and the concrete results of the reforming measures, there must be developed and perfected a national system of evaluation of the effects of reform and implicitly of the results of the process of education (Bîrzea, C., 1993).

These general oriented measures must be doubled by a more specific package of measures. In this respect, of particular importance is the support of scientific research in the field of education, but also the actualisation of the content of the education - revision of the curricula.

A special stress goes the re-organisation, modernisation and perfection of the system of formation and training of teachers. The monopoly of state must be removed in what concerns the sources and readers, so thatthere are introduced alternative sources on a large scale. The active methods of teaching need to be universalised. A special focus within the education reform deserves the problem of higher education. In this respect there is considered the institutional and structural diversification, the improvement of the admission system, based on criteria that would increase the degree of objectivity of the selection of candidates. There are also considered measures to reduce significantly the number of classes per week, and to introduce the system of transferable credits on a large scale, so that the Romanian higher education system can be compatible with the Western one.

A major decision for the modernisation of the higher education system is to insure functional and viable links between the academic life and the community, in the sense of the diversification of the concrete ways through which the university education can pay direct and real service to the community.

Not in the least are to be considered the possibilities to set up a good quality private higher education system, which is natural in the process of constitution of an 'education market'. This would also contribute to the multiplication and diversification of the choice alternatives for candidates and to the increase of the competition and quality of the educational process.

The process of education reform in Romania must advance in the spirit of the idea that transition is, maybe in the first place, a process of social learning, so that, in the global context of the re-structuration of the Romanian society, there is needed a change of values, attitudes and competencies of the young generation through education.

REFERENCES

1. Bîrzea, C., coord., (1993), *Reforma învăţământului din România: condiţii şi perspective*, Revista de Pedagogie, nr. 1-2, p.7-19.
2. Cristea, S., (1994), *Fundamentele pedagogice ale reformei învăţământului*, E.D.P., Bucureşti.
3. Ionescu, M., (1993), *The Teaching Reform in Romania between necesity and reality*, Studia, seria Psychologia-Paedagogia, nr.1-2, p.7-15.
4. Păun, E., (1992), *Reforma învăţământului şi formarea cadrelor didactice*, Revista de Pedagogie, nr.1-2, p.50-57.

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DIFFICULTES INERENTES A L'APPROCHES DES NOTIONS FONDAMENTALES DE LA CHIMIE

FLORENTINA CIOMOŞ

ABSTRACT. This paper is trying to emphasize the errors and misunderstandings of the most important chemical concepts of the VIIth classe level. The answers of the questionnaires and the test given was analysed with attention to find out the conclusions suitable to be put in practice. The discovery of the surces of the errors and the errors themselves, give us a chance to suggest some ideas that would enable us to prevent or correct the wrong learning of these chemical concepts.

Cette étude se propose de signaler quelques erreures fréquentes que commettent les élèves de la VII-ème au long du processus d'acquisition des notions fondamentales de la chimie, et cela en but de prévenir, en mesure du possible, leur approche incorrecte.

On sait que l'élèves n'entreprend pas d'assimiler des notions scientifiques à table rase. Il dispose d'un répertoire cognitif personnel peuplé d'une série de connaissances scientifiques et empiriques. Pendant que les sources des connaissances scientifiques sont essentiellement scolaires, celles des connaissances empiriques sont essentiellement extra-scolaires. Ces dernières peuvent être, par contre, déterminées aussi par un apprentissage non systématique et incomplet. Ce type d'apprentissage détermine le transfert impropre de certaines connaissances d'un niveau à un autre du savoir, ce qui engendre une série de confusions, d'inexactités et, implicitement, les erreurs les plus fréquentes, qu'on peut signaler à tout niveau d'apprentissage.

Les connaissances empiriques sont difficiles à corriger à cause de leur caractère nonspécifique, unilatéral et fort affectif. Il s'ensuit donc qu'il est plus efficient de les prévenir systématiquement et par des moyens appropriés à chaque niveau de compréhension.

Dans le but de prévenir ces erreurs il est très important pour le professeur de mettre en évidence si elles sont déterminées par un obstacle épistémique ou, par contre, si elles le sont par un transfert déffectueux des connaissances. Par conséquence, le premier cas suppose le changement de la conduite scientifique (ce que peut dire un effort supplémentaire pour rendre les notions accessible) tandis que le deuxième suppose de redéfinir les notions qui ont été fautivement transférées - ce qui peut se faire par la réactualisation de leurs sphères d'action et des limites de celle-ci, à l'aide des exemples et des contre-exemples d'application dans des conditions concrètes et diversifiées de ces notions).

L'étude tente, en un premier temps, de réaliser une vision d'ensemble sur les erreurs les plus fréquentes rencontrées à différents niveaux d'acquisition d'une notion et d'en donner les raisons et, en un deuxième temps, de fournir quelques propositions de correction. Pour atteindre ces finalités, on a appliqué des questionaires tant aux professeurs qu'aux élèves. Ceci pour que le "binome éducationnel" puisse, par une analyse et une autoanalyse adéquates, identifier les obstacles mis en évidence sur tout le parcours de la collaboration, en vue de l'approche des notions clés de la chimie.

Un questionnaire et un test ont été, donc, appliqués à un lot de 172 élèves de sept classes appartenant aux collèges no. 20, 22 et "Lucian Blaga" de Cluj-Napoca, tandis qu'un questionaire a été donné aux 20 professeurs de collège, déteneurs des degrés didactiques I et II, eux-mêmes appartenant à des écoles de Cluj-Napoca, Zalău, Baia-Mare, Bistrița et Bucarest.

Puisque l'individualisation de l'acte éducatif suppose des formes d'évaluation qui ne se limitent pas à la constatation d'un résultat mais concerne l'analyse de la manière dont opère l'élève dans des situations d'autonomie relative, l'analyse des ses représentations, des attitudes qui le bloquent et des instruments qui lui font défaut, nous avons appliqué aux élèves le questionnaire suivant:

1. Quelles sont les sujets théoriques ou pratiques qui t'ont paru moins claires?
2. Quelles sont les difficultés que tu as rencontrées pendant les classes de chimie?
3. Est-ce que tu trouves la chimie difficile? Pourquoi?

Les questions ont été formulées de manière à ne suggérer aucunément la reponse.

On a pu synthétiser de la manière suivante les réponses les plus fréquentes:

1. Les problèmes qui ne sont pas claires appartiennent le plus souvent à trois catégories:

a. la variation de la valence des éléments chimiques dans le système périodique (parce que les élèves soutiennent avoir des difficultés à apprendre "par coeur" tous les élèments chimiques);

b. la dénomination des composés chimiques (les élèves confondent le nom des acides avec celui des sels (confusion qui s'explique par l'existence du même radical acide aussi pour l'acide que pour le sel qui lui correspond);

c. la réalisation pratique des expériences (la formation des habilités spécifiques au laboratoire de chimie se trouvant à ses débuts).

2. Les difficultés majeurs apparaissent au moment d'établir les indices dans les formules chimiques et les coefficients des équations chimiques. Ceci parce que, d'une part, les élèves n'ont pas compris la valence, d'autre part, parce qu'ils confondent le plus souvent les indices avec les coéfficients stoéchiométriques.

3. La chimie est difficile parce que:

a. les élèves ne saisissent pas la liaison entre les réactions chimiques et les applications pratiques;

b. ils ne savent pas résoudre des problemes (surtout ceux qui se réfèrent aux concentrations). Pour ce qui est de la résolution des problèmes, leurs difficultés vont à partir de l'ordonance des donnés et l'établissement correct des unités de mesure jusqu'à leur ordonnancement.

Si on analyse les réponses ci-dessus, on peut relever que:

a. il existe des obstacles épistémologiques déterminés par le niveau de préparation des élèves et qui empèchent l'acquisition logique de la variation de la valence des éléments chimiques avec leur structure électronique;

b. il persiste dans les manuels actuels, un contenu notionel "touffu", ce qui détermine l'absence du temps necessaire pour fixer les notions et les appliquer au moment de résoudre des problèmes;

c. la motivation pour apprendre la chimie manque, fait déterminé par le nombre insignifiant d'expériences liées à la vie quotidienne des élèves.

Ce questionnaire a été suivi par un autre, auquel, cette fois, ce furent les professeurs qui ont du répondre. Le voilà:

1. Quelles sont les plus fréquentes confusions qui apparaissent à la transcription des symboles des éléments chimiques?

2. Quelle sont les difficultés qu'on peut relever lors de l'acquisition de la structure des atomes des éléments chimiques par les élèves?

3. Comment les élèves saissent-ils la liaison entre la structure de l'atome de l'élément chimique et sa valence?

4. Quelles sont les difficultés qu'ont les élèves à établir le caractère électrochimique des éléments chimiques?

5. Comment les élèves réussissent-ils à apprendre des notions comme: molécule, masse moléculaire et mole?

6. Comment les élèves appliquent-ils les notions déjà acquises à la transcription des formules chimiques et à l'établissement des coefficients stoéchiométriques des équations chimiques?

7. Indiquez les notions fondamentales qui, selon vous, devaient être acquises en VII-ème. Motivez votre choix.

Nous allons donner par la suite, une synthèse des réponses des professeurs au questionnaire ci-dessus que nous allons accompagner de quelques observations et propositions que ceux-ci ont faites:

1. Les plus fréquentes confusions apparaissent à la transcription des symboles chimiques appartenant aux éléments qui commencent par la même lettre ou le même groupe de lettres, par exemple: fluor-phosphore (en roumain "fosfor"), fer-fluor, carbon-calcium, argent-argon, magnésium-manganèse etc.

2. Pour ce qui est de l'acquisition de la structure de l'atome, les difficultés sont liées à:

a. l'explication de la signification du nombre atomique Z et du nombre de masse A, parce que dans le manuel on ne réalise pas un consens pour la symbolisation de l'élément chimique. Par exemple, dans la partie théorique et dans les problèmes, l'élément chimique est symbolisé par: ${}^{A}_{Z}E$, tandis que dans le systhème périodique comme: ${}^{Z}_{A}E$.

b. la détermination correcte du nombre d'électrones et la répartition de ceux-ci sur des couches électroniques (parce que l'algorythme de répartition des électrones n'est pas suffisamment fixé par l'exercice);

c. l'identification des configurations stables spécialement aux éléments détenant deux électrones sur la dernière couche électronique (par exemple: Mg, Be, Ca etc.).

3. Les élèves établissent avec une grande difficulté la liaison entre la structure de l'élément chimique et le lieu occupé par celui-ci dans le système périodique. Cette situation est déterminée par le fait qu'ils soutiennent fréquemment que le numéro de la période est déterminé par le nombre d'électrons de la dernière couche électronique et le numéro du groupe est déterminé par le nombre des couches électroniques. Cette confusion apparaît aussi à cause de l'insuffisante fixation de ces relations par des exercices.

Bon nombre des confusions, en fait, sont déterminées à ce niveau de compréhension, par l'introduction dans les livres d'école du système périodique à dix-huit groupes.

L'acquisition difficile de la notion de valence est générée tant par la nature abstraite de la notion que par l'élimination des aspects concernant les liaisons chimiques du programme scolaire. Malgré tout, les professeurs continuent à enseigner les liaisons chimiques pour une explication plus intuitive de la valence.

Les enseignants soutiennent en unanimité que la relation structure de l'atome-valence pourrait être mieux comprise et fixée s'il y avait plus d'heures dans l'emploi du temps.

4. Le plus souvent, au moment d'établir la variation du caractère électrochimique, les élèves confondent les groupes avec les périodes. Si, à ce niveau, on insistait en faisant plus d'expériences, la notion de caractère électrochimique pourrait être fixée et rendue fonctionnelle par sa liaison directe à la réactivite des éléments chimiques.

5. La notion de molécule est acquise difficilement à cause de l'absence de certaines connaissances structurelles détaillées quant à la formation des liaisons chimiques.

En ce qui concerne la notion de masse moléculaire, pour la calculer, les élèves ne multiplient pas, en règle générale, les indices des éléments composants par leur masse atomique, mais font l'addition des masses atomiques des éléments chimiques composants.

Le mole, à ce niveau de compréhension, est une notion trop abstrait (bien qu'elle soit introduite une année avant en physique). Les élèves font difficilement le transfert du niveau microscopique correspondant à l'atome ou à la molécule à celui sémimacro-scopique de mole et ensuite à celui macroscopique de substance. La plus fréquente confusion signalée est celle entre le mole d'atomes et le mole de molécules.

6. Généralement les fautes qui surviennent dans la transcription des formules chimiques sont déterminées, premièrement, par l'acquisition déficitaire de la notion de valence et, deuxiemèment, par la fixation insuffisante de l'algorithme qui se base sur la notion mathématique de plus petit multiple commun, notion qui se trouve malheureusement à un stade incipient d'assimilation.

Pour établir les coefficients stoéchiométriques des équations chimiques, les élèves appliquent la loi de la conservation de la masse, mais confondent les coefficients stoéchiométriques avec les indices. Cette confusion est autant générée par des causes objectives que par le fait que souvent, par commodité, certains enseignants ne notent pas le coéfficient avec des chiffre également grands que le symbole chimique et qui précède, mais avec des chiffres arabes et petits devant le symbole chimique en bas, tandis que les indices sont marqués toujours par des petits chiffres arabes, toujours en bas mais après le symbole chimique.

7. A cette question, quinze sur les vingt professeurs enquètés font les propositions suivantes à inclure dans le livre de chimie pour la VII-ème:

a. on peut renoncer, à ce niveau de compréhension, à l'étude de la structure de l'atome; l'atome peut rester "une boîte noire" qui sera ouvèrte à la connaissance des élèves une année plus tard, c'est à dire en VIII-ème;

b. on peut étudier les éléments chimiques les plus usuels avec leurs symboles et leurs valences;

c. on mettra plus de temps à la disposition des élèves pour la transcription correcte des formules chimiques correspondant aux quatre classes de composés chimiques ainsi qu'à leur nom, en étroit liaison avec les applications pratiques;

d. on étudiera, sur la base d'un répertoire expérimental riche les types de réactions chimiques et la loi de la conservation de la masse;

e. on étudiera les solutions avec beaucoup d'applications de calcul des concentrations et de préparation pratique de celles-ci;

f. finalement, les notions acquises seront appliquées à la résolution des problèmes de calcul stoéchiométrique et de rendement.

Les autres cinq professeurs ont suggéré d'enseigner la structure de l'atome le plus intuitivement possible et aussi d'enseigner les éléments chimiques les plus usuels.

L'attentive analyse des réponses aux deux questionaires met en évidence le consensus existant entre les difficultés signalées par les élèves et celles repérée par les enseignants.

Les questionnaires appliqués ont mis en évidence les notions dont l'acquisition met en difficulté les élèves.

Les items du test élaboré et appliqué aux élèves ont été centrés sur les notions signalées antérieurement. Le test a voulu mettre en évidence le degrès d'acquisition des notions et aussi les erreurs typiques afférentes. Il s'est proposé aussi de réaliser une évaluation globale (appliquée en fin d'année scolaire) et une évaluation informelle (réalisée par des instruments nonstandardisés). Vu l'utilisation d'un test nonstandardisé les données obtenues ne seront généralisées qu'au niveau du lot pris en discussion. Les items du test ont été élaborés pour un niveau faible/moyen. On a choisi ce lot d'élèves pour mettre plus facilement en évidence les erreurs typiques qui, à un niveau haut ou très haut, ne sauraient plus être repérées.

Nous allons continuer par présenter le contenu du test avec les points accordés pour chaque réponse correcte:

1. Ecrivez les symboles des éléments chimiques suivantes: phosphore, potassium, sodium, fer, magnesium, carbone, manganèse, calcium, fluor, azote. (10 points).

2. Soulignez les formules qui représentent des molécules: O_2, S, N_2, H_2O, Cl_2, P, Mg, He. (4 points)

3. Etablissez les indices correspondant aux éléments chimiques des formules suivantes: AlO, NaO, MgO, Ca(OH), $Al(SO_4)$. (7 points)

4. Déterminez l'électrovalence des radicaux acides soulignés: H_2SO_4, H_3PO_4, HNO_3. (6 points)

5. Indiquez par des flèches le type de réaction correspondant aux équations chimiques de la colonne de gauche et établissez correctement (là où cela est nécessaire) les coefficients stoéchiométriques des écuations chimiques:

$Fe + CuSO_4 = FeSO_4 + Cu$	réaction d'échange
$CuCO_3 = CuO + CO_2$	réaction de remplecement
$Al + O_2 = Al_2O_3$	réaction de decomposition
$FeCl_2 + NaOH = Fe(OH)_2 + NaCl$	réaction de combinaison

(6 points)

6. Nommez les composés suivants:

H_2SO_4, HNO_3, H_2SO_3, H_2S, HNO_2. (5 points)

7. Combien de grammes de chlorure de sodium se trouvent dans 200 l de solution de chlorure de sodium en concentration de 20%? (9 points).

Total: 47 points.

Les moyennes obtenues au test de chimie par classe (l'objet chimie est en première année d'étude) ne sont pas très différentes des moyennes générales des autres objets d'étude (tableau 1):

Tableau 1

école	no. 20				no. 22		L. Blaga
classe	A	B	C	D	A	B	A
moyenne du teste	7,05	6,14	6,52	6,05	5,98	6,22	5,85

Malheureusement on peut conclure à niveau macroscopique que la motivation pour l'étude de la chimie se trouve, dans le meilleur des cas, au même niveau que la motivation pour l'étude des autres objets du programme scolaire. Il serait souhaitable que, surtout en première année de chimie, la motivation soit stimulée plus pour que l'étude de la chimie gagne ultérieurement en intérèt. On évitera, de la sorte, des attitudes négatives, souvent manifestés chez les élèves des grandes classes, vis-à-vis de cet objet d'étude.

Le calcul des coéfficients d'exactité pour des items indique un niveau faible d'acquisition des notions fondamentales de la chimie (tableau 2):

Tableau 2

item	1	2	3	4	5	6	7
pointage maximum	1720	688	1204	1032	1032	860	1548
pointage réalisé	1510	612	714	355	586	601	645
coéficientd'exactité	87,79%	88,95%	59,30%	34,39%	56,78%	69,88%	41,67%

L'analyse des réponses aux items proposés sera détaillée et discutée à partir du pourcentage des réponses correctes, partiellement correctes ou erronés.

Ainsi, au premier item, 82,56% des élèves donnent des réponses correctes, 9,88% des élèves, partiellement correctes et 7,56%, erronés. Parmi les erreurs on peut remarquer les confusion mentionnées dans les réponses données par les professeurs à la première question du questionnaire. Nous mentionons aussi que 13,37% des élèves écrivent les symboles des éléments chimiques en lettres cursives.

Au deuxième item on relève 79,07% des réponses correctes, 19,19%, partiellement correctes et 1,74% des élèves ne résolvent pas l'item. Quant il faut repérer les molécules on omet fréquement O_2, N_2, H_2O et, en échange, on considère comme molé-cule He; les élèves étendent la structure biatomique de gaz aussi aux gaz rares.

Le troisième item est résolu correctement par 21,51% des élèves, partiellement correct par 62,79% et non résolu par 15,69% des élèves. A l'établissement des indices dans les formules chimiques apparaît la confusion entre l'indice et la valence de l'élément chimique. De la sorte, des formules comme: NaO_2, $Al(SO_4)_2$, Mg_2O_2, Fe_3O_2, etc., peuvent être rencontrées. L'algorithme d'établissement des indices n'est pas correctement appliqué tant à cause du manque de bien d'opérer avec la notion mathématique du plus

petit multiple commun qu'à cause de l'inconséquence des auteurs du manuel de chimie qui notent la valence quant en chiffre romans, dans la partie supérieure du symbole chimique, quant en chiffre arabes, dans sa partie inférieure.

Il n'y a que 22,09% des élèves qui établissent correctement la valeur de l'électro-valence comme signe et module, 16,86% des élèves ont établi correctement la valeur comme module, 39,53% les ont établies partiellement correct et 21,51% ne résolvent pas l'item. L'erreur la plus fréquente consiste à étendre la valence du nonmétal sur tout le radical acide d'ou résultent les valeurs: SO_4^6, NO_3^5, PO_4^5, PO_4^3 .

Au cinquième item, seulement 15,69% des élèves ont établi correctement le type de réaction chimique et les coefficients stoéchiométriques. Un pourcentage de 61,63 ont établi correctement le type de réaction chimique, pendant que 22,67% des élèves ne résolvent pas l'item. Les plus fréquentes confusions apparaissent entre la réaction de remplacement et celle d'échange (18,02% des élèves) ou entre la reaction de décomposition et celle d'échange (4,65% des élèves). Si la première confusion est, en quelque sorte, justifiée par certaines ressemblances qui existent entre les deux types de réaction, la deuxième ne trouve sa justification que dans la manière aléatoire du choix du type de réaction chimique par les élèves.

La dénomination des acides, bien qu'un item relativement facile, n'a donné que 51,74% de réponses correctes et 48,26% de réponses partiellement correctes. On observe des confusions entre la dénomination de l'acide et du sel correspondant (justifiés par l'existence du radical acide commun) et des noms exotiques. De la sorte H_2S est nommé hydroxide de soufre ou acide sulfurique, HNO_2 - acide oxidic, acide d'azote ou hydroxide d'azote et H_2SO_3 - acide sulfuratique. Aux mêmes réponses on remarque aussi des dénominations transferées aux acides d'autres classes de composés chimiques. Cela à cause de l'insufisante fixation des classes de composés chimiques par des expériments et applications pratiques.

Le plus difficile item, le problème simple de concentration, n'est pas résolu par 34,30% des élèves, elle est résolu correctement par 15,69% et partiellement correctement par 50% des eleves.

Les résultats obtenus au test appliqué confirment par particularisation les constatations globales sur les deux questionnaires.

La systématisation des conclusions, réalisée d'ailleurs partiellement aussi le long de l'étude, peut être complétée par la mise en évidence d'éventuelles sources "responsables " de ces erreurs, comme par exemple:

- le transfert inadéquat des notions dans le cadre de la même discipline ou dans le cadre des disciplines apparentées (physique, mathématique, chimie);
- l'acquisition superficielle des connaissances par manque de fixation et d'opérer avec elles;
- l'inconséquence de certains notations dans les manuels de chimie;
- certaines connaissances empiriques rémanentes.

En conclusion, nous pouvons dire que mettre en évidence les sources génératrices d'erreurs et des erreurs elles-mêmes facilite la démarche du professeur de chimie qui veut les prévenir ou les combattre par l'utilisation des méthodes spécifiques, adéquates au niveau de compréhension des élèves.

BIBLIOGRAPHIE

1. J. Caretto, R. Viovy, *Relevé de quelques obstacles épistémologiques dans l'apprentissage du concept de réaction chimique*, ASTER, *18*, 1994, pp. 11-27.
2. E. Roletto, B. Piacenza, *Faut-il construire le concept de substance?*, ASTER, *18*, 1994, pp. 63-75.
3. J. Thibault, D. Davous, A. Masson, *Une approche interactive de la chimie*, DIDASKALIA, *2*, 1993, pp. 121-131.
4. S. R. Krishnan, *The mole concept*, "Journal of Chemical Education", *71* (8), pp. 653-655.
5. M. Meheut, *Des représentations des élèves au concept de réaction chimique: premières étapes*, "Bulletin de l'Union des Physiciens", *716*, pp. 997-1011.
6. J. R. Pribyl, *Using surveys and questionnaires*, "Journal of Chemical Education", *71* (3), 1994, pp. 185-196.
7. A. J. Phelps, *Qualitative methodologies in chemical education research*, "Journal of Chemical Education", *71* (3), 1994, pp. 191-194.

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THE SPECIFIC TASKS OF THE TEACHER IN PROBLEMATISATION

MUŞATA BOCOŞ

ABSTRACT. The study identifies the specific tasks of the teacher who employs problematisation as a method of teaching. In this respect the author detail the stages required by the design of such a type of lesson and the practical requirements and methodology needed for a successful endeavour.

In order that the tasks accomplished by the pupils, the set of the intellectual and practical activities required from the pupils, constitute real situations of learning, the training strategies designed by the teacher must take into account the methodological implications of the problematisation. It is obvious that for the teacher to succeed in stimulating and guiding the efforts of the pupils, it is not enough to know himself or herself the solution to the problem and to make the necessary corrections in the pupils' notebooks. The activity of the teacher in class changes in a substantial manner during the stage of didactic design when there are conceived and outlined the situations of instruction.

The preparation and use of problematisation requires a triple competence: the competence of a chemist, the competence of a didactician, and the competence of the psychologist. They all mutually contribute to the design, organisation, accomplishment, assessment and regulation of the didactic activities based on creation and solving of problem-situations.

During the stage of didactic design, a first operation to be done, from the perspective of the chemist, is the detailed analysis of the scientific content that will be discussed in class. The goal of this analysis is to organise and structure logically the knowledge, to decide the informational units (chapters, sub-chapters, themes, subjects) and to identify for each unit of instruction the fundamental elements of structural content, significant for its acquisition.

The second operation to be done, requiring mostly the competence of the didactician, but the competence of the psychologist also, is the methodical processing of the scientific content, the design of the educational goals of the theme/chapter and the set up of the thematic plan. The teacher formulates the system of didactic activities (lessons, laboratory assignments, chemistry workshops etc.) that he will organise for the study of the theme/chapter. For each of them will be established the fundamental didactic goal (objective) and the operational goals (objectives). Starting from here, the teacher will design learning situations in which he generates knowledge contradictions, in order to build didactic activities based on problematisation. The problems will concern the whole content of the theme under study and will integrate into a system.

During this stage, the teacher will also establish with accuracy the structure of the didactic activities which will integrate the problems; they will have priority in the projects of didactic activities: the whole structure of the respective didactic activity will be set according to the place and way of solving of the problems.

We may take into account the fact that there might be more than one problem (problem-situation) that is compatible with the objective(s) of the didactic activity (to fit the requirements). In this case there must be anticipated all the possible problems and leave to the pupils the choice of the variant of problematisation. It is very important that the pupils do by themselves the problematisation; pedagogically, it is not recommended to imposes to the pupils the authority of a pre-programmed problematisation, but to learn them to formulate problem-questions by themselves, questions that will be discussed and assessed with objective argumentation (A. Dumas-Carré, M. Goffard, 1993, p.24).

The formation as a chemist will help the teacher to anticipate the potential secondary problems (which are called sub-problems or auxiliary problems) for every problem conceived for the lesson, the ways to solve correctly these problems, the indications that would help the pupils to give up the wrong ways or the dead-ends and to focus over the central point. In other words, the teacher has to avoid ways that do not bring pupils anywhere and that are not constructive. He or she has to create the framework for new knowledge so that pupils learn new things and neither them nor the teacher feel a sense of discomfort, failure or frustration, ill-fated for future activities.

In what concerns the design of the sequences of problem-solving, the teacher needs to propose a large field of work, with scientific ways of solving, for the projects of didactic activity. It is not pedagogically recommendable to leave pupils solve the problems by ways chosen at random. We have to stress here that the way of solving and the work methodology are not pre-defined and that the pupils are the ones who initiate and impose it; still, the guiding role of the teacher continues all over the period of research fulfilled by the pupils in order to solve the problem-situation.

Problem-solving requires that the teacher selects the operational instructional fundaments (fundament-notions, fundament-capacities after M. Ionescu, I. Radu, 1995, p.28) of the context of the problem, which will be actualised for the pupils. The teacher will also take into consideration the possibility of intra- and inter-disciplinary connections, that could be useful in the new didactic context by offering ways of solving the problems (if they are formulate along with the text of the problem or along with the solving of the problem). They could also play the role of insuring a more effective understanding, acquisition and systematisation of the new knowledge and competence (for the case that connections are done at the end of the problem-solving, after the solution was reached). Together with the pupils, the teacher may make up conceptual maps that permit a better 'visualisation' of the knowledge and of the relations among them (J.M. Wilson, 1994, p.1136; M.B. Nakhleh, 1994, p.201)

From a psycho-pedagogical point of view, it is useful that the teacher tries to anticipate the reactions of the pupils, the ideas and hypotheses that they might formulate, also the possible difficulties and misunderstandings that they may encounter. Concerning this last aspect, there are three possibilities:

a) to infer them on the basis of didactic experience - the teacher has a sense of the most frequent errors done by the pupils, as well as the difficulties that 'resist' or 'relapse' at a certain level.

b) to notice them ad hoc, in the moment they come up during the didactic activities; this requires a special attention for the shape of the relation teacher-pupils, favouring the permanent reverse connection, which would show the likely 'dis-functions' in problem-solving.

c) at the end of the didactic activity, during the phase of application of the new knowledge or competence, or of their control and evaluation.

It is not enough to know these difficulties. The teacher must analyse and inquire for the causes and roots of these types of difficulties in order to be able to imagine didactic, psycho-pedagogic supports for pupils in difficulty. Thus, the didactic competence necessarily includes the psychological competence. As psychologist, the teacher must be acquainted with the cognitive, motivational-affective and conative psychic processes that are specific to children of a certain age, to understand the ways of spontaneous reasoning, so that he or she can explain the difficulties, misunderstandings and other reactions of the children. Little by little the teacher accesses more and more profound the children's processes of thinking, getting useful information for the work with pupils. A proper formation of the teacher should include the knowledge of present day theories of learning, which would help him/her stimulate the children, find the most suitable strategies for learning.

The main characteristic of problematised teaching is to create cognitive contradictions during the process of learning, making pupils aware of the disagreement between one level of knowledge and another, to which they must get. Within the system of didactic activities required by problematised teaching, the formulation of the problem and the organisation of problematic situations are not most important, but the conception of a minimal help for solving, of cognitive support able to guide the pupils in every stage of the process (J. Bruner, 1983; C.G. Leblanc, 1986).

a) The sub-stage of formulation and awareness of the problem is followed by the sub-stage that includes the common, teacher and pupils, activity of analysis of the text and known data of the problem, clarification of the point of the question, of unknown data and advance of a number of hypothetical solutions. The teacher organise and leads the discussion , creating and maintaining the necessary framework for the pupils to discover new knowledge, by subtle and challenging interventions. The teacher does by no means substitute his work to the work of the pupils and their learning activity, but he/she supports, order and lead the pupils' own cognitive effort, their activity of elaboration of operative structures of thought. The teacher is the one who points out the convergent and divergent elements in the discussions of the pupils and asks them to justify their statements, he stresses the essential points, the logic of the knowledge, removing the useless details that might influence in a negative manner the process of discovery. The teacher does not bring additional information (except when necessary) and he does not advance value judgements for the hypotheses and solutions proposed by pupils. On the contrary, he must be patient and flexible, he must encourage as much variants and suggestions for solving as possible, contributing in this way to the

creative thinking of the pupils. The many hypotheses are discussed by pupils or groups of pupils in an active, co-operative manner (D.R Woods, 1974). Very often, the debates among pupils reach to a consensus in what concerns the solution of the problem. If this consensus is not reached, the teacher will by no means offer the solution, but he will keep all the variants proposed by the pupils. these will be used in the following stage of problem-solving, which starts with another intermediary question.

The process of developing variants of solving is conditioned by the re-organisation and re-structure of the previous acquisitions of the pupils and by the mobilisation of the operational information. This process is also guided by the teacher, but this time he will make a 'correction' to the proposal of the pupils, correction that will lead to the final, accurate solution of the problem.

b) The sub-stage of verification and confirmation of the solutions requires the active involvement of the pupils, supervised by the teacher. His role at this moment is not anymore the role of a knowledgeable person, but of a guide. His present is discreet; practically, the questions addressed to the pupils must start a number of questions that the pupils will ask themselves. Far from situations himself to one of the extremes - either being very passive or confusing the pupil - the teacher is an animator who organises the discussions, asks for evidence and explanation, suggests new questions or new situations of instruction, all of these in the line of the operational objectives set at the beginning of the class. It is recommendable that the didactic activities are compatible with the particular rhythm of every pupils that tries to solve the problem.

The teacher must prove flexibility in his activity of guiding and try to avoid imposing by force some established variants of solving. If he encounters unexpected situations during the course of didactic activities, the teacher must exploit them if they may positively influence the pupils, or to eliminate them, if they may produce negative effects over the activity.

c) The sub-stage of frontal analysis - at the level of the whole class - of the content of the solving activities, the correct solution is decided by the whole class, by evaluation from all points of view. Eventually, the teacher is the one that 'institutionalises' the solving and the solution, the correct result. It is important that the solution is not imposed to the pupils from outside, but that they take part in obtaining it, in 'act and thought' (E. Fries, R. Rosenberger, 1973), that they re-structure and extend their knowledge, in some cases even changing a number of their ideas. The teacher must avoid imposing his own style, especially if this contradicts the pupil's conceptions, and has to leave the pupil to develop an individual research activity, finalised by a discovery that represents the solution of the problem.

d) The last sub-stage comprise of formulation of conclusions and correlation between the new data and the other knowledge. After the correct solution is obtained and validated, the teacher may begin to formulate the theoretical and practical implications, and the conclusions. He will encourage the correlation between the result of the problem and the whole body of knowledge linked with the theme under study, or even the whole knowledge in that discipline. Thus the new knowledge will become operational and will be integrated in the system of acquired knowledge.

The last stage concerns the assessment of the didactic activities based on problematisation. The teacher analyses them from a didactic point of view, trying to figure out the positive and the negative aspects, the 'dis-functions', by continuous and as objective as possible evaluation of the pupils' performance and implicitly of his own activity. This evaluation will serve as a starting point for the improvement of problematised teaching and learning.

To conclude, we may state that the intervention of the teacher is minimal and non-directive, encouraging the pupils to formulate as many as possible variants of solving, in a way that will contribute to the development of their creative thinking. The teacher must not teach, but perform a 'controlled and as much as possible non-controlling activity', and to assume the responsibility for it (P. Pochet, 1995, p.95). It is crucial that the teacher brings passion, experience, organised effort and determination in order to make his pupils willing and capable to obtain knowledge by their own effort. The systematic use of problematisation aims to develop the capacity to seize the existence of a problem, to formulate and then to solve them by permanently appealing to previous acquisitions. In other words, the focus if moved from an informative to a formative aspect of the studied discipline. The teacher must meet the pedagogic, psychological and material requirements of the research.

The psychological conditions refer to the consideration of the whole psychological resources of the class when the degree of difficulty of the problems is decided: level of intellectual development of the pupils, individual and age particularities. He must insure that the pupils are able to solve the problem; it must be hard enough to mobilise the pupils and easy enough not to discourage them.

The pedagogic conditions concern the factors that influence the formulation and solving of the problems, and the psycho-pedagogic requirements of problem design. The teacher must build a stimulating framework for the formative effects of problematisation to be present.

The material conditions refer to the set of material resources needed by the exploration and research activities of the pupils. These resource must be qualitatively and quantitatively appropriate for the practical experiments to be performed.

The whole manner of teaching must be modified so that the operational objectives are achieved and the pupils are efficiently trained. Problematisation represents the need of the pupils, since of greatest importance is the cognitive support for the solving done by pupils, and not the actual formulation of the problem. It constitutes itself as a source of innovation and creativity and its ultimate goal is to intellectually challenge the pupils, to mobilise their whole personality in the didactic activity.

REFERENCES

1. Bruner, J.(1983) *Le developpement de l'enfant: savoir faire, savoir dire*, PUF, Paris.
2. Dumas-Carre, A., Goffard, M. (1993) *Des activités de résolution de problèmes pour l'apprentisage*, "Les Sciences de l'éducation", no. 4-5, p. 24.
3. Fries, E., Rosenberger, R. (1973) *Învăţământul prin cercetare*, E.D.P., Bucureşti.
4. Ionescu, M., Radu, I. (coord.) (1995) *Didactica modernă*, Ed. Dacia, Cluj-Napoca, p. 28.
5. Leblanc, C. G. (1986) *Intêrets des modèles du processus redactionel pour une pédagogie de l'ecriture,* "Pratiques", no. 49.
6. Nakhleh, M. B. (1994) *Chemical Education Research in the Laboratory Environment,* "Journal of Chemical Education", vol. 71, no. 3, p. 201.
7. Pochet, B. (1995) *Le "Problem-based Learning", une revolution ou un progrès attendu?,* "Revue Française de Pédagogie", no. 111, p. 95.
8. Wilson, J. M. (1994) *Network Representations of Knowledge about Chemical Equilibrium: Variations with Achievment*, "Journal of Research in Science teaching, vol. 31, no. 10, p. 1136.
9. Woods, D. R. (1994) *Problem solving and Interpersonal Skills*, "Journal of College Science Teaching", vol. XIII, no. 6.

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CONTROL BELIEFS IN THE TRANSITION PERIOD IN ROMANIA

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ABSTRACT. For people's social behavior to be efficient, there must exist a belief of having control over the external environment. People use primary control mechanisms to bring about changes in the external environment; when primary control fails, they shift to secondary control mechanisms to change themselves and regain control over the environment. When both control strategies prove unsuccessful, people become depressed and their behavior is disadaptive. During the transition, because of difficulties in controlling the social environment, people in Eastern European countries are using illusory control strategies based on invalid beliefs and functioning as defense mechanisms. The present study is focused on the evolution of people's control beliefs in Romania after 1990.

1. The problem

People all over the world feel the need of having control over the environment they live in; this feeling suggests them they have a chance to adjust to their environment or to transform it. In the pyramid of human needs, the need for security (including that of one's job) is located on the second level, right above the material or physiological needs (food, clothing, housing etc.).

The idea of being able to control one's environment, as well as the impact of this belief upon one's behavior, is mainly a matter of social learning. In order to understand and explain behavioral facts, K. Lewin (1954) proposed a topological model having as central concept the "psychological field", made up of the totality of factors acting upon the individual at a given moment. It includes ecological and social variables as well as some internal vectors of the organism. Hope, aspirations, projects - arising precisely as the reverse of environment controllability - are genuine determinants of the individual's behavior rather than a mere utopian play, an epiphenomenon. Thanks to them, behavior is not a toy of the moment, it is not at the mercy of the situational variability of the physical and social environment. If attempts to change the surroundings fail, there still remains the alternative of changing oneself in order to achieve a state of balance with the milieu. When self-control, too, fail, we witness loss of control, maladjustment, psychological imbalance. During elementary learning processes, based on the mechanisms of classical and operant conditioning, the individual continually acquires new cues for his behavior, that is, discriminative stimuli enabling him to choose the most efficient responses. In terms of cognitive psychology, what matters in experiments of classical conditioning is not the mere pairing of events

through temporal contiguity, but rather the information conveyed, for instance, by the conditioned stimulus (CS), its capacity of predicting the coming up of the unconditioned stimulus (US), which constitutes the reinforcement. If the occurrence of the CS and US is random, conditioning does not ensue, even though temporal contiguity may be present. In operant conditioning (Skinner) we have to do with a selection of behaviors owing to their effects or outcomes. A behavior followed by positive reinforcement will occur with an increased probability, whereas a behavior getting punishment will have its chances or arising significantly diminished. What matters, in the behavioristic view, are the reinforcing contingencies that define the relationship between behavior, on the one hand, and certain types of environmental variables, on the other. Among the latter we may discern reinforcements and punishments, that is, events following a behavior that reward or penalize it, thereby modifying the probability of its subsequent occurrence. Thus are taking shape the discriminative stimuli that indicate which behaviors will be reinforced or punished (M. Richelle, 1987). In the language of behaviorism - which takes no interest in the mental processes peculiar to human beings - these discriminative stimuli control the behavior, even in new situations. Later on, Skinner has come to admit also a control through "rules"- a kind of abbreviations stemming from repeated experience. Concepts such as goals, wishes, or plans are not used: faithful to its program, behaviorism takes notice only of the sensory "inputs" and motor "outputs," with, between them, the "black box."

In such a context has made its appearance, during the 60s, the syntagm "locus of control," recorded in dictionaries of psychology only in the 80s. We have to do with control as perceived by the subject and resulting from his being exposed to the reinforcing contingencies of the environment and from the rules derived by him from this play of the reinforcements. The concept of control relates to the perceived (external or internal) source of the reinforcement.

It is noteworthy that in the midst of a behavioristic atmosphere there has arisen an interest in personal control. Up to the 60's topics such as self-control, voluntary actions, and conscious regulation were regarded as mere epiphenomena. Skinner's writings are an eloquent evidence for that approach.

The first widely used instrument for control assessment is linked with the name of J. Rotter (1966). In the prediction of behavior, this author assigns an important place not only to external factors, but also to internal variables, in conjunction with the environmental setting. Thus, the control-assessing device distinguishes between "externality" (E) and "internality" (I). In the first case the source of behavior control (reinforcement) is being projected outwards: into chance, fate, objective circumstances, powerful others, and all these are accompanied by depressive symptoms. In the second case the source of control is internal: one's effort, mobilization of one's energies, personal features like willpower, aptitudes, acquired skills etc. According to Rotter, belief in external or internal locus of control indicates not two personality types, but rather two opposing poles of a continuum, most people being located, probably, in its median zone. Subsequent research revealed, however, that the two dimensions (I and E) are independent, their correlation being zero.

In Rotter's wake, numerous versions of the control-assessing device have been developed, and a large number of studies have been published. By 1975, around 600 studies had come out. Afterwards their number kept increasing, and their scope got wider, tackling such issues as level of control in states of health and disease, during one's career, in social contacts and so forth. It has been shown, for instance, that there is a linear relation between control and state of health.

The individual's relationships with his environment are mediated by the group, by society as a whole. Hence, these relationships cannot be confined just to the binom person-environment. Thanks to his pertaining to a group, the human individual benefits from the achievements of former generations, he gets support from various establishments created in time - family, educational system, health care, social security and so on - that gradually extend the feeling of having control over one's environment. The ongoing exchanges between the organism and its environment postulate a number of steady landmarks, invariants, defined by the very structure and evolution of that relationship. In the flow of environmental changes some features are preserved, while others are disregarded. The remainder - the invariants - forms the basis of prediction and, hence, of controllability.

The scene of everyday life, comprehending the individual and the small group, is "submerged" in a social macrostructure. The latter provides it with norms, values, long-term development vectors etc. Major changes on the level of the society at large affect all subordinate levels including the individual one. Thus, we may distinguish the social macrostructure with its level of superordinate determination, then the small or medium group with the pertaining establishments, and lastly the individual with his niche of development, i. e. that strip of the spatial and temporal setting upon which the ontogenetic route (or biography) of the person is being superimposed. The personal niche, in turn, is imprinted with the characteristics of the larger social formation (nation, age group, occupational group etc.). While a group being included in a given social structure cannot either change its place or suppress itself, the individual can still pass from one environment to another and is even able, thanks to joint striving, to shape his social milieu. In addition to some elements of predetermination and dependence, the individual's route owns also a good many degrees of liberty. Let's say, place of birth - a mere accident - is by no means a fatality. Educational system, vocational training, liberalization of emigration and so on constitutes factors of social mobility. Thanks to all these, the human individual is able to migrate, he may choose for himself an appropriate social space in keeping with the requirements and his own capabilities. If such a choice is missing or if it is denied to him, he still has at his disposal the possibility of changing himself, of developing compensatory patterns of behavior. Anyway, by changing his environment, man changes himself, too. Two types of control have been identified: primary and secondary. Primary control is aimed at changing one's environment, whereas secondary control deals with self-changing in order to achieve the proper degree of person-environment consistency. These two types of control are not on the same level: we have to admit the prominence of primary control. There are, however, cross-cultural differences in this respect. For instance, the

American way of life is marked by the belief in primary control, while Japanese people emphasize secondary-control beliefs (R. Seginer, G. Trommsdorf, and G. Essau, 1993).

By creating a new environment, man doesn't suppress any dependence upon his surroundings; rather, he sometimes diverts it in another direction (for instance, by generating pollution, a phenomenon harshly denounced by contemporary ecologist movement). Controlling the physical environment and developing a cultural one is subject primarily to laws analogous to those involved in biological adjustment. For instance, technology and medicine have had undeniable adaptive effects: death rate has diminished and life expectancy has increased; but, on the other hand, there have arisen other, unforeseen imbalances: pollution of the biosphere, excessive spreading of mechanization, urban crowding and so forth. Gaining control in one area may lead to its loss in another. In addition to new opportunities of control, novel aspects of entropy are emerging: emancipation from the physical environment all too often entails dependence from the sociocultural milieu (M. Richelle, 1987).

To sum it up, we can say that the concept of personal control has evolved from a unidimensional acceptation with strictly behavioristic connotations (the perceived source of reinforcement for a given behavior) to a multidimensional approach with special references to such domains as health, career, interpersonal relationships, religious or philosophical beliefs etc. The idea of secondary control has modified the terms of the discussion. Secondary control keeps on being a real mode of control, but directed towards the individual himself, toward achieving a balance with the environment through changes within the person. Having recourse to an antianxiety drug (a tranquilizer) in order to maintain personal control is a palliative that temporarily restores equilibrium. Resorting to comparison with others in order to enhance one's self-confidence is also a type of secondary control. Likewise, the illusion of control is a form of transient balance.

Western culture favors the active, assertive kind of control aimed at changing the situation, as contrasted with the passive, shy, mild, resigned type of control associated with an avoidance-centered coping style, peculiar to the Orient. Perceiving the situation as uncontrollable induces changing oneself, strengthening self-control, developing defense mechanisms and so on. Of course, self-control - as well as primary control - may fail, as it happens in psychological disorders and in cases of substance dependency (alcoholism, tabagism, drug addiction etc.). Besides, the point at issue is the perception of controllability/uncontrollability rather than the objective control as such. This perception includes also a dose of illusion, subsequently corrected by practice. The tendency to favor active control is apparent in this terminological disjunction frequently proposed in psychology: mastery of the situation or palliative coping (in stress), primary or secondary control, reshaping the situation or self-compensatory behavior (cf. D. Shapiro, C. Schwartz, and J. Astin, 1996). Azuma (apud Heckhausen & Schulz, 1995) proposes a model of primary and secondary control in two dimensions: type of control (true / illusory) and efficiency of control (functional / dysfunctional). The main features of this model were synthesized in Table l.

Table l

A Three-Dimensional Model of Primary and Secondary Control
(Heckhausen & Schulz, 1995)

	Primary Control	
	Functional	**Dysfunctional**
Veridical	Effective behavior promoting short-term and long-term control	Effective behavior in the short term that debilitates long-term control potential
Illusory	Effective behavior based on invalid beliefs: behaving in the right way but for the wrong reasons	Ineffective behavior based on invalid beliefs, superstitious behavior
	Secondary Control	
	Functional	**Dysfunctional**
Veridical	Social comparison with age peers; Give up on un attainable goals; Make accurate attributions	Self-handicapping Dwell on unattainable goals; Make pessimistic attributions
Illusory	Positively biased behavior - outcome appraisals; Devalue unattainable goals; Egoistic attributional bias	Extremely exaggerated behavior - outcome appraisals; Increase value of unattainable goals; Self-blame for uncontrollable events

According to Azuma, when dealing with an uncontrollable environment, the subjects may resort to a mechanism of illusory control based on false beliefs, resulting in maintaining an efficient behavior toward one's social environment. Thus, the subject acts by virtue of the illusion that his environment is under control. This mechanism enables him both to keep the status quo and to reevaluate his possible objectives with the view of regaining control in the future. If the individual overestimates his own behavior, the illusory mechanism becomes inefficient, resulting in moving away from reality, setting fantastic, unattainable goals, and, hence, self-blaming, depression.

Leaning upon laboratory experiments, M. Seligman (1975) proposed a model of "learned helplessness" to explain depression. The author contends that the emotional, cognitive, and behavioral processes peculiar to depression result from learning the depressing fact that the outcomes of one's activity (the rewards and punishments) are uncontrollable. Research conducted with human subjects has revealed a significant positive relationship between "externality" and depression. A situation that is beyond one's control is conducing to depression and poor coping. Other studies have proved the existence of covariance between the perception of uncontrollability and self-blaming. The general validity of this paradox has been attested (L. Abramson, H. Sackeim, 1977).

A number of longitudinal studies on personal control have been conducted as well, thereby disclosing evolutional trends during individual life and even along generations. Belief in internal control increases from childhood to youth, reaching its acme at middle age, whereupon in one's third-age years it is the turn of belief in external control to augment, the latter tendency being much more conspicuous in women than in men. Relying upon more powerful others (parents, teachers, doctors) is gradually diminishing at age 8 through 14; the adolescent emphasizes the role of his own efforts in his personal achievements.

With age there is a shift in the zone of social anchorage, that is, areas of security or control for the individual, zones where he just "feels comfortable". In a survey conducted on a sample of 500, covering 5 age groups (from 5-7 to over 60 years), various favorite zones have been identified: family, school, friends, health, recreation, work, and others. Children aged 5 to 7 are anchored in their family (26.5 %) and in school (19.1 %); preadolescents appear as centered upon school (50 %), family (17.3 %), and entertainment (13.4 %); young people between 18 and 29 are centered on entertainment (13 %), work (11 %), and interpersonal relationships (7 %); middle-aged adults are anchored in profession (30.4 %) and partly in family (9 %); lastly, people of the third age return to being centered upon their family (20 %), and, in addition, they are concerned about health problems (C. Sansone, C. Berg, 1993).

A longitudinal study on perceived control, covering a time span of 20 years, comprised a sample of 1267 individuals belonging to four generations. An assessing device adapted for school-age children, parents, and grandparents have been used. The data of this longitudinal survey revealed, for the entire population, a significant rise of the mean level of internality in the period from 1971 to 1985. As a general trend, internality increases significantly from childhood through youth to adult age, and

decreases thereafter from the middle years to old age. In all instances of instrument administration, grandfathers appeared steadily as external, and grandmothers evinced the keenest perception of externality (M. Gatz, M. Karel, 1993).

The theories presented above have been proposed to model the mechanisms of individual control in a relatively stable social environment. The "learned helplessness" model arose experimentally in miniature laboratory settings, where the subjects are exposed to uncontrollability by being confronted with difficult or even insoluble task/problems leading to cumulative failure. Afterwards, the negative halo of this failure manifests itself in the decline of subsequent performances, in the lessening of self-esteem, and in the evolution of depressive symptoms.

The present paper investigates macrogroup behavior consequent upon a major event - the fall of Communist rule - inducing a systemic change. Thus, we had in view to explore the evolution of control mechanisms in large social groups in Romania 7 years after the 1989 Revolution.

2. Methods

Our study took the shape of a survey by questionnaire, administered to fairly large samples.

A survey by means of questionnaire records the subjective echo, the manner of perceiving current events. People are being put in situations of uncontrollability by life itself. Changes brought about by the transition to market economy, soaring prices, inflation, unemployment, social unrest etc. put people in the zone of unpredictability and uncontrollability. These changes dominate the scene of everyday life as well as the wider horizon of the macro-level. Hence, the questionnaire included questions relating to either the macro- or the micro-level. For instance this question, "Do you believe that things in our country are heading in the right or in the wrong direction ?", implies a wider outlook, belonging to the macro-level, whereas this other question, "Do you believe that in your everyday setting - at home, at work, in your contacts with people, in your way of life - you can get along, you are master of the situation, or on the contrary, the outer circumstances are dominating you ?", has in view mainly the everyday scene of the small group and of one's daily needs.

Of course, it is easier for people to answer when required to make comparisons: What were things like in the past? What are they like now? What do you think they will be like in the future?

The theoretical considerations expounded in the first part of this paper, as well as day-to-day observations, suggest a hypothetical matrix for the structure of the topics to be dealt with in the survey. We took as basic points of reference: the perception of environment controllability, the internality-externality dimension, the emotional halo of uncontrollability (depressive symptoms), the tinge of fatalism in convictions, suggestibility, vulnerability to rumor and so forth.

Like many other assessment devices, our questionnaire, too, has been developed on an eclectic basis. In the first place we had at our disposal the I-E (**I**ntroversion - **E**xtraversion) Scale proposed by B. Rotter, as well as some adapted versions of it (N. Dubois, 1985), including the assessment device developed by S. Chelcea, V. Tighel and M. Moşescu (1994). Two other instruments have been added: the Depression Scale and the Hopelessness Test, both constructed by Beck. Leaning upon this item pool, we have selected items and scales such as to cover the hypothetical matrix. Likewise, we could make good use of the surveys conducted by the Vienna Group that systematically draws up the "barometer" of the new democracies (BND) of Central and Eastern Europe.

3. Results

The middle-age adult (40 years aproximatively) had 25 years experience about a centralized economy, directed by an unique political party. In that case, a "wild capitalism" - based economy will be less accepted that a predictable, controlled economy (R. Rose, Ch. Haerper, 1994).

Despite the major drawbacks, the socialism suggested a belief of controllability. As B Barry (1989) noticed, in a socialist society people are able to control the important variables and, particularly, to defeat non-desirable consequences of individual actions. Because of a centralized and planified economy and the rule of the unique party in politics, the situation was perceived by the most people as a controlled one, despite of poverty and a loss of future perspectives. The transition after 1989 to a market-based free economy and a multiple-party political system and the big number of social revendicative extremely actions well presented by mass-media induced an anxious, depressive frame of mind.

A general question - answered by 546 subjects - asked to estimate the controllability of our country situation before 1989, quite after 1990, in present -days and for the next 2-3 years. The answer was graduated using a five -rank scale: "of course yes", "probably yes", "of course not", "probably not" and "I don't know". Figure 1 columns shows the obtained proportions. Aproximatively 60% of subjects estimate a controlled situation before ‘89, 24% think that the situation was uncontrolled, and 10% choose : "I don't know". We obtain the reverse percents for the period quite after 1990: 67% of subjects estimates that the situation was completely out of control; 17% appreciate it as a controlled one.

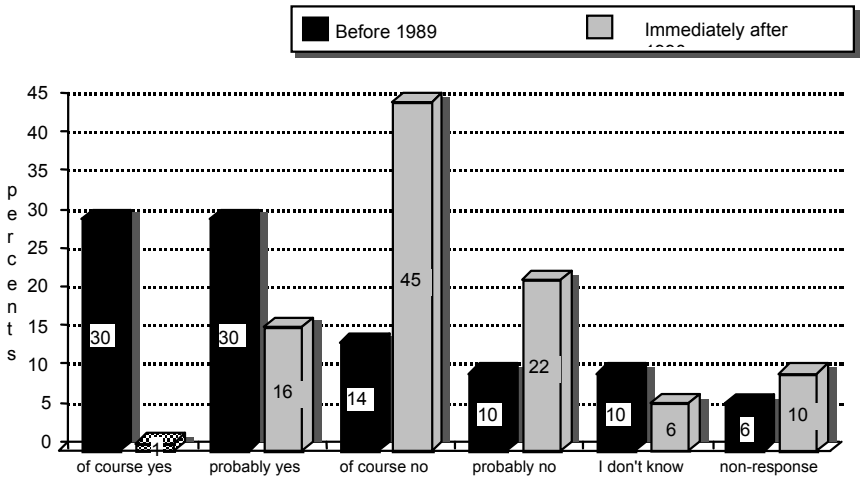

Figure 1. The control of events before 1989 and immediately after 1990

The opinions about present situation are divided (figure 2): 40% of subjects appreciate that the situation is under control, 43% have a contrary position, and 17% are undecided. On the other hand, the hope about future controllability is increased (about 44%), but also the proportion of non-answer is high (43%).

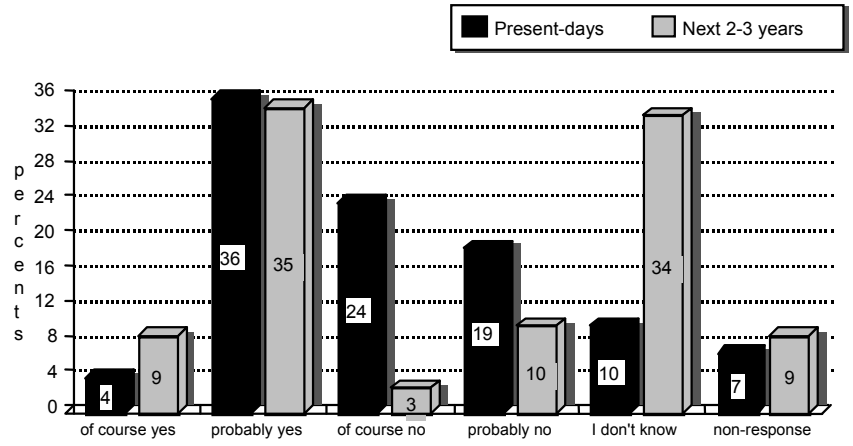

Figure 2. The control of events at present-days and in the next 2-3 years

This study was replicated after the most recent elections from Romania (November 1996), for the reason of seeing the changes at the level of subjective control beliefs of social environment. The research was conducted using 198 new subjects (students, workers and pensioners) from Cluj-Napoca and Oradea. The results about control beliefs are close to the older ones (figures 3 and 4).

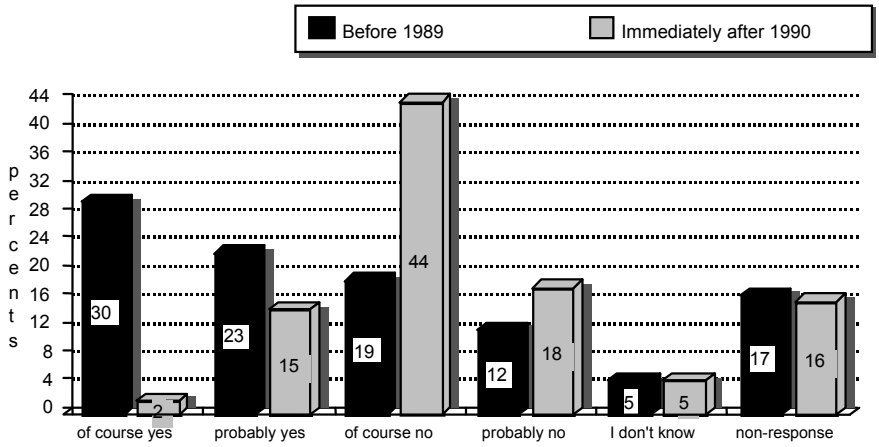

Figure 3. The results of the replicated study
The control of events before 1989 and immediately after 1990

The percents comparisons using $\chi 2$ test figure out non-significant changes about estimation of control belief during Communist ages ($\chi 2 = 8.62$; $p = 0.125$), after 1990 revolution ($\chi 2 = 2.25$; $p = 0.813$), present ($\chi 2 = 6.61$; $p = 0.25$) or future ($\chi 2 = 6.15$; $p = 0.291$). Surprisingly, the answers of students and workers are optimistic and very similar about controllability of social environment in future ($\chi 2 = 3.107$; $p = 0.539$); significant differences appears just for the period before 1989: the worker's opinion was significantly more optimistic ($\chi 2 = 16.282$; $p = 0.002$).

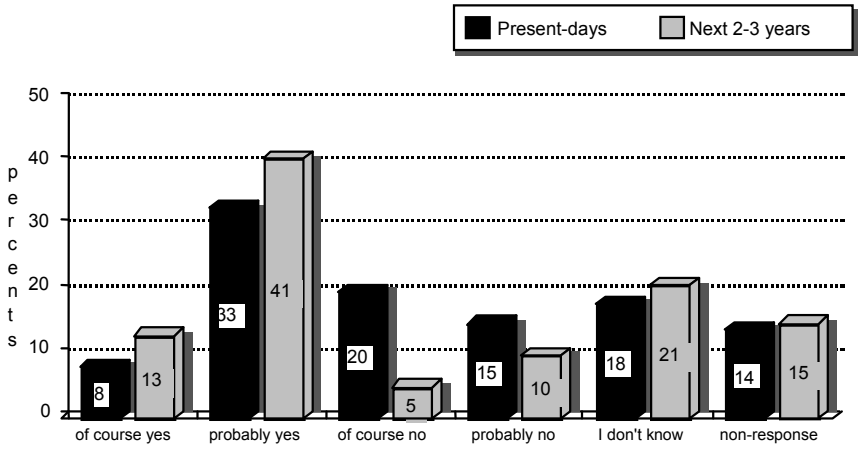

Figure 4. The results of the replicated study
The control of events at present-days and in the next 2-3 years

The qualitative analysis of results suggest a significant loss of the belief of controlling the environment after 1990 because of the decreasing stability of the social environment. There is a contradiction between subsequent increases of subjective controllability index and Romania's economical and political evolution, especially regarding the estimations about future. This result can be explained as an effect of illusory control strategies. People estimates the actual social environment as well-controlled. Therefore, their's actions outcome are overestimated as a very successful in controlling the events. This strategy increase subsequently the motivation for future actions directed to regain the control over external environment.

We have to add that most people of our country hadn't direct contacts with other countries during Communist dictatorship, especially with capitalist countries (figure 5). People didn't knew a plausible alternative for Romanian's state of the facts. Especially in age ‘80, Ceausecu's social order progressively isolated our country to the rest of the world. Our culture was transformed in a folklor-based minor culture, subordinate to the cult of the individual. Information about the out-world offered by the mass-media was ideologically filtered. The impossibility to contact external countries and the emptiness of any documents was associated with an ad-hoc ideological projection: the exaltation of "national genius", able to produce a "spontaneously generated" local culture.

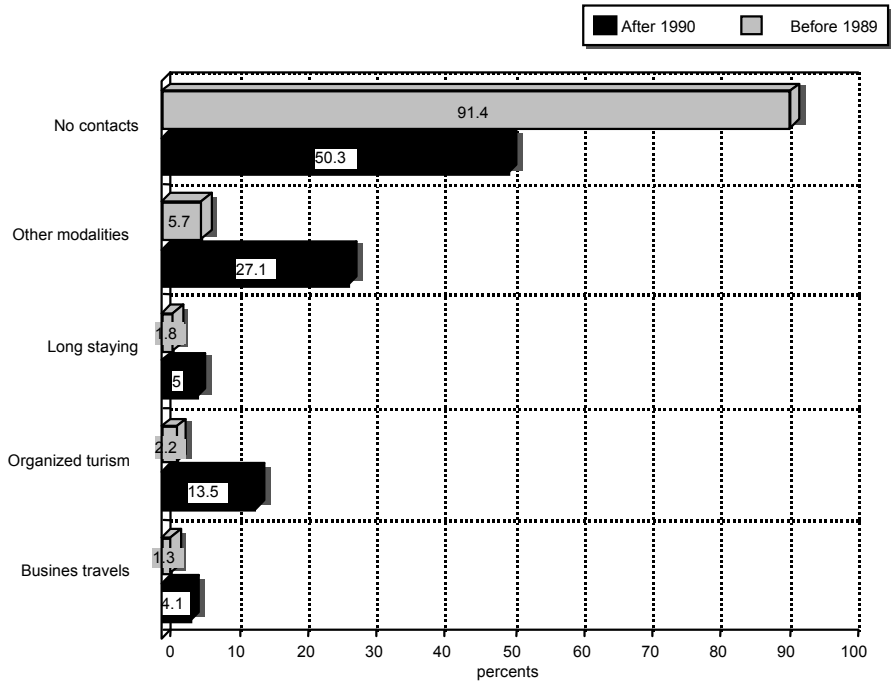

Figure 5. Travels in foreign countries

H.D. Patapievici noticed (1996) "Because our country was closed under Communist regime, people couldn't compare their living style to the homologue ones from the capitalist countries. Therefore, their miserable life was identified as the norm of any normal life. That means, people think: you can do anything, there is no alternative."

In other words, the life-style that was familiar and accessible to the people appears as the only possible world, better as an unknowed one.

The long-period contacts (by organized tourism) could be used only by 8.6% of our population. The rest of the 91.4% had no contacts to other countries.

Other investigations shows that people politically sanctioned the Communist regime. Using a scale between -5 and +5 degrees, 45% of subjects give to Communist system very low marks (-5, -4); only 5% give very high marks (+4, +5 respectively). Therefore, people dissociated economical system and the political system from age before 1990.

Using an item from the Public Opinion Barometer, realized by the Research Institute of Life Quality (1995), we asked twice time the question: "Do you appreciate that things goes in a right or in a wrong way in our country ?". Our test was done in October 1996 and January 1997. IRSOP and IMAS investigations made in 1994 and 1995 noticed that the direction of evolution is considered wrong by 43% and 57% of the questioned subjects.

The estimations realized before 1996 confirmed roughly the results of IRSOP and IMAS. But the results from January 1997 are very optimistic: 55% of subjects consider the present direction as good. In October 1996 the percent was 23%. Thus, a real event (political change) was used to maintain the motivation for active behavior.

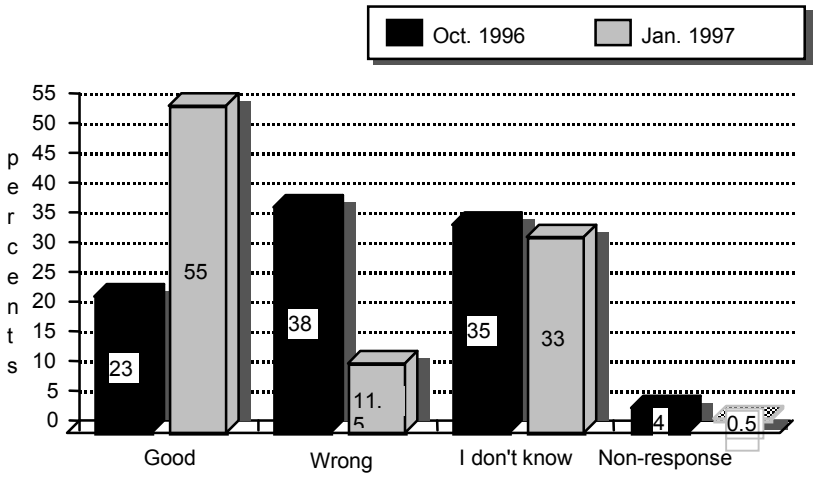

Figure 6. The direction of society evolution
- estimates from 1996 and 1997 -

The estimation of environment control strategies was realized using the following question: "Long years ago, Miron Costin, one of our chroniclers said: there aren't the seasons under man's will, but the poor man under the rule of time. Do you consider that this assertion is true yet ?". An affirmative answer suppose that the subject is using a secondary control strategy (the changing of the own abilities and behaviors to be in agreement with the events); a negative answer is a sign for the primary control strategies (direct action for changing the environment). An evasive answer (I don't know) could be a sign of the impossibility of using both primary or secondary control. The results (figure 7) agree the hypothesis that transition affect control beliefs in order to reduce trust about the possibility to control the environment: only 14.64% of subjects consider that the environment could be controlled, 27.74 percents think that they have to change their behavior and 60.1% are undecided.

Our hypothesis is sustained by the analysis of data splited by subjects category: the pensioners shows a predominancy of the secondary control strategy (50% of them are choosing "yes"). The workers and the students the most popular answer was "undecided" (53.52% for workers and 64.70% for students).

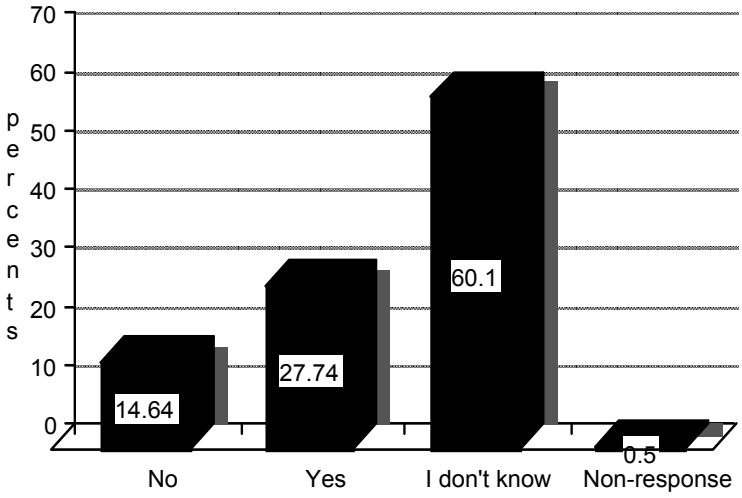

Figure 7. The belief of controling the environment

The subject's characteristic locus of control type was estimated using a three-scale test: vulnerability to rumors, fatality and externality / internality (table 2). The subject's scores was influenced by their events control strategy: subjects who prefer an active (primary) strategy revealed an internal locus of control; subjects with a passive (secondary) strategy have an external locus of control. The difference between this two category of subjects is significant for the externality / internality scale ($t = 3.109$; $p = 0.0026$). Undecided subjects are similar to the passive ones ($t = 1.14$; $p = 0.25$).

Table 2
The results of the locus of control scales

Scale	Type of control	Mean	ANOVA results
Vulnerability to rumors	Primary	0.926	F(2,192) = 1.356 p = 0.2602
	Secondary	1.204	
	Undecided	1.294	
Fatality	Primary	0.571	F(2,193) = 11.175 p < 0.0001
	Secondary	1.898	
	Undecided	1.378	
Externality / / internality	Primary	0.69	F(2,194) = 5.467 p = 0.0049
	Secondary	1.51	
	Undecided	1.303	

Speaking about fatality index, the subjects using active strategies are less fatalistic; subjects choosing a passive strategy shows a significantly higher fatality index that undecided subjects ($t = 2.798$; $p = 0.0058$) or subjects with active strategy ($t = 3.109$; $p = 0.0026$). The index of vulnerability to rumors wasn't discriminative.

As other similar studies, we find a significant but very small correlation coefficient between the externality and depression index ($r = 0.232$; $p = 0.001$). The computed variance for the=is coefficient is 0.053%. The mean scores obtained to the hopelessness scale (table 3) was qualitatively under the slight depression rank (between 6 and 12 points).

Table 3
The mean results at the hopelesness scale

Scale	Type of control	Mean	ANOVA results
Hopelesness Beck	Primary	3.276	F(2,194) = 5.756 p = 0.0037
	Secondary	5.51	
	Undecided	3.95	

It can be noticed that subjects with secondary control strategy obtained a higher score at the Beck scale that subjects using primary control ($t = 2.706$; $p = 0.0084$). This result confirm theoretical predictions. But this result is just statistically significant. Clinically analysis show that all this three results are in the category of "no depression". The data can be explained using the universal hopelessness theory (Abramson, apud Peterson, 1993), effective for the situations when a general uncontrollability effect is done by an external event. In that case the subjects

self-esteem is not affected, and therefore they are not self-blaming their unsuccessful behavior. Thus, subjects are not become depressed during the loss of active control capacity (as usually happens in individual hopelessness situations) because of the generality of that phenomena, that appears also at the all other persons.

The previous results are concordant to the data about the estimation of chance and own forces in controlling the environment (table 4).

Table 4

Estimations about the proportions of chances and own forces involved in events control - before 1989 and present -

Influencing of events (percents)	Mean	T test results
Chances before 1989	40.829	t = 3.88
Chances after 1989	33.404	p = 0.0001
Own forces before 1989	61.753	t = 0.587
Own forces after 1989	60.386	p = 0.558

We notice a significant loss of chance proportion in influencing events, that corresponding to a diminution of environment predictability ($t = 3.88$; $p = 0.0001$). Otherwise, the proportion of the own forces is aproximatively the same ($t = 0.587$; $p = 0.558$). This result is a measure of environmental subjective controllability: subjects consider the environment less predictable, thus they couldn't use active control strategy to favorably influence events.

Interpreting this results we can say that subjects are choosing the control strategy that is more appropriate to subjective interpretation of events causality: subjects with internal attribution of micro- and macro-events causes choose an active way to behave. On the other hand, fatalistic subjects will prefer a passive strategy, to adapting themselves to the environment changes. The subjects between this two cases couldn't make an accurate interpretation of external events, thus they couldn't use any existent control strategy; they remains undecided.

The syntagm "to clear up" suggest the subject's opinion thinking about the control of everyday situations, even this is useful only for short time. In our test was a question that ask subjects to estimate his "clear up" effectiveness using a fifth-rank value scale between unsatisfactory and good. The results shows that 49.6% of the investigated subjects are considering himself as satisfactory but they couldn't see to far; 10.1% are in trouble, some of them at the limit of surviving. The most frightful everyday events are the increase of prices, the inflation, social movements, illness. Thus there are basic needs - situated at the fundaments of the motivation pyramid - such as physiologically or life-security needs that rule most people present life. The expenses of everyday needs engross most of people founds.

People are well-prepared to tolerate transition's costs if there is a hope about changing for better lifeconditions. Otherwise pre-electoral investigations from U.S.A. shows that hope have a bigger effect that retrospective estimations (cf. R. Rose, Ch. Haerper, 1994). Our investigation suggest that there is an optimistic hope about the future (the mean value obtained is 63.28 on a 100-degree scale).

As a conclusion we can say that during the transition, the difficulty to estimate macro- and micro-level social events establish changes at the level of the environment control strategies. The choice of the optimal (active or passive) strategy is influenced by the specificity of subject's personality, not by the accurate event estimations. People are using illusory beliefs about macrogroup controllability (government, national economy) of the socio-economical system. These beliefs maintain the motivation for behaviors that make possible to regain the control over the environment in the future.

REFERENCES

1. Abramson, L., Sackeim, H. (1977) *A Paradox in Depression: Uncontrollability and Self-Blame*, Psychological Bulletin, 5.
2. Dubois, N. (1985) *Une echelle francaise de "locus of control"*, Revue de Psychologie Appliquée, nr.4.
3. Chelcea, S., Tighel, V., Motescu, M. (1994), *Locul controlului şi acceptarea valorilor sociale*, (Locus of Control and The Acceptance of Social Values), Revista de Psihologie, nr 2.
4. Gatz, M., Karel, M. (1993) *Individual Change in Perceived Control over 20 Years*, "Planning and Control Processes Across the Life Span", Lawrence Erlbaum Associates Publ., Hillsdale, SUA.
5. Heckhausen, J., Schulz, R. (1995), *A Life - Span Theory of Control*, Psychological Review, vol. 102, nr. 2, pag. 284-304.
6. Phares, J. (1976), *Locus of Control in Personality*, Learning Press, New Jersey, 1976.
7. Peterson, C., Maier, S.F., Seligman, M.E.P. (1993), *Learned Helplessness*; *A Theory for the Age of Personal Control,* Oxford, University Press, New York.
8. Reber, A. (1985), *The Penguin Dictionary of Psychology*, Penguin Books, London.
9. Richelle, M. (1987), *Les Fonction d'Utilisation du Milieu*, "Enciclopedie de la Pleiade: Psychologie (Piaget, J., Mounoud, P. şi Bronckart, J.), Ed. Galimard.
10. Rotter, J. B. (1966), *Generalized Expectancies for Internal Versus External Control of Reinforcement*, "Psychological Monographs", 80.
11. Sansone, C., Berg, C. (1993), *Adapting to the Environment Across the Life Span: Different Process or Different Inputs?*, "Planning and Control Processes Across the Life Span", Lawrence Erlbaum Associates Publ., Hillsdale, SUA.

12. Seginer, R., Trommsdorf, G., Essau, C., *Adolescent Control Beliefs: Cross-cultural Variations of Primary and Secondary Control*, în "Planning and Control Processes Across the Life Span" (Lachman E., ed.), Lawrence Erlbaum Associates, Publ., Hillsdale, SUA.
13. Seligman, M. (1977) *Helplessness: On Depression, Development and Death*, Freeman San Francisco.
14. Shapiro, D., Schwartz, C., Astin, J. (1996) *Controlling Ourselves, Controlling our Universe*, American Psychologist, December.

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MODERN BRAIN IMAGING TECHNIQUES IN COGNITIVE SCIENCE

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ABSTRACT. Technical advances in the area of neuroimaging over the past decade have changed dramatically the way in which brain-behavior relationship can be studied. Important new techniques for investigating the functions of the brain have been invented in the last several decades that makes possible a much more detailed structural and functional description of the brain than was previously available. The present paper gives just a introduction to technical and methodological foundations of major current neuroimaging techniques: Computer Tomography, CT; Magnetic Resonance Imaging, MRI; Positron Emission Tomography, PET. In addition, selected examples of applications in Cognitive Science are presented.

Keywords: cognitive neuroscience, cognitive psychology, brain imaging techniques.

One of the most intellectual developments of the past decades has been the birth of an exciting new field called cognitive science. Researches in psychology, linguistics, computer science, philosophy and neuroscience realized that they were asking many of same questions about the nature of the human mind and that they developed complementary and potentially synergistic methods of investigation. The five contributing disciplines will undoubtedly retain their separate identities, because each of them involves a much larger set of concerns that the focus on a basic science of cognition. On the other hand, it is obvious that none of the five contributing disciplines encompass the subject matter of cognitive science, and each discipline brings to the field a focus on particular areas.

Out of neuroscience and cognitive psychology, a new science has been fashioned called neurocognition or neuropsychology, defined as "the study of the relationship between neuroscience and cognitive psychology", especially those theories of the mind dealing with memory, sensation, and perception, problem solving, language processing, motor function, and cognition. Because of the efforts of neuropsychologists, hypothetical constructs such as memory types and language processing are no longer so conjectural but seem to have specific neuropsychological correlates.

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Furthermore, microscopic structures of the brain, when viewed as neuronetworks, seem to be related to larger components of human cognition, such as memory, perception, problem solving and the like (Solso, 1995).

Perhaps another generation will view such gross demonstration of cortical neural activity, which correspond to equally gross categories of thinking, as a primitive attempt to use knowledge from to previously disparate sciences to understand the central mechanisms of human cognition. Nevertheless, this early work will be remembered as a turning point in both cognitive psychology and neuroscience, and the exciting part of the contemporary students of cognition is that they will witness and, in some cases, create a new science of the mind. It's a wonderful time to be alive.

Cognitive Psychology and Neuroscience

In 1976, George Miller and Michael Gazzaniga decided to form a program that was focused on the problem of biological foundation of human cognition(this was the birth year of Cognitive Neuroscience). There objective was to emphasize that understanding normal cognition - not the determination of the brain area subserving discrete cognitive activities - is the goal of cognitive neuroscience (Gazzaniga, 1984).

The hope that biological and cognitive levels of investigation might be integrated has had a long history. Once it became evident that the operations of the brain were essential for the thought and actions, discovering the biological basis for the mental functions was an abiding objective. (Posner,1993). Advanced in integrating function with structure in the nervous system have been accelerated by technological developments in neuroimaging and by theoretical and empirical developments in cognitive neuropsychology and behavioral neurology. The results is an exploding knowledge base that deserves an update.

There are several reasons contemporary psychologists are using information and techniques from neuroscience in their pursuit of cognition. These include:

- the need to find physical evidence for theoretical structures of the mind.
- the need on the part of neuroscientists to relate their findings to more comprehensive models of the brain and behavior.
- the clinical goal to fine correlates between brain pathology and behavior.
- the increased involvement of neurological functions in models of the mind. Specifically, cognitive psychologists interested in parallel distributed processing (PDP) (also called connectionism or neuronetwork systems) are interested in finding psychological models consistent with neurological structures and functions.
- the work of computer scientists who are attempting to simulate human cognition and intelligence by developing computers that in a way that is similar with the human brain.
- the development of techniques that allow scientists to peer into the human brain and that reveal structures and processes never before seen. In fact in this paper the focus will be on the description of the several modern brain imaging techniques and their impact on cognitive science evolution.

Neuropsychological techniques

A few years ago, neurologists had only a few tools and techniques to use in the direct observation and exploration of the human brain. These included excising of tissue, electrical probes, EEG recordings, and postmortem examinations. Psychologists, on the other hand, invented a whole arsenal of techniques in which the mind revealed itself, such as the presentation of stimuli and measuring of reaction time. Recently, however, new instruments has been invented that have profoundly accelerated our understanding of the brain and, for our purpose, spun of a new breed of scientist that is part neurologist and part cognitive psychologist. Investigators have developed entirely new experimental techniques or they have borrowed techniques employed in other research area (Hannay, 1986). The new technology was originally developed for the diagnosis of brain disorders, but it has now become valuable research tool. These methods have already led to important new discoveries the study of human cognition and promise to be an integral part of the future of cognitive science.

Computerized Axial Tomography (CAT)

The Cat scanner works by means off an X- ray machine that rotates around the skull, bombarding it with thin, fan- shaped X- ray beams. The beams are recorded on a sensitive detectors on the opposite size of their source. This procedure is different from a conventional X- ray examination, which gives only one view of the body part. Also, with conventional X rays, large molecules (such as calcium in the skull) absorb the rays and partially occlude the organs behind them. The CAT scan rotates the X- ray beam 180 degrees, resulting in numerous "pictures" of the same organ and producing an internal cross section, or "slice" of the body part. This graphic cross section, called tomography (literally, "section writing"), has become critical in medical diagnosis. Contrast enhancement with radio-opaque material, such as organic iodine, increases the visualization of vascular structures and the increased vascularity around an acute infarct.

The major advantage of a CT scan is its ability to localize lesion in vivo with reasonably high anatomical resolution, especially in the late model scanners which show grey and white matter distinctly. An even more sophisticated version of the CAT technique, the dynamic spatial reconstructor (DSR), shows internal structures in three dimensions. One advantage of CAT is the ubiquity of machines. Also, recent technology has helped solved one of the problems with this technique. The temporal resolution, or shutter speed, had been about 1 second, with the result that dynamic processes (even the heart beat) appeared blurred. Now an ultrafast CAT has been developed that speeds up processing so that previously blurred images are now clear.

Magnetic Resonance Imaging (MRI)

MRI is the latest imaging modality, and it provides the most accurate localization of lesions without invasive radiation. The technique uses the inherent magnetic properties of spinnig atomic nuclei by placing the structure to be imagined in a large magnet and applying short-wave radio-frequency pulses to produce a resonance signal that can be quantified and computerized. Superior anatomical detail can be achieved, with excellent grey and white matter differentiation and an accurate outline of the edge of the brain from cerebrospinal fluid (CSF) spaces. The brain can be imagined in coronal and sagittal sections, in addition to the horizontal one that is the usual plane obtained in other modalities. This imaging flexibility, combined with anatomical accuracy, already has established MRI as useful clinical and research tool. The apparent lack of biohazard allows the study of normal individuals without clinical indications, as well as a more frequent imaging of patiens than is possible with other modalities that use ionizing radiation (Sweetland, Kertesz, Prato, & Nantau, 1987).

One of the main drawbacks of this technique, up until recently, has been the time it takes to form images using MRI technology. Because it required long exposure time, the technique was acceptable for viewing static biological structures. However, it was nearly useless for rapidly changing functions, those associated with cognition. It is now possible to apply high performance data acquisition techniques that make it possible to capture an image in as little as 30 milliseconds, which is brief enough to record fast-acting cognitive functions. Also, the new methods, called echo-planar MRI (EPI), are capable of high resolution images of functional activity in the brain. It is likely that further developments in the next few years will make EPI a practical tool for discrete visualization of brain structures and processes conducted in real time.

Functional imaging with MRI is becoming a promising investigative tool. First, contrast material (gadolinium) injection provided some measure of cerebral blood flow, but recent difussion and perfusion imaging is capable of detecting changes in blood flow that are associated with normal function. MRI has the potential to provide functional information because several parameters-such as changes in proton density, longitudinal and horizontal relaxation times, chemical shifts, magnetic susceptibility, and effect of flow on signal-are influenced by function (Kertesz, 1994).

Even more recently, an approach without contrast agents demonstrated real-time changes in magnetic resonance (MR) signal in response to functional activation. This method uses the decreases in arterio-venous system oxygenation difference that accompanies the regional increase in blood flow. A reduction of deoxyhemoglobin concentration produces regional signal intensity enhancement in the area of activation, so oxyhemoglobin acts as the body's own contrast agent that measures regional tissue oxygen consumption.

Preliminary MRI studies of brain activation included the visual systems, sensoriomotor, and language processing areas. Some of the functional activation maps of the visual cortex, for example, have been obtained at spatial resolution almost two orders of magnitude better than that of PET studies. These new MRI approaches allow a

noninvasive correlation of brain anatomy with function of a high level of spatial resolution and within a brief temporal interval. From the small amount of data available, a remarkable amount of intersubject reproducibility can be seen. Interindividual differences are, however, also detected, reflecting the differences in the anatomy of the cortex investigated. These techniques eliminate the average of the results and the use of geometrically standardized brain as employed with PET data.

Magnetic resonance spectroscopy (MRS) is sensitive to water nuclei (protons), lactate, phosphate compounds, and some amino acids; this sensitivity can be used for localization of function. Although the chemical specificity is high, the sensitivity and resolution is low, and the relationship to function is at a biochemical rather than an anatomical level.

Cerebral Blood Flow (CBF)

The CBF technique utilizes the physiological and pathological alterations in the regional blood supply. The technique is based on estimating the clearance of radioactive isotopes from various regions of the brain using surface detectors. The values are expressed as percentages of the hemispheric average. Increases of the blood flow are assumed to be associated with increased neuronal and, therefore, functional activity. A sustain repetitive task at least 3-5 min in duration is required for the activation. The colorcoded images of CBF have become popular in illustrating that the brain is activated in multiple locations when, for instances, a person reads or that the right hemisphere also "lights up" when a person speaks. The resting pattern shows precentral high and postcentral low flows (Ingvar & Schwarts, 1974). Simple repetitive movements of the mouth, hand, or foot augument the CBF in the contralateral sensoriomotor area, supporting the tomography of the cortical "homunculus".

The important advantage of the technique is that it reflects physiological metabolic change that accompanies psychological functions and can be used to study normal processes. Note, however, that changes are not measuring the neuronal events directly. These techniques are best suited to the study of sustained repetitive acts of cognition. The major disadvantage is a relatively poor resolution of the noninvasive Xenon inhalation method: it only measures blood flow on the surface. The more accurate intra-arterial injection is used rarely because is invasive and requires the indication of an angiogram. A more recent modification of the techniques combine Xe inhalation with computerized tomography, achieving three-dimensional representation in slices similar to those in pet scaning.

Of particular interest in cognitive psychology is the use of CBF patterns in memory research. In 85's years Tulving developed a theory of memory that posits two uniques types: episodic and semantic, or memory for personal events and memory for general knowledge, respectively. With CBF techniques Tulving showed general differences in the patterns of blood flow, namely, neural activity, associated with different region of the brain. Basically, it appears episodic (personal) retrieval is

accompanied by greater activation of the anterior portion of the cerebral cortex, and semantic (general) retrieval is accompanied by greater activation of the posterior regions. Although these data are so fresh that further work is needed before definitive theoretical statements can be made, it seems safe to conclude that episodic and semantic memory systems involve different brain processes and that each has its own location. This in turn suggests that we may have multiple memory systems. Such observations are also consistent with pathological studies of lesions and subsequent loss of episodic memory. (see Tulving, 1985; and Schacter, 1987).

Positron Emission Tomography **(PET)**

PET measures oxygen and glucose metabolism using a positron emitting isotope and a computerized tomographic scanner. This method also can be used to study regional blood flow. This complex and expensive technique is available only in a few centers equipped with a particle accelerator (cyclotron) and a team of nuclear physicists, radiofarmacists, computer experts, isotope specialists, clinicians, and experimental psychologists. The positron- labeled metabolites such as F-fluoro-deoxyglucose, must be given imediately at their source because of their short half-life. The nature of tracer kinetics requires that the physiological activity studied must be sustained for 20- 40 min. metabolic scanning with PET has confirmed the differences in hemispheric activation between verbal and visuospatial tasks performance (Mazziotta & Phelps, 1984)

PET studies have included measurements of cerebral blood flow, oxygen utilization, glucose metabolism, dopamine, opiate, serotonin, acetylcholine, glutamate, and gamma aminobutyric acid as well as the imaging of various other physiological processes. Although the resolution power, of the PET scanners has been 1- 2 cm, devices have been built with resolution of 2,5 mm. Some of these studies suggest that even subtle task differences can result in the recruitment of different cortical areas and that the connection between the areas is a dynamic balance of stimulation and inhibition, the interpretation of which may be quite difficult. Some if the activation studies have shown somewhat unexpected localization, such as semantic processing in the medial frontal regions on a word association task. Anatomical information from MRI can be combined with functional information from the PET scan. The integration of standard regions of interests on the PET scan with MRI anatomical templates provides a visual images of the statistically significant changes that occur on activation (Sergent, Zuck, Terriah, & MacDonnald, 1992).

The interpretation of the activated area is difficult because cerebral blood flow may not represent stimulation or inhibition equally. Changes in neural activity may happen long before any change in the blood flow occurs; therefore most of the PET paradigms require sustained activation. The spatial analysis of these results still is limited, and much information depends on the statistical analysis that is use to display the data. Some of the PET activation studies access cognitive processes, such as "inner speech ", that may not be available for analysis of explicit responses (Kosslyn,1992).

The alliance between neoroscience and cognitive psychology is characterized by the use of techniques and models of inquiry from both disciplines to examine human thinking, perception, and cognition. From the domain of neuroscience comes the study of neurology (the system of neuroconnections in the brain and their functions). From the domain of cognitive psychology comes the study of hypothetical structures such as memory, perception, and cognition. In neurocognition, both domains are represented. Of special interest is the interaction between these two domains. The using of the techniques, above mentioned, in order to offer a biological support for normal cognitive function is a proof for the strong relationship between cognitive psychology and neuroscience. But, lest the beauty and remarkable achievements of these new imaging techniques inspire uncritical enthusiasm, it should be emphasized that these techniques introduce potential artifacts as well as many new problems of interpretation, and it may be some time before they can be used routinely and with confidence. Also, none of the imaging techniques is nearly as flexible or has as good spatial and temporal resolution in vivo as recording from single neurons with microelectrodes. Despite such problems, the prospects are good that we may someday obtain global views of processing in the nervous system under conditions that are close to normal.

REFERENCES

1. Gazzaniga, M. S. (1984). *Handbook of Cognitive neuroscience*. Plenum Press, New York.
2. Hannay, H. J. (1986). *Experimental Tehcniques in Human Neurpsychology*. Oxford University Press.
3. Kertesz, A. (1994). *Localization and neuroimaging in neuropsychology*. Academic Press.
4. Kosslyn, S. M., Andersen, R. A. (1992). *Fronteers in Cognitive Neuroscience*. MIT Press.
5. Mazziotta, J. C., & Phelps, M. E. (1984). Human sensory stimulation and deprivation: Positron emission tomographic results and strategies. *Neurology*, 14, 40-60.
6. Posner, M. I. (1993).*Fondation of Cognitiv Science.* MIT Press.
7. Schacter, D. L. (1987). Implicit memory: History and curremt status. *Journal of Experimental Psychology: Learning Memory and Cognition*, 13, 501-518.
8. Sergent, J., Zuck, E., Terriah, S., & MacDonald, B. (1992). Distributed neural network underlying musical sight- reading and keyboard performance. Science, 257, 106-109.
9. Solso, R. (1995). *Cognitive Psychology*. Needhman Heights.
10. Sweetland, J., Kertesz, A., Prato, F.S., and Nantau, K. (1987). The effect of magnetic resonance imaging on human cognition. *Magnetic Resonance Imaging,* 5, 129-135.
11. Tulving, E. (1993). What is episodic memory?. *In Current Directions in Psychological Science*. MIT Press.
12. Tulving, E. (1985). How many memory systems are there? *American Psychologist,* 40, 385-398.

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ITEM BY ITEM INTENTIONAL FORGETTING AND IMPLICIT VERSUS EXPLICIT MEMORY; AN EXPERIMENTAL CRITICAL ANALYSIS

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ABSTRACT. This paper is a part of a larger project concerning the relation between intentional forgetting and implicit versus explicit memory. Over the past years a large amount of research has been conducted on intentional forgetting and the implicit/explicit memory distinction. However few research using intentional forgetting have involved implicit memory task. Consequently there are still no consistent experimentally evidences to support rigorous conclusions concerning the relation between intentional forgetting and implicit memory. We strongly argue that there is such a variety among intentional forgetting and implicit memory phenomena that one must approach the study of relation between them by a very careful and detailed analysis considering interfaces of both phenomena. Using a factorial experimental design we propose to study some mechanisms that could mediate and influence the relation between intentional forgetting and what is called implicit/explicit memory. These mechanisms are: (1) experimental situation of implicit/explicit memory, (implicit instruction; classic implicit instruction; process dissociation procedure-PDP; process dissociation analysis-PDA; explicit instruction); (2) types of intentional forgetting, (global intentional forgetting; specific intentional forgetting; item by item intentional forgetting); (3) level of processing (semantic; non semantic). (4) the emotional valence of the stimuli used. In this paper we study only the relation between item by item intentional forgetting and implicit/explicit memory. Results obtained sustain following conclusions: (1)item by item intentional forgetting occurs for both voluntary conscious memory and involuntary conscious memory; (2) item by item intentional forgetting occurs in implicit memory evaluated by implicit instruction and classic implicit instruction in case of semantic processing of studied stimuli; this is because of voluntary conscious memory and involuntary conscious memory contamination of those implicit memory tests; (3) item by item intentional forgetting does not occurs in unconscious memory evaluated by PDA and in implicit memory evaluated by classic instruction in case of non semantic processing of studied stimuli; this is because conscious memory in these conditions are dramatic reduced. Anyway item by item intentional forgetting occurs in implicit memory evaluated by implicit instruction in case of non semantic processing of studied stimuli ;this is because a great intentional contamination of implicit memory evaluated by implicit instruction.

Key words: intentional forgetting, implicit memory, explicit memory

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A. Background

This proposal examines the relation between item by item intentional forgetting and implicit/explicit memory.

Intentional forgetting started to be investigated experimentally in the late 1960s and early 1970s. For the purpose of this project intentional forgetting is defined as a motivated attempt to limit the future expression of a specific memory content (Johnson, 1994). There are three major types of intentional forgetting (IF): (1) global; (2) specific; (3) item by item (for details see Johnson, 1994).

In global intentional forgetting subjects learn initial information such as a word list or set of behaviors. They receive then a cue to forget all of the previous information because is invalid or will not be tested, and they must learn new information. Memory based processes of segregation and inhibition can lead to successful global IF.

In specific intentional forgetting subjects learn a set of facts or items, which often involves creating a representation that structures or interrelates that information. Subjects then receive a cue to forget only specific parts of what they have learned and must report the remaining material. Decision processes as rule based strategy and theory based strategy can lead to successful specific IF.

In item by item intentional forgetting subjects are initially instructed that list items will be cued for remembering (R) or forgetting (F) and that they have to remember only R cued items. Much evidence suggests that these forgetting effects occur because subjects use different post cue encoding strategies for the two types of items. Thus subjects would not be elaborating on F-cued items or relating them to previous item ; in contrast R - cued items would receive more elaboration.

Successful IF occurs only when one intentionally retrieves information from a particular learning episode (explicit memory task) not when the task does not expressly require this (implicit memory tasks- Basden et al.1993; Johnson, 1994). However other works (Mac Leod, 1989, Miclea, 1997) have found that intentional forgetting occurs in implicit memory task too. According to Basden et al. (1993) we argue that the task in those experiments - where IF occurs in implicit memory task - did not tape implicit memory but, rather involved intentional retrieval of prior learning information (there is an explicit contamination of implicit memory tests).

Starting from Basden et al. (1993) objections we propose some mechanisms that could mediate and influence the relation between IF and implicit/explicit memory. These mechanisms are: (1) experimental situation of implicit/explicit memory ; (2) level of processing (LOP effect) (3) types of IF (because of their different mechanisms- see above); (4) the emotional valence of stimuli used.

Explicit/implicit memory distinction is one of the most vigorously explored topic in current memory research. Explicit memory is revealed when performance on a task requires conscious or intentional recollection of past experiences (Schacter, 1987). Implicit memory is revealed when previous experiences facilitate performance on a task that does not require conscious or intentional recollection of those experiences (Schacter, 1987).

There are four major experimental situation for revealing implicit memory (1) implicit instruction (there is not at all reference to the initial encoding episode - see for details Toth, Reingold & Jacoby, 1994, 1995); (2) classic implicit instruction (subjects are informed that previous experiences could facilitate performance on their task but irrespective of this, their job is to complet the task without intentional recollection of those experiences - see for details Toth et al. 1994); (3) process dissociation procedure (PDP, see for details Toth et. al. 1994); (4) process dissociation analysis (PDA- see for details Richardson-Klavehn & Gardiner, 1996).

Fundamental research (David, 1996; Graf, 1995; Graf & Komatsu, 1994; Komatsu, Graf & Uttl, 1995; Jacoby, 1991; Richardson-Klavehn & Gardiner, 1996; Toth et al. 1994, 1995) concerning the debates among experimental situation of implicit memory entailed the following rigorous conclusions:

(1) indirect tests (implicit instruction and classic implicit instruction) reflect more than unconscious memory - they may be contaminated by voluntary conscious retrieval (implicit instruction) or by involuntary conscious retrieval (implicit instruction and classic implicit instruction).

(2) this contamination appears only in case of semantic processing of stimuli in the study phase and not in non semantic processing (e.g. physical processing) or subliminal and non attention exposure of those stimuli.

(3) PDP placed unconscious and conscious forms of memory in opposition so, as to mathematically separate the two components within a task;

(4) PDA can mathematically separate the three components of memory: a) unconscious memory; b) involuntary conscious memory; c) voluntary conscious memory.

(5) these results imply that conscious memory should not be equated with voluntary retrieval and unconscious memory should not be equated with involuntary retrieval, because involuntary retrieval can be accompanied by memorial awareness.

Taken in account these conclusions we think that conscious contamination of implicit memory test (both voluntary and involuntary) not only inflates supposed estimates of unconscious influence but also lead to mistaken conclusion regarding the effect of experimental manipulations (e.g. intentional forgetting effect).

B. Objectives

The experiment proposed here is designed to advance our understanding of the mechanisms that mediate the relation between item by item intentional forgetting and implicit /explicit memory. It will be done by taking in account advanced research on the field of implicit/explicit memory distinction: (1) distinction between voluntary conscious memory / involuntary conscious memory / unconscious memory (Richardson & Klavehn & Gardiner, 1996); (2) rigorous methods for evaluate this kind of memories-e.g. PDA- in opposition to old method - implicit/explicit instruction- that bring some contaminations (see explicit contamination of implicit tests and implicit contamination of explicit tests, Jacoby, 1991) that can lead to mistaken conclusions of experimental manipulation effect (e.g. item by item intentional forgetting effect).

We shall try to prove that:

(1) item by item intentional forgetting occurs for voluntary conscious memory (this effect has now been obtained in a number of laboratories -Basden, Basden & Gargano, 1993; Johnson, 1994- therefore we just verify whether it is a reliable phenomenon) and involuntary conscious memory; evaluation of these kind of memories is made by PDA and explicit instruction;

(2) item by item intentional forgetting occurs in implicit memory evaluated by implicit instruction and classic implicit instruction in case of semantic processing of studied stimuli; this is because of voluntary conscious memory and involuntary conscious memory contamination of those implicit memory tests;

(3) item by item intentional forgetting does not occurs in unconscious memory evaluated by PDA and in implicit memory evaluated by implicit and classic instruction in case of non semantic processing of studied stimuli; this is because conscious memory in this condition is dramatic reduced.

C. Experimental method and procedure

To reach the objectives of our research we set-up a 4X2X2 factorial design. (see table no.1). The first factor is the type of recollection; it has four conditions: 1) implicit instruction; 2) classic implicit instruction; 3) PDA; 4) explicit instruction. The second factor is the type of intentional forgetting that has two conditions: 1) item by item IF;2)control-non IF. The third factor is the level of processing and it has two conditions 1) semantic processing ; 2) non semantic processing. The factorial design is presented in table no. 1.

The procedure is following:

EXPERIMENT

1) study phase of word lists according to item by item IF, and control(non IF instruction) in the context of semantic processing - judge the pleasantness of each word on a 7 point scale and in the context of non semantic processing - judge if the current word has more than 2 vowels.

2) test phase according to implicit instruction, classic implicit instruction, and PDA-in word stem completion-and explicit instruction-in cued recall- test

3) we will use three list of words (one for item by item intentional forgetting plus one for non intentional forgetting condition and one for control condition in implicit memory tests); each list of words consists of 60 five or six letter words (30 for semantic processing and 30 for non semantic processing),mostly nouns, having approximately the same frequency in Romanian language.

4) we will have three groups of subjects; group1 for implicit and explicit instruction, group2 for classic implicit instruction, group3 for PDA.

5) An ANOVA will be undertaken upon quantitative results.

TABLE 1. The factorial design (4X2X2) and experimental results (mean preparation of stem completed with word from the study list)

Type of recollection	Implicit instruction	Classic implicit instruction	PDA	Explicit instruction
Type of IF/LoP	S NS	S NS	S NS	S NS
IbI IF	0.45 0.40	0.39 0.43	C1-0.36; C2-0.22; A-0.06; c1-0.04; c2-0.01; a-0.25;	0.51 0.38
non IF	0.56 0.4646	0.50 0.44	C1-0.43;C2-0.34; A-0.07; c1-0.11; c2-0.07; a-0.27;	0.63 0.47

IF-intentional forgetting
non IF-non intentional forgetting condition
IbI IF-item by item intentional forgetting
S-semantic processing of stimuli in acquisition phase
NS-non semantic processing of stimuli in acquisition phase
LoP-level of processing
C1-involuntary conscious memory- semantic condition
c1-involuntary conscious memory -non semantic condition
C2-voluntary conscious memory -semantic condition
c2-voluntary conscious memory -non semantic condition
A-unconscious memory- semantic condition
a-unconscious memory-non semantic condition

D. Results

Lines comparisons between item by item IF and non IF in the following conditions:

Implicit instruction semantic condition
$t(38)=5{,}20$, $p<0.01$
Implicit instruction non semantic condition
$t(38)=4{,}05$, $p<0{,}05$
Classic implicit instruction semantic condition
$t(38)=5{,}21$, $p<0.01$
Classic implicit instruction non semantic condition
$t(38)=1{,}05$, $p>0.10$
PDA semantic condition
c1-voluntary conscious memory-$t(38)=4{,}15$, $p<0.05$
c2-involuntary conscious memory-$t(38)=6{,}30$, $p<0.01$
A-involuntary unconscious memory-$t(38)=1{,}01$, $p>0.10$

PDA non semantic condition

c1-voluntary conscious memory-$t(38)=4,08$, $p<0.05$

c2-involuntary conscious memory-$t(38)=4.05$, $p<0.05$

A-involuntary unconscious memory-$t(38)=1,04$, $p>0.10$

Explicit instruction semantic condition

$t(38)=5,22$, $p<0.01$

Explicit instruction non semantic condition

$t(38)=5,01$, $p<0.01$

E. Conclusions and Discussion

Our results confirm the existing presumptions about the relation between item by item IF and implicit/explicit memory:

(1) item by item intentional forgetting occurs for both voluntary conscious memory and involuntary conscious memory ;

(2) item by item intentional forgetting occurs in implicit memory evaluated by implicit instruction and classic implicit instruction in case of semantic processing of studied stimuli; this is because of voluntary conscious memory and involuntary conscious memory contamination of those implicit memory tests;

(3) item by item intentional forgetting does not occurs in unconscious memory evaluated by PDA and in implicit memory evaluated by classic instruction in case of non semantic processing of studied stimuli; this is because conscious memory in this condition is dramatic reduced. Anyway item by item intentional forgetting occurs in implicit memory evaluated by implicit instruction in case of non semantic processing of studied stimuli; this is because a great intentional contamination of implicit memory evaluated by implicit instruction.

What is most important to see in future studies is whether there are differences among types of IF and their relation to implicit/explicit memory. More than that we assumed that the confusion concerning the relation between IF and implicit/explicit memory is determined by a wrong, unclear and unsystematically operational definition of implicit/explicit memory. (see for example conscious contamination of implicit memory tests). This can lead to mistaken conclusion regarding the effect of IF on implicit/explicit memory. So that for clarifying the mechanisms that mediate relation between IF and implicit/explicit memory will be very useful and necessary to evaluate in future studies separately the relation between the others types of IF (global IF and specific IF) and (1) unconscious memory; (2) involuntary conscious memory; (3) and voluntary conscious memory. Also we have to take in account the emotionalvalence of unformation and stimuli used; the emotional valence of stimuli might mediate the impact of intentional forgetting on the implicit and explicit memory. This detailed analysis will straighten our conclusions regarding relation between IF and implicit/explicit memory. Conclusions obtained could offer interesting implications for cognitive psychotherapy by elaborating powerful techniques for blocking implicit or explicit influence of desadaptative cognition on our decision and behavior.

REFERENCES

1. Basden, B. H. Basden, D. R., & Gargano. G. J. (1993). *Directed forgetting in implicit and explicit memory tests: A comparation of methods.* Journal of Experimental Psychology: Learning, Memory and Cognition, 19, 603-616.
2. David, D. (1996). *Implicit memory, Theoretical clarification and practical implication*, Studia, 1, 5-25.
3. Graf, P (1995). *Defining the opposition procedure: A reply to Toth, Reingold and Jacoby's (1995) response to Graf and Komatsu (1994*). European Journal of Cognitive Psychology, 7(3), 225-331.
4. Graf, P & Komatsu, S. (1994). *Process dissociation procedure: Handle with cautions!* European Journal of Cognitive Psychology, 6, 113-129.
5. Jacoby,L. L.(1991). *A process dissociation framework: Separating automatic from intentional use of memory*. Journal of memory and language, 30, 513.
6. Johnson, M. H. (1994). *Processes of Successful intentional forgetting.* Psychological Bulletin, 2, 274-292.
7. Komatsu,S., Graf, P., Uttl, B.(1995). *Process dissociation procedure:Core assumtions fails sometimes. European* Journal of CognitivePsychology, 7, 19.
8. McLeod, C. M. (1989). *Directed forgetting affects both direct and indirect tests of memory.* Journal of Experimental Psychology: Learning, Memory and Cognition, 15, 13-21.
9. Miclea, M. (1997). *Successful intentional forgetting and implicit versus explicit memory*. Creier, Cogniție, Comportament, 2.
10. Richardson- Klavehn, A., Gardiner, M. J. (1996). *Cross-modality priming in stem completion reflects conscious memory but not voluntary memory.* Psychonomic Bulletin, 2, 238-244.
11. Schacter, D. L.(1987). *Implicit memory:History and current status*. Journal of Experimental Psychology: Learning, Memory and Cognition, 3, 501-518
12. Toth, J. P., Reingold, M. E. & Jacoby, L. L. (1994). *Toward a redefinition of implicit memory: process dissociation following elaborative processing and self generation*. Journal of Experimental Psychology: Learning, Memory and Cognition, 20, 290-303.
13. Toth, J. P., Reingold, M. E. & Jacoby, L. L. (1994). *A response to Graf and Komatsu's critiques of the process dissociation procedure: When is caution necessary?* European Journal of Cognitive Psychology 7, 113-131.

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TRENDS IN NEUROSCIENCES. NOTES ON THE XXXIII INTERNATIONAL CONGRESS OF PHYSIOLOGICAL SCIENCES, ST.PETERSBURG, JULY 1997

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ABSTRACT. This paper offers an overview of certain works presented at the XXXIII International Congress of Physiological Sciences, St.Petersburg, Russia, July 1997. The role of neurosciences in the future development of physiological sciences was not only strategically stressed, but also demonstrated by the significant number of workshops and symposia from this field. Interesting topics in the area of cognitive neuroscience are the main focus here.

In the midnight sun of White Nights, in a city with cultural traditions established by Peter the Great and with a noted past as the center of Russian physiological sciences, marked by outstanding names such as I. Sechenov, I. Pavlov, P. Bechterev and A. Uhtomsky, took place between June 30 and July 5 1997 the XXXIII International Congress of Physiological Sciences.

The so-called "last Congress of the Millennium" had a very ambitious goal of not only summarizing the knowledge accumulated to date but also providing directions for the future of physiology (***S. Medvedev***, Chairman of the Organizing Comittee). The main emphasis can be found in the very theme of the Scientific Program of the Congress, "Integrative Physiology: From Molecules to Humans" - that is, moving from a reductionist to an integrative science.

Such a commitment can be understood only if we take a closer look at what is happening in modern biology. Impressive advances in molecular genetics and molecular cell biology achieve ever finer resolutions of basic biological processes. Developmental biology adds to this by deciphering the genetic programs that establish structural order and integration in organisms. The progressive reductionism fostered by this huge body of knowledge has to be counterbalanced by a reinforcement of the integrative approach in physiological investigations. And, from the point of view of the IUPS (International Union of Physiological Sciences) Committee on Integrative Physiology, a promising approach could be the "functional systems sciences" which encompass physiology, morphology, developmental biology, pharmacology and cell and molecular biology.

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It is not surprising that the "neurosciences" are considered a model for such an integration, because they have allowed physiology to blend in with cell and molecular biology, with morphology and pharmacology, in the integrated pursuit of "nervous system physiology". So, a "new physiology", that extends from the molecular and cellular to the systemic and organismic level, has a lot to learn from the lessons of developing neurophysiology into neurosciences.

Maybe for such reasons the Opening Ceremony of the Congress included the first plenary lecture "On the Human Brain. A Century and its last Decade in Human Brain Research" by ***Natalyia P. Bechtereva,*** from the Institute of the Human Brain, Academy of Sciences of Russia, St. Petersburg. The history of brain research was evoked in terms of "breakthroughs": the first one, following the clinical-anatomical explorations of the 19th century, made in neurophysiological investigations performed in direct contact with different sites of the brain; the second based on noninvasive techniques, which offer data on the functional properties of the cortex and subcortical areas. The strategy of future brain research was postulated in terms of investigation of the finest physiological rearrengements which underlie thinking, i.e., deciphering the brain code.

The growing interest in neurosciences was reflected also in the number of symposia and workshops - from the 106 organized - specially devoted to brain structure and functioning. Here is a list of the most important ones: "Functional Organization of the Brain in Human Ontogenesis", "Mechanisms of Synaptic Transmission Changes", "Control of Neurotransmitter Release", "Central Visual Processing", "Conscious Vision", "Non-Invasive Study of Higher Brain Functions", "Emotions: Interdisciplinary Approach", "Neural Systems for Learning and Memory", "Consciousness and Attention", "Brain Systems Underlying Cognition", "Memory Processes and their Cellular Mechanisms" and "The Neurobiology of Sleep". It is important to mention that many other symposia were devoted to basic molecular and cellular brain processes.

The presence of ***cognitive*** neuroscience topics in a congress of physiological sciences must be considered not only a "strategic" decision for the promotion of integrative physiology: It reflects the state of the art in the science of the mind. The interdisciplinary network engaged in the understanding of normal and abnormal mental processing covers now anatomic and computer studies of neural circuits, animal and human lesion studies, neurophysiology, neuropsychology, neuroimaging, neuropharmacology, experimental cognitive psychology and genetics. And the boundaries between these disciplines have become increasingly less distinct.

An example of this fruitful collaboration was the joint symposium of the International Union of Physiological Sciences and "Light Spot" Center on Neurobiology of Consciousness - "Brain Systems Underlying Cognition" -, chair: A.M.Ivanitsky (Russia) and co-chair: M. Posner (USA). Here is a brief outline of the most pre-eminent presentations of the symposium .

In his talk ***Michael I. Posner***, University of Oregon, USA, focused on studies of word comprehension, which have revealed networks of brain areas including frontal and posterior cortical and subcortical areas. The point is that by relating anatomical data

from positron emission tomography (PET) and functional magnetic resonance imaging (fMRI) studies to electrical recording, the activation of those brain areas in real time can be examined. The time course of activation seems to be 150 ms anterior cingulate cortex, 200 (+50) ms frontal midline cortex and 600 (+50) ms posterior cortex. The frontal midline is a crucial part of this network and is active in a variety of tasks in which "supervisory control" is needed. If different areas have different roles, with the frontal cortex processing lexical meaning (e.g. classification of a word as natural or manufactured) and the posterior cortex processing overall meaning (e.g. congruence of a word with the sentence it is in), it seems that subjects can influence those areas via conscious control to the task. For example, if trained to do the lexical task first, they will show an advantage in the activation of frontal areas in a subsequent task which combines both lexical classification and sentence congruence. On the other hand, if trained to do the sentence task first, the subsequent advantage in activation in the combined task will be for the posterior areas. So subjects can reprogram their computations as a function of attentional resources allocated to the task.

In the same field of language processing, ***Marcus E. Raichle***, Washington University St. Louis, USA, showed how PET and fMRI combined with experimental strategies from cognitive psychology have given a new view of language organisation, based on studies in normals, as opposed to the traditional brain injury model of language. Noteworthy observations from this work include, first, the widely distributed nature of language processing areas in the human brain: additional visual areas for viewing nouns passively; anterior motor cortex and cerebellum for reading nouns aloud; frontal cortex (other areas than in the reading aloud task), anterior cingulate cortex, posterior area and cerebellum for generating verbs aloud. Second, there are changing relationships among areas depending upon task demands and familiarity. With practice of verb generation task not only that reaction time improves dramatically, but also changes in activation occur in particular areas - especially orbitofrontal, but also medial temporal and cingulate areas. The fact that changes in the orbitofrontal cortex and the amygdala also correlate directly with anticipatory anxiety might suggest its implication in language tasks as a function of practice.

The same idea of distributed brain networks was illustrated in the presentation of ***A. M. Ivanitsky***, Institute of Higher Nervous Activity and Neurophysiology, Moscow, Russia. Searching for the neural basis of subjective experience, he hypothesized that mental events emerge as a result of the comparison and the synthesis of different information, comparison provided by the special organization of brain information processing. Essential to this organization is the feedback to the initially excited areas: it has been shown that the return of excitation via associative cortex, limbic structures and motivational centers back to the projection cortex coincides rather precisely with the time when the subject actually experiences the feelings of light or touch.

An interesting point was made by ***Leslie G. Ungerleider***, National Institute of Mental Health, USA. She tried to relate automatic versus voluntary processes in memory with three cortical neuronal mechanisms: repetition suppression (reduced

response of neurons due to repeated exposure), enhancement (increased neuronal response for stimuli that have behavioral relevance) and delay activity (sustained response of neurons). Based on neuronal recordings from monkeys doing cognitive tasks, she described the following model: neuronal suppression is a simple repetitive mechanism, automatic, intrinsic to the visual cortex and important for priming (implicit memory); enhancement is a mechanism of active retrieval, voluntary, dependent on the prefrontal cortex and involved in explicit memory; and delay activity is an active short-term mechanism, voluntary, dependent also on the prefrontal cortex, but important for working memory.

The issue of consciousness was explored in two other symposia. The "Conscious Vision" symposium questioned the neural mechanisms of consciousness from various points of view - from the neuropsychological perspective of unilateral neglect and related disorders, offered by ***E. Bisiach***, University of Turin, Italy, to the more philosophical position of ***Wolf Singer,*** Max-Planck-Institute for Brain Research, Frankfurt/Main, Germany, who argued that certain connotations of consciousness, beyond self-awareness and intentionality - like one's awareness of being a freely acting self - transcend explicability within the description systems of neurosciences, because they are social realities that come into being as a consequence of a dialogue among brains. A similar view is that of ***Christopher D. Frith,*** Wellcome Department of Cognitive Neurology, Institute of Neurology, London, who showed that phenomenological experiences labeled "conscious" have a neural correlate in brain regions in which representations use viewer-independent codes - codes that are a necessary basis for reporting experience and also for adopting the viewpoints of others; so, "consciousness is for other people". Back to the individual human brain, ***Semir Zeki,*** University College London, U.K., defended the modularity of consciousness, based on recent experiments using imaging and time resolution methods as well as on data from patients blinded by lesions either in the primary visual cortex V1 or in more extensive parts of the visual cortex; all these showed that activity in one or a small number of visual areas, without involvement of V1, can give rise to both conscious experience and a crude knowledge about the visual world.

The "Consciousness and Attention" symposium included also several topics of maximal interest, in terms of both methodology and applications. ***Risto Näätänen,*** Cognitive Brain Research Unit, University of Helsinki, Finland, presented the mismatch negativity (MMN), a measure of central sound representation in the human brain, elicited by a discriminable change in any feature of a repetitive sound even when the sound is not attended. The use of this measure extends to normal as well as clinical cases (aphasia, dysphasia, dyslexia, cochlear prosthesis), in order to measure an individual's perceptual discrimination. In addition to MMN generation in the auditory cortex, probably pre-perceptual, the right frontal cortex might be associated with attention switch to or conscious perception of stimulus change. Broader applications of this measure could have been found in two other presentations. Using intracranial recordings from Parkinsonian patients, epileptic patients and patients with obsessive-compulsive disorder, during several behavioral paradigms like the mismatch task, the

threshold recognition task and the Go/NoGo task, ***J. D. Kropotov***, Institute of the Human Brain, St.Petersburg, Russia, could distinguish several systems playing different functions in the programming of actions. The hippocampo-cortical loop seems to store the current results of actions, the fronto-parieto-temporal cortical areas - the programs of action, while the basal ganglia-thalamo-cortical feed-back loop is involved in selection, initiation and suppression of actions. ***Helen J. Crawford***, Virginia Polytechnic Institute and State University, USA, used mismatch negativity trying to delineate inhibitory systems involved at cortical and subcortical levels, which contribute to pain and to development of hypnotic analgesia. The starting hypotheses were that highly hypnotizable persons can partition their attentional resources more efficiently than can lows in both waking and hypnosis conditions, and that hypnotic analgesia (or deafness) involves a supervisory, attentional control system of the prefrontal cortex - so highly hypnotizable persons can better suppress pain (or hearing extraneous noises) because of their more efficient frontal attentional system.

All these approaches to consciousness in a congress of physiology are signs of the real challenge addressed by cognitive neurosciences to other scientific - particularly biological - domains. But there were also a lot of other "hot" issues addresed there. One concerns the molecular mechanisms of memory. As it turn up from the plenary lecture of ***E. R. Kandel***, Columbia University College of Physicians & Surgeons and Howard Hughes Medical Institute, New York, results from *Aplysia*, *Drosophila*, mice and humans suggest that both forms of explicit and implicit memory seem to share components of a common molecular switch to convert short-term into long-term memory. The most complete data from *Aplysia* and *Drosophila* indicate that this switch involves the coordinated expression of the cyclic AMP responsive element binding protein transactivator (CREB-1) and at least two other activators, and the concomitant relief of repression by CREB-2; with the removal of the repressor the threshold for memory storage is lowered and this leads to immediate long-term memory. ***K. V. Anokhin***, P. K. Anokhin Institute of Normal Physiology, Moscow, the chair of the "Memory Processes and their Cellular Mechanisms" symposium, lectured about immediate early genes (IEGs) expression, which might play a critical role in the transition from short-term to long-term memory. These genes that encode transcription factors are rapidly induced in the nervous system of different species in a variety of learning tasks, and intracerebral administration of antisense oligonucleotides directed against IEG *c-fos* disrupts long-term, but not short-term memory. It seems for now that the novelty of stimuli and situations expressed as a mismatch between animal experience and the actual sensory cues leads to IEGs induction.

Emotion was another dazzling subject. ***P. V. Simonov***, Institute of Higher Nervous Activity and Neurophysiology, Moscow, proposed an animal model of empathy, based on analyses of unit activity of neurons in the lateral hypothalamic area. He showed for "altruistic" rats that the majority of their neurons responded to a partner's suffering cry in the same way as to the intracranial emotionally negative stimulation, while for "egotistic" rats responses were either poorly expressed or resembled to the intracranial emotionally positive stimulation. Emotional correlates of

another area, the anterior cingulate (AC) cortex, were presented by ***Taketoshi Ono***, Toyama Medical and Pharmaceutical University, Japan, who suggested a topographical organization of the AC for recognition of reward availability of the stimuli to the execution of behaviors. ***Michael Davis***, Yale University, New Haven, Connecticut, advanced a distinction between fear and anxiety at the brain level, fear (stimulus specific) being linked to the central nucleus of amygdala, and anxiety (less stimulus specific and of much longer duration) being attrbuted to the bed nucleus of stria terminalis, a region close to the amygdala.

From a methodological point of view, the problem of non-invasive brain imaging techniques was also a very stimulating one, with all the historical aspects of the functional organization study of the human brain, presented by ***M. E. Raichle,*** the comparative presentation of PET and fMRI, by ***James V. Haxby***, National Institute of Mental Health, Bethesda, Maryland, USA, the magnetoencephalographic (MEG) study of human cortical rhythms by ***Riitta Hari***, Helsinki University of Technology, Finland, or the data on functional mapping of memory in man, provided by ***Richard S. J. Frackowiak***, Institute of Neurology, London, UK.

This brief review doesn't allow space to present many other important lectures, like those focused on central visual processing, presented by personalities like ***Keiji Tanaka,*** RIKEN Institute, Wako-shi, Saitama, Japan, ***R. Tootell & A. M. Dale***, MGH NMR Center, Massachusetts General Hospital, USA, ***R. Desimonde***, USA; or the intriguing topic of sleep, approached by ***Michel Jouvet***, Claude Bernard University, Lyon, France, and ***P. Acherman & A. A. Borbély,*** University of Zurich**,** Switzerland .

There is not enough space either for discussion of nearly 200 poster presentations devoted to the symposia and workshop topics mentioned above, many of them raising interesting questions and offering useful data for the advancement of the neurosciences.

All in all, the congress was a true accomplishment for the scientific world at the end of the century - and millenium.

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LES PERTURBATIONS D'INTÉGRATION SCOLAIRE ET LEUR TRANSFERT DANS LES MILIEUX SOCIAUX DE LA PERSPECTIVE DE LA PÉDAGOGIE MÉDICALE

RAMONA RĂDUȚ - TACIU

ABSTRACT. The medical pedagogy is a branch in the pedagogy who is focused on the adaptation a children with difficulties or that line, between sane and pathologically; its pragmatic task is to reveal and to try the recuperates, therapeutics, but and prophylactics solution in view of the accommodation a student at a usual school life.

A complete image a heathens the children is gave not only his well condition from physic standpoint, but also his mental competence, the manner a psychic and social adaptation.

At entering the children is the first class, school decision that integration in specific group is taken based on the ability of the people to adept themselves to the school.

La revalorisation de l'intégration scolaire

Si on accepte l'idée conformement à laquelle la pédagogie médicale est un embranchement de la pédagogie qui étudie l'adaptation, l'intégration scolaire et sociale des enfants avec difficultés ou de limite entre normal et pathologique, alors on ne peut pas confondre cet embranchement scientifique avec la psychopédagogie spéciale. Dans ce cadre de circonscription, l'inadaptation scolaire réside en la difficulté d'intégration dans le milieu scolaire habituel des enfants de niveau scolaire normal (connaissances, habitudes, fréquence), mais dont le comportement est incompatible avec la vie de groupe par suite de certaines causes psychiques ou organiques. Les manifestations de celles-ci sont traduites les plus souvent par phobies, déficiences de concentration de l'attention, troubles affectifs, manque d'intérêt par rapport aux activités scolaires, difficultés spécifiques de communication par langage (dyslexie, logasthénie, ...), déficiences sensoriales plus ou moins graves (amblyopie, hypo-accusie) ou manque de maturité psychique ou organique.

Analysées séparément ou au niveau global, ces formes d'inadaptation scolaire définissent un état de manque d'intégration d'une personne, élève par exemple, dépourvue de la possibilité d'assumer un rôle naturel au niveau social, par raisons personnelles. C'est pourquoi l'inadaptation - voire celle scolaire - a plutôt un caractère de calamité sociale que de déficit individuel.

C'est à la pédagogie médicale qu'incombe la tâche pragmatique de réveler et expérimenter des solutions récupératrices, thérapeutiques, mais prophylactiques aussi, en vue de l'accommodement de l'élève à une vie scolaire habituelle, en mettant celui-ci en position adéquate dans l'activité instructif-éducative. Au niveau analisé, l'efficience se traduirait par la présence de certaines rendements, performances scolaires considérées normales par rapport aux possibilités de l'enfant.

Les tâches d'une manière prépondérante prophyklactiques constituent la thème de la profession des médecins scolaires, spécialistes de la médicine, parfois de la pédiatrie. Elles visent à tour de rôle:

- examens périodiques en liaison avec le développement physique et l'état de santé des élèves;
- régimes spéciaux d'activité, de repos, d'alimentation;
- éducation sanitaire des enfants et enseignements des familles d'origine de ceux-ci concernant les problèmes relatifs au régime quotidien de la vie;
- collaboration aux activités d'orientation scolaire-professionnelle des élèves, et, sur le plan de la sanogénese;
- le déploiement d'activités d'amélioration continuelle des facteurs de milieu où la processus d'enseignement se déroule, tout en suivant le respect des exigences imposées par l'ergonomie scolaire.

Dans ces conditions, la solution des cas d'inadaptation scolaire constitue l'effet d'une démarche coopérative, instituée entre médecins, ensignants, assistants sociaux et conseillers, sans tenir compte de ce que ceux derniers sont prioritairement conseillers éducationnels ou puériculteurs, avant tout. Les milieux sociaux ne seront pas affectés par les processus variés de la désintégration scolaire, si le microgroupe de ces spécialistes est capable de diminuer ou d'annuler les conflits scolaires, en créant "l'homéostasie psychique".

Une image complète de la santé de l'enfant est donnée non seulement par le fait de se porter bien du point de vue psychique, mais aussi par sa capacité mentale, la manière de s'adapter sur le plafon psychique et social.

À l'entrée de l'enfant dans la première classe, la décision scolaire d'intégration dans une collectivité spécifique est prise ayant comme base l'aptitude de scolarité. Suivants les standards de celle-ci, la psychologie examine les futurs élèves, les enfants âgés de 6-7 ans et il confronte la base de données obtenues avec le moule du développement pysique et psychique normal au début de l'âge scolaire tendre.

Quelques entretiens au moins avec les parents de l'élève seraient bénéfiques. Dans la limite du possible, tous les deux parents doivent être impliqués dans l'appréciation de l'état de santé de l'enfant, parce qu'ils peuvent avouer avec précision si l'investigation du psychologue, les avis de l'éducateur et la consultation médicale sont des références proches du moment des relations, de la génese de certaines maladies.

Voilà, schématiquement, l'interface entre ces facteurs qui peuvent soutenir un enthousiasme scolaire:

- L'enfant et la famille	- Le système scolaire
- La santé psychique	- Les besoins de l'élève
- Les habiletés sensorielles	- *Les variables sociologiques*
- Le rythme de croissance et le développement	- Les attentes
- Les habiletés cognitives supérieures	- Les ressources pour les besoins de la santé
- *Les variables sociologiques*	- Les ressources pour les besoins de l'éducation spéciale
- Les variables psychologiques	- Les facilités psychiques
- Le niveau des intérêts scolaires	- Les attentes.

Maintenant que l'éducation pour la santé est apparue comme une branche distincte de l'éducation, "la crise des inquiétudes" vers le domaine de référence détermine la découverte des modalités pour aider les élèves dans le processus d'enseignement, pour promouvoir et entretenir la santé. Si l'éducation pour la santé est une "loi" fondamentale dans le curriculum éducationel, la conception de ce domaine doit être réorganisée, au moins en quelques aspects:

- la protection des dyshabiletés par l'identification des problèmes de santé des élèves et des remèdes dans leurs première limites, à côté de la prévention des complications pour certaines maladies;
- le développement de la communication entre les élèves et le personnel scolaire, respectivement le personnel médical;
- l'assistance des enfants et de leurs familles;
- des consultations déployées afin d'établir les programmes d'étude et d'enseignement.

Les mesures publiques concernant la santé et les progrès obtenus en médecine au niveau de l'immunité, des moyens sanitaires, ont contribué considérablement au changement des problèmes majeurs de santé. Dans la tentative d'améliorer l'éducation sanitaire scolaire, le fait que le succès doit impliquer un effort de coopération entre le personnel éducationnel et le personnel sanitaire qui s'occupe de pédiatrie ast toujours plus conscientisé. Par example, les connaissances du pédiatre en ce qui concerne la santé et les paramètres du développement/maturation de la personnalité des enfants sont beaucoup plus nombreuses que celles des enseignants de l'école. D'ailleurs, le personnel éducationnel a des habiletés plus raffinées et plus efficaces dans le domaine enseignement-instruction, à côté de la possibilité de rencontrer plusieurs enfants que le médecin pédiatre.

Tendances dans l'éducation sanitaire scolaire

Le fait suivant a été démontré: lorsqu'on réalise dans l'école une éducation sanitaire adéquate, et les informations sont effectivement acquises par les élèves, il y a pourtant des cas de désintégration en groupe ou d'inadaptation, ces cas transférant leurs effets négatifs dans les milieux sociaux aussi; par conséquent, on n'obtient pas

nécessairement des changements positifs au niveau du comportement. Beaucoup de programes d'éducation antidrogue se sont développés ces derniers temps, les élèves étant informés sur les aspects pharmacologiques de l'abus des drogues, sur les risques physiques que la prise de certaines drogues comporte, etc. À l'évaluation de tels programmes instructif-éducatifs on a découvert que les informations concernant les drogues et les dangers liés à la consommation de la drogue n'avaient pas d'une manière significative, favorable, le comportement de la consommation des drogues.

De cette façon, on peut conclure que les problèmes de santé seront prévenus par l'éducation, et une méthode de traiter avec ces problèmes doit être développée longtemps avant que ceux-ci atteignent un état critique.

Exploitations rationnelles en ce qui concerne l'éducation sanitaire scolaire

En liaison directe avec le côté éducatif de référence, on doit aussi mentionner la modalité dont les professeurs ou les médecins assument les responsabilités spécifiques dans le milieu scolaire. Le plus souvent, les professeurs argumentent, bien que ce soit une opinion erronée, le fait que le rôle de l'école est de développer les connaissances et la pensée critique des élèves et non pas de changer les comportements, qui de toute façon sont beaucoup influencés par des facteurs hors de l'école. Par exemple, comment un enfant d'âge scolaire peut-il passer à une diète dont le contenu de sel et de graisses est réduit, lorsque ses parents continuent à manger selon les mêmes recettes ed cuisine traditionnelles ?

Le but de l'éducation sanitaire est d'assister les élèves dans le développement des aptitudes qui les font capables d'autodiriger leur comportement sanitaire et d'utiliser de manière adéquate les ressources du soin médical. Il est peu probable que toute discipline réussisse une telle exigence précieuse. Les médecins peuvent aider les professeurs dans l'enseignement des processus normaux du développement des enfants et dans l'identification des besoins des enfants le long de leur développement.

On peut en appeler aux médecins pour assister en tant que "professeurs-hôtes" dans la classe, aux activités instructif-éducatives - un phénomène extrêmement délicat, parce que le médecin dispose de temps limité, il est possible qu'il ait du mal à discuter avec les élèves, etc. Une meilleure solution de la prétendue coopération serait qu'elle devienne manifeste dans la préparation de futurs enseignants, médecins et éducateurs, identifiant précisément les informations dont les étudiants ont besoin.

Enseigner, tout comme pratiquer la médecine, est un art et cela demande un ensemble spécial d'aptitudes, notamment des habiletés de communication. Un bon médecin n'est pas obligatoirement un bon professeur aussi. Lorsque le médecin est impliqué dans les activités d'éducation sanitaire, il est important pour lui de communiquer effectivement. Le fait de parler aux enfants est différent par rapport au fait de parler aux adultes. Le vocabulaire est souvent un problème majeur. Les termes ou les concepts qui sont impropres au niveau du développement de l'enfant doivent être déterminé en premier lieu par l'emploi d'une méthode interrogative et non pas d'une méthode affirmative.

La quantité de temps, d'effort et de ressources accordés au programme d'éducation sanitaire scolaire dépend de la priorité accordée à l'éducation scolaire par les écoles. Lorsqu'il s'agit de la santé, il est évident que les médecins ont une influence considérable et du prestige dans une communauté. L'encouragement continuel et l'appui du médecin sont essentiels pour obtenir les ressources nécessaires afin d'effectuer un travail efficace dans l'éducation sanitaire. Cela se peut réaliser par des discussions avec les membres du conseil de l'école et avec les administrateurs pour déterminer une priorité majeure du programme d'éducation sanitaire.

Cette méthode semble avoir seulement un succès limité. À la différence du traitement des maladies, qui est adéquat dans des situations particulières de production des maladies, la médecine préventive et le maintien de la santé doivent toujours exister le long de la vie. Les gens doivent être préparés depuis l'enfance, jusqu'à la maturité, des aptitudes qui font les gens capables d'assumer des grandes responsabilités pour leur santé doivent être développées? La seule chose que les enfants ont en commun est le fait qu'ils vont à l'école. C'est pourquoi le fait suivant semble évident: si on va avoir un impact sur la qualité de la vie par un comportement sanitaire amélioré, en ce cas le programme sanitaire scolaire va offrir une arène critique où les éducateurs, ceux qui s'occupent du soin médical et les familles peuvent collaborer pour aller au devant des besoins des enfants.

BIBLIOGRAPHIE

1. Annarumma, S., Belmont, B., *Impliquer les élèves dans la vie de l'école et du quartier* in Cahiers pédagogiques "Eduquer à la citoyenneté"; nr. 340, ian, 1996, p. 35-38.
2. Cherata, D., *ABC-ul sănătății copilului*, Ed. Sibila, Craiova, 1994.
3. Cierco, J. M., *Quand imaginer deviant vital*, in Cahiers pedagogiques "Un peu plus d imagination!", nr. 349, dec., 1996, p. 60-63.
4. Cremieux, C., *Les clubs scolaires, un espace de citoyenete encore marginal*, in Cahiers pedagogiques "Eduquer a la citoyennete", nr. 340, ian, 1996, p. 43-45.
5. Gubbels, R., *Autonomie et conditionnement chez l'enfant et l'adolescent*, Ed. Labor, Bruxelles, 1996.
6. Ieniştea, O., *Dificultățile la învățătură*, col. "Ştiință şi Tehnică pentru toți", seria Medicină, Ed. Medicală, Bucureşti, 1982.
7. Ionescu, G., *Introducere în psihologia medicală*, col. "Psyche", Ed. Ştiințifică, Bucureşti, 1973.

STUDIA UNIVERSITATIS BABEŞ-BOLYAI, PSYCHOLOGIA - PAEDAGOGIA, XLII, 1-2, 1997

WORLD WIDE WEB TECHNOLOGY FOR DISTANCE LEARNING

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ABSTRACT. There is a trend in higher education, driven by economic and sociological pressures, towards an increased role for open and distance learning. These newer forms of education and training have some different requirements from traditional class-based learning. This paper briefly reviews these requirements before focussing on one particular aspect of technological development around the Internet and World Wide Web which shows great potential for the support of communication between teachers and learners separated by geographical distances. This technology is the delivery of multimedia content across the Internet - including speech and video - which enables rich forms of communication appropriate to a learning situation. The technological basis for these developments is briefly explained, and current software applications which exploit this technology are described and compared. Some trials of one major software application are then described and the results evaluated qualitatively with respect to the stated requirements of open and distance learning.

Introduction

The Internet is a wide-ranging amalgam of networks based on the TCP/IP protocol. In 1969, it started out as a single Network for research sponsored by ARPA, the American Department of Defense Advanced Research Projects Agency. By the end of the eighties, TCP/IP had become the network standard for all major research networks throughout the world. Currently, the Internet has replaced almost all other research networks and it is no longer restricted to research and education. It now connects over 8000 networks on 7 continents and it is estimated that over 10 million people use it on a regular basis, with an additional 10-20 million people using it just for e-mail. The Internet carries many kinds of traffic.

Currently, the most important educational use of the WWW are educational information systems and dissemination of Educational Material (including text and software). The WWW has a great potential for distance and "just in time" open learning (Schneider, 1997).

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However, it does not provide full learning environment. One learns by (a) doing something and (b) by pursuing an instructional goal. Those two strategic requirements are supported by a number of elements like (a) teaching and tutoring (providing guidance to the curriculum and tasks); (b) monitoring and testing (ensuring that the learner is learning); (c) cooperating with fellow learners (in order to optimally construct knowledge); (d) learning material (like exercices, simulation software, educational hypertext).

The WWW can support a number of those, especially since teaching and monitoring can be done partly by the learner himself, partly by the software.

Requirements for open and distance learning

Distance learning or remote education supplements or replaces face-to-face teaching and assessment. Traditionally, course material has been distributed to the student mainly by post, and can include various media such as audio and video tapes in addition to standard textual material. Over the past ten to twenty years, institutions such as the UK Open University have supplemented this delivery by making use of the mainstream broadcast media of radio and television. The current trend is to exploit the spread of computer networks, in particular the Internet, to meet some of the needs of distance educators and their students.

The general requirements of distance learning are summarised below, and brief reference is made to some of the technological solutions, particularly those relating to new possibilities for communication. These are examined in more detail in later sections:

Distance learning

requires ...

information **production/conversion** - base teaching material
remote **access** to base material (and/or distribution)

may include ...

interactivity (question/answer tests, simulation etc.)

benefits from ...

communication channels for discussion etc.
one to one (email, "chat/talk", phone)
one to many (email, multicast video)
many to many (mailing lists, newsgroups ("email noticeboard"), conferencing (video or "desktop") ...)

The Internet, the World Wide Web and open and distance learning

The World Wide Web (WWW) is the distributed hypermedia system which is accessed through the Internet. The World Wide Web has grown over the past four years from a system designed to improve remote access by researchers to research papers on other computers, to a major force in corporate computing, communication and commerce. Until recently, information available through the WWW and the Internet has consisted mainly of text and static images, retrieved through a browser such as Netscape Navigator or Microsoft Internet Explorer; there are now many millions of such "pages".

Universities have traditionally been heavy users and producers of WWW material, and many courses around the world now have some material available in WWW format. In fact, an increasing number of courses are now offered in distance learning mode with access and communication primarily through the Internet. As was the case with traditional distance learning, attention is now turning to ways of incorporating multiple dynamic media such as audio and video into this process. This development brings with it a number of technological challenges, which are reviewed below.

Multimedia through the Internet

As a term, "multimedia" is frequently used but rarely defined. It is difficult to pin down the essence of multimedia since the term appears in numerous contexts, each with its own nuances.The most basic, general definition is probably "Multimedia is any combination of text, graphic art, sound, animation, and video delivered to you by computer or other electronic means." A more functional definition would be "Multimedia combines audio and visual material to enhance communication and enrich presentation." It is the role of multimedia in realtime communication which is the focus of this paper.

It only requires a rather brief look at the underlying technology of multimedia to appreciate the technical challenges involved in delivering multimedia through the Internet. For example, each second of CD-quality audio consists of approximately 44000 16-bit digital sound samples, and as a consequence requires 1.4 million bits per second (Mbps). This is clearly far too great for a standard home Internet connection via a modem with a maximum throughput of 28.8 or 33.6 thousand bits per second (Kbps). The problem becomes even more severe when one considers video: uncompressed raw digital video of VHS quality requires of the order of 220 million bits per second (Mbps). This would in fact swamp the bandwidth of even the fastest commercial networks operating at 155Mbps.

The solutions which have been found to these problems centre on compressing the data (using less bits to represent the information) and/or lowering the quality of the delivered media. The extremely competitive nature of the Internet's recent explosive growth has driven progress in this area to the extent that there do now exist techniques for delivering effective multimedia over the Internet.

Amongst the many different technologies emerging to enable sound and video to be delivered across the Internet are the following:

- RealAudio – stereo, near-FM-quality sound delivered in real time
- RealVideo, and IBM's Bamba – small video window showing 3-6 frames per second of gray-scale or colour video

Increasingly, there are two different levels of quality available from a site, from which one chooses according to the speed of connection. This technology has a wide range of uses:

- Internet radio
- Internet phones
- Audio CD sales previews
- Live conference links etc.
- Multimedia training material (e.g IBM's Java programming course)
- Audio-video conferencing
- Communication between two or more people involving real-time speech and video contact

Audio-video conferencing through the Internet

Audio-video conferencing between remote parties has until recently required the use of specialist equipment and specially leased high-speed communications lines (Duran and Sauer, 1997). However, the developments summarised above have enabled a new generation of Internet-based products, making use of standard desktop Pcs with relatively cheap audio and video equipment, and an Internet connection. One of the first applications to enable audio-video conferencing through the Internet was CU-SeeMe, which came out of an academic research project and is now available also in commercial form. Two recent contenders in this market are Microsoft NetMeeting (Microsoft, 1997) and Netscape Communicator Conference, both of which are available free for educational use. NetMeeting is a possibly the best example of such a product, and has the following features:

- "phone" communication – reasonable quality over standard modem link
- supports low-cost "QuickCam" video camera - small video windows of self and partner
- "chat" window – for simple text messaging
- shared "whiteboard" – drawing and text tool which both (or more) can use to communicate ideas, notes
- "shared applications" – both can view the same Word window, or browse WWW pages together

Overall, NetMeeting provides a fairly rich mixture of communication channels which makes it a suitable candidate for use in supporting communication in distance learning.

Software trials for distance learning

De Montfort University offers an "MSc by Independent Study", in which student and "mentor" negotiate an agreed Learning Contract. The course of study may involve production of research papers, software development, some class study etc., over a period of 2-3 years part-time study. Mentor and student need to maintain regular contact – face to face, email, phone, etc. Occasionally, students are located overseas, and it is this situation which prompted an interest in audio-video conferencing. A key aspect here is the potential economic benefits - voice communication via the Internet costs at most the same as a local phone call.

NetMeeting was chosen after a comparative evaluation with CU-SeeMe and Netscape Navigator Conference. The key distinguishing features were the quality of the media delivery and the superior whiteboard application in NetMeeting. NetMeeting sessions were pre-arranged by email, and took place between the homes of the mentor (in England) and student (in Israel). The three sessions so far have been used for the following purposes:

- joint review of a draft report - using a shared wordprocessor window, and voice communication
- discussion of and generation of new design ideas for the development phase of the project - using mainly the whiteboard diagramming tool and voice communication
- discussion of the arrangements for an actual visit to the student by the mentor - using mainly voice communication and the chat text window

Summary and conclusions

Multimedia technology has advanced to a point whereby effective use can be made of realtime audio and video communication to support distance learning across the Internet between remote educators and students. Informal trials of the latest software packages leads to the following conclusion:

- video is useful for establishing initial contact, but it is often best to switch off live video for periods of time, to conserve network bandwidth for other forms of communication (a static image remains)
- speech contact is similar quality to phone, assuming a good network connection – but the delay is longer, and can be off-putting
- the shared whiteboard is extremely useful for exploring initial ideas in an informal, spatial manner and works very like the real thing

- sharing a word-processor window, and using highlighting tools, is very good for providing feedback on draft reports
- one function which hasn't yet been tried is "sharing" a WWW browser, but this could be useful for giving a quick "guided tour" of relevant sites for later access and study

To further explore the potential of these forms of communication, a protype spatial text diagramming tool is being developed in the Java programming language which can store structured concepts and relationships (and generate summary Web pages). In its treatment of structured concepts it goes beyond the simple whiteboard application. The next stage is to make this tool multi-user, and use it in conjunction with NetMeeting to enable simultaneous audio contact.

In summary, "desktop" Internet conferencing can provide a rich and effective set of communication channels to support distance learning.

REFERENCES

1. Duran, J., Sauer, C., *Mainstream Videoconferencing: A Developer's Guide to Distance Multimedia*, Addison-Wesley, 1997.
2. Microsoft http://www.microsoft.com/netmeeting.
3. Schneider, D., *The Internet, the Closest Thing to the Future Information Highways,* 1997, http://tecfa.unige.ch/.

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PARTICULARITĂŢILE TRATĂRII INFORMAŢIEI DE CĂTRE COPIII AUTIŞTI

CRISTINA MUREŞAN

RESUME. Particularités de traitement de l'information par les enfants autistes. Le but de cette étude est de mettre en relief, assez brièvement, une partie des données connues sur les particularités qui marquent les aptitudes de traitement de l'information chez les enfants autistiques. En somme, il s'agit de faire une courte évaluation des déficiences d'acheminement dans des voies particulières, des problèmes de mise en oeuvre de l'attention et des déficiences d'association entre modes présentes de manière fréquente chez les enfants autistiques.

1. Aspecte introductive

În ansamblu, tratarea informaţiei se defineşte ca aptitudinea de rezolvare a unor sarcini cognitive, de percepere a mediului înconjurător prin concentrarea atenţiei asupra unor elemente cruciale ale unei situaţii şi prin selecţia aspectelor care trebuie stocate în memorie. De fapt, este vorba de aptitudinea individului de a interpreta şi a înţelege lumea în care se găseşte.

Aşa cum se cunoaşte deja, particularităţile şi, mai frecvent, deficienţele în tratarea informaţiei formează unul din elementele centrale ale sindromului autist. Conform opiniei lui M. Rutter[1] fără a recurge la caracteristici sociale şi la cele ale comportamentului copilului, i se poate atribui acestuia diagnosticul de autism doar pe baza ansamblului special de aptitudini şi carenţe cognitive. În plus, capacitatea cognitivă, ca şi abilitatea lingvistică, de comunicare, constituie indici prognostici, fapt demonstrat de o serie de cercetări din literatura de specialitate.

2. Deficienţe ale îndrumării informaţiei pe diferite căi specifice

Caracteristicile procesului de gândire la copilul autist reprezintă o temă de mare interes pentru acest domeniu atât de controversat care este autismul. Bazându-se pe o serie de metode comportamentale şi pe aspecte neurofiziologice, precum şi pe comparaţia între performanţa copiilor autişti, a celor deficienţi mintali şi a celor normali, o echipă de cercetători americani au descoperit elemente interesante de regularitate. Copiii autişti au dovedit cea mai slabă capacitate de a răspunde la directive verbale sau de a utiliza cuvintele în acest scop.

[1] M. Rutter (1974), *The Development of Infantile Autism*, "Psychological Medicine", 4, p.147.

Marea majoritate a acestor copii au realizat, de asemenea, o performanţă inferioară faţă de cea normală la diverse sarcini legate de rezolvarea de probleme, care includeau reacţii la indici senzoriali.

Interesant este faptul că, în ciuda slabei lor performanţe de ansamblu, copiii autişti au dat dovadă de o capacitate relativ mai bună de a rezolva sarcinile legate de informaţia senzorială apropiată (tactilă, olfactivă, stimulare kinestezică), decât în cazul celor care implicau receptarea informaţiei la distanţă (vizuală, auditivă). Aceiaşi cercetători subliniază că, în domeniul văzului şi auzului, chiar dacă ambele simţuri sunt considerate nesatisfăcătoare, un deficit mai pregnant se constată în domeniul discriminării auditive a sunetelor. Este, de altfel, cunoscută sensibilitatea crescută la sunete a copiilor autişti de vârstă mică şi tendinţa acestora de a manifesta o reactivitate imprevizibilă la sunet, factor care deseori îşi determină pe părinţi să creadă în posibilitatea surdităţii copilului.

Aceşti copii pot fi perturbaţi, de exemplu, de foşnetul unei foi de hârtie, deşi par insensibili la zgomot. Printre semnele cele mai precoce ale autismului, indiferenţa la sunete se regăseşte cu o mare frecvenţă încă din primul an de viaţă. Electrofiziologia permite punerea în evidenţă a unei tulburări de modulare a răspunsurilor cerebrale la sunet. La un copil normal, amplitudinea răspunsurilor auditive cerebrale creşte odată cu intensitatea sunetului. Acest fenomen nu se observă la copilul autist, ale cărui răspunsuri la stimulări slabe pot fi foarte ample.

În lucrările lui V.K. Tubbs[2], se regăsesc informaţii asupra acestei mediocrităţi relative de tratare a stimulilor auditivi la copiii autişti. Tubbs a considerat, de asemenea, că performanţa copiilor autişti la subscalele de decodare auditivă şi de asociaţie ale testului de aptitudini psiholingvistice Ilinois, este semnificativ inferioară faţă de cea normală la vârsta respectivă. Acest lucru nu apărea însă la subscalele de aptitudini vizuale, la care copiii autişti nu au obţinut rezultate semnificativ diferite faţă de cele ale subiecţilor grupului de control, de aceeaşi vârstă cronologică. O replică mai recentă a acestei lucrări a fost efectuată de M. Konstantareas[3]; ea oferă un tablou mai complex, dar care nu diferă în mod sensibil. Autoarea a împărţit grupul de copii autişti pe subgrupe, în funcţie de nivelul funcţionării cognitive (ridicat, scăzut), supunându-i apoi la acelaşi test. Ea a constatat că observaţiile lui Tubbs erau valabile pentru subgrupa cu nivel mai ridicat de funcţionare cognitivă. Cu toate acestea, performanţa copiilor din cealaltă subgrupă a fost în mod uniform slabă, inclusiv cea obţinută la subscalele de decodare vizuală şi de asociaţie. Trebuie subliniat, de asemenea, că acest grup nu a fost inferior grupului de copii cu nivel mai ridicat de funcţionare cognitivă în ceea ce priveşte performanţa la testele de "opacitate vizuală" şi de memorie vizuală secvenţială. Această constatare lasă să se întrevadă faptul că, luată în ansamblu, abilitatea vizuală a copiilor autişti, indiferent de gradul lor de funcţionare cognitivă, ar putea fi uşor superioară faţă de capacitatea lor de tratare a informaţiei auditive.

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[2] V. K. Tubbs (1966), *Types of Linguistic Disabilities in Psychotic Children*, "Journal of Mental Deficiency Research", 10, p. 230.

[3] M. Konstantareas, E. Blackstock (1981), *Initiation à l'autisme*, Montreal, S.Q.E.A., p. 62.

3. Selectivitatea excesivă în tratarea informației

Până aici, tabloul construit corespunde în destul de mare măsură ipotezei conform căreia tratarea informației auditive ar fi în mod special compromisă la copiii autişti. Dar datele legate de un alt fenomen, cum ar fi selectivitatea excesivă, obținute de R.P. Hobson[4] şi colaboratorii săi, complică problema. Tendința de a se concentra asupra aspectelor particulare ale informației legate de mediul înconjurător, mai curând decât a căuta asimilarea ansamblului aspectelor, ține de adaptare. Copiii autişti cu disfuncții grave par a fi prea specifici şi prea monolitici în înregistrarea şi tratarea informației percepute. În momentul în care Hobson a supus copii autişti unui complex de stimuli, cuprinzând unul tactil, unul vizual şi unul auditiv, aceştia au reuşit într-un interval de timp relativ scurt să învețe să răspundă la un astfel de complex. Doar în momentul în care cele trei elemente au fost separate şi au fost prezentate unul câte unul, fără vreo ordine prestabilită, a devenit clar faptul că subiecții autişti s-au concentrat doar asupra uneia din cele trei componente, răspunzând doar la aceasta. Dimpotrivă, copiii normali au răspuns la toți stimulii, iar deficienții mintali, de vârstă mintală egală cu cea a copiilor autişti, au răspuns la două componente. Se putea prevede că autiştii vor manifesta tendința de a se concentra asupra stimulului vizual sau, mai probabil, asupra celui tactil, în detrimentul celui auditiv, dar nu s-a întâmplat aşa. Copiii autişti au pus accentul pe stimuli diferiți şi nu au îndepărtat în mod sistematic stimulul auditiv. Aceste constatări corespund cu cele ale lui M. Konstantareas şi par a releva răspunsul puternic idiosincratic al acestor copii în tratarea informației.

4. Probleme legate de activarea atenției

Chiar dacă nu se doreşte a se insista asupra unor date neurofiziologice, este poate utilă menționarea unor cercetări efectuate asupra modului în care se focalizează şi se concentrează atenția la copiii autişti, în comparație cu copiii normali sau deficienți mintali. Datele provin, în parte din studiile lui M.S. Gold[5], realizate asupra reactivității copiilor autişti la un stimul auditiv, când acesta urma după un semnal luminos. Reactivitatea lor a fost mai slabă decât a celorlalți subiecți, în ciuda stimulului de avertisment. Cercetătorii au şi tras concluzia conform căreia "autismul ar rezulta dintr-o disfuncție a mecanismelor fundamentale de alertă şi atenție".

În concepția lui Gold, atenția este orientată spre analiza informației primite, în măsura în care această informație este inedită sau adecvată situației. Odată ce informația a ajuns la cortex prin căile senzoriale, iar căile colaterale au transmis-o sistemului reticulat activator ascendent, la individul normal, informația este analizată din punctul de vedere al noutății şi

[4] R. Peter Hobson (1993), *Autism and the Development of Mind*, England, Lawrence Erlbaum Publishers, p. 126.

[5] M. S. Gold (1975), *Autism and Attention: Theoretical Considerations and a Pilot Study Using Set Reaction Time*, "Child Psychiatry and Human Development", 6, p. 68-70.

pertinenţei. Se formulează ipoteza conform căreia această analiză se derulează în acelaşi timp cu transmiterea de impulsuri diferite la alte zone de asociaţie din cortex.

Dacă lipseşte corespondenţa sau asociaţia dintre noua informaţie şi datele stabilite deja în cortex, formaţiunea reticulată este activată de aşa manieră încât informaţia care "soseşte" este analizată şi reanalizată, apoi înregistrată. În momentul stabilirii unei corespondenţe, informaţia senzorială nu mai este analizată, adică apare acomodarea. După Gold, copiii autişti par incapabili de a activa atenţia la nivel cortical prin intermediul sistemului reticulat.

În consecinţă, aşa cum s-a văzut până aici, copiii autişti par a fi relativ mai receptivi faţă de informaţia tactilă şi kinestezică, decât faţă de cea vizuală şi cu atât mai mult faţă de cea auditivă. Ei au, de asemenea tendinţa de a nu răspunde decât la anumite aspecte ale situaţiei, neţinând cont de indicii preliminari utili, care ar putea să-i determine să înregistreze informaţiile primite pentru realizarea sarcinilor care implică luarea unor decizii.

5. Deficienţe de integrare senzorială

O altă problemă ce prezintă interes este aceea a aptitudinii copilului autist de a asocia două sau mai multe aspecte ale informaţiei primite sau de a o asocia informaţiilor deja existente, oferite de experienţa sa anterioară. Bazându-se pe datele anecdotice legate de educaţia limbajului la copiii autişti, S. Baron-Cohen[6] insistă asupra dificultăţilor de integrare senzorială, manifestate de aceşti copii. O formă elementară de asociaţie pare a fi relaţia, care constă în stabilirea unui raport între modularea auditivă a vorbirii şi obiectul la care se referă, de exemplu, un măr. Este vorba deci, de o informaţie auditivă şi una vizuală (mărul). Pentru a obţine din partea copilului o identificare corectă a mărului, acesta trebuie să stabilească o altă asociaţie, adică să enunţe cuvântul "măr", ceea ce implică intrarea în joc a vocalului. Aceasta poate părea simplă pentru un copil normal de 3 ani, dar poate fi foarte dificilă pentru un copil autist de vârstă mai avansată. Astfel, R. Jordan[7] semnalează mai multe cazuri de copii artişti incapabili de a face asociaţii vizual-vocale sau auditiv-vizuale, în ciuda unei perioade prealabile de pregătire. Într-un studiu anterior acelaşi autor menţionează însă cazul unui copil autist care, prezentând dificultăţile enumerate, reuşea să facă o serie de asociaţii vizual-motrice.

S-a constatat faptul că, uneori, copiii autişti pot să-şi îndrepte atenţia către stimuli, nu în mod simultan, ceea ce le-ar permite formarea de asociaţii, ci pe rând. Această ipoteză, în măsura în care este validă, poate explica atât observaţiile legate de selectivitatea excesivă, cât şi performanţa mediocră în domeniul limbajului a acestor copii. Într-un studiu asupra determinării modalităţilor preferate de învăţare la copiii

[6] S. Baron-Cohen, H. Tager-Flusberg (1993), *Understanding Other Minds. Perspectives from Autism*, New York, Oxford University Press, p.138.

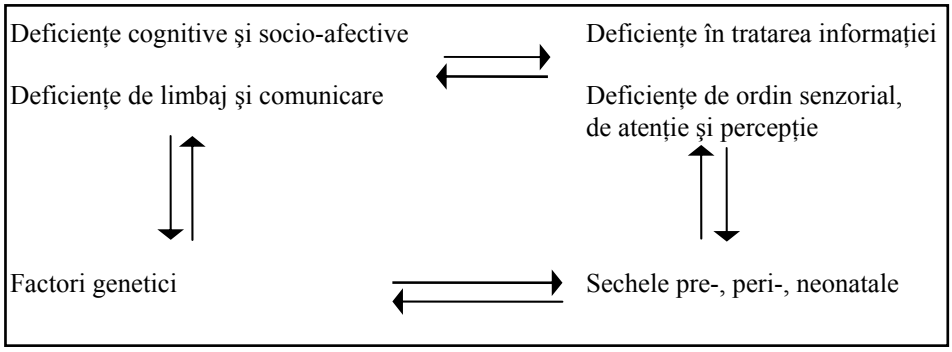
[7] R. Jordan, S. Powell (1995), *Understanding and Teaching Children with Autism*, Chichester, John Wiley Ed., p.53.

autiști, M. Konstantareas a ajuns la concluzia conform căreia, chiar în cazul unei selecții exagerate la majoritatea copiilor, aceştia puteau fi totuşi, formați în sensul trecerii la modul informațional pentru care şi-au manifestat preferința la început, fie că e vorba de cel vizual sau auditiv. Acest lucru corespunde, în mod evident, ipotezei lui Baron-Cohen asupra tratării secvențiale a stimulilor.

Pentru a uşura clarificarea unor idei enunțate mai sus, s-a folosit o schemă care prezintă procesele fundamentale ce par a fi compromise la copilul autist, în funcție de orientarea posibilă a efectelor. Chiar dacă în unele cazuri pot fi implicați factori genetici, în altele pot fi incriminați factori ca rubeola maternă sau alți factori pre- sau perinatali. Se poate considera ca ipoteză faptul că aceşti factori ar determina deficiențe senzoriale ale atenției, percepției, care par a fi esența inabilității copilului autist de a trata informația în mod corespunzător. Se poate de asemenea anticipa că repercursiunile manifeste ale acestor factori asupra raporturilor cognitive şi sociale, în acelaşi timp cu funcționarea limbajului şi comunicării, acționează şi prin căi retroactive negative, agravând simptomatologia.

Reprezentarea schematică a caracterului secvențial al deficiențelor prezente la copilul autist

(de notat: factorii genetici pot sau nu antrena sechele pre-, peri- sau neonatale, iar legăturile pot fi cu retroacțiune pentru unele deficiențe)



6. Concluzii

Se ştie că limbajul nu pune pur şi simplu în joc funcţiile elementare de relaţie. Cel mai adesea, limbajul presupune unităţi mult mai complexe, de exemplu, fraze. Dacă se ţine cont de faptul că există oricum dificultăţi în stabilirea unei relaţii simple, este evidentă prezenţa obstacolelor de netrecut în momentul în care un copil autist trebuie să facă faţă unui şir întreg de cuvinte. Înlănţuirea cuvintelor este metoda cea mai frecventă pentru deducerea structurii profunde, adică sensul structurii superficiale formate de diversele cuvinte utilizate. Din datele existente, rezultă faptul că la folosirea unui şir de cuvinte sau semne, copiii autişti repetă deseori ultimul cuvânt sau semn, fără a ţine cont de elementele anterioare.

Pentru moment, literatura de specialitate oferă mult prea puţine informaţii legate de aptitudinea copilului autist de a conferi un sens propriului univers. Ceea ce ţine de aptitudinile cognitive şi de cele de limbaj ar trebui să corespundă cu abilitatea intelectuală, care este legată de înţelegerea informaţiei non-lingvistice şi de deducţiile ce apar de aici. Aceste sarcini pot necesita însă înţelegerea legăturilor cauză-efect, prezicerea evenimentelor naturale şi învăţarea modului de evitare a situaţiilor care ar putea fi periculoase, aspecte care sunt, în mod evident, deficitare la copiii autişti.

BIBLIOGRAFIE

1. Baron-Cohen, S., Tager-Flusberg, H., *Understanding Other Minds. Perspectives from Autism*, Oxford University Press, New York, 1993.
2. Gold, M. S., *Autism and Attention: Theoretical Considerations and a Pilot Study Using Set Reaction Time*, Child Psychiatry and Human Development, 6, 1975.
3. Hobson, R., *Autism and the Development of Mind*, Lawrence Erlbaum Publishers, England, 1993.
4. Jordan, R., Powell, S., *Understanding and Teaching Children with Autism*, John Wiley Ed., Chichester, 1995.
5. Konstantareas, M., Blackstock E., *Initiation à l'autisme*, Société Québécoise pour les Enfants Autistiques, Montréal, 1981.

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STIMULAREA ÎNVĂȚĂRII LA COPILUL SURD

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ABSTRACT. How to Stimulate the Deaf Child to Learn. In the literature concerning teaching children with special needs there is a great variety of data obtained after a research work done on sets of deaf and hearing children. But the results obtained very often contradict each other. We have made up a table of the elements that have a diagnostic and prognostic role in the education of the very young deaf children. Starting from the dificulties in learning that deaf children have to face, we tried to apply some experimental methods in order to help children to speak. At the same time these experiments have positive implications in teaching them reading and writing, the main objectives to be achieved in educating children with hearing loss.

1. Precizări terminologice

O dispută mereu actuală în psihologia deficienților are ca temă existența unei structurări specifice, psihofiziologice în cazul deficienților de auz. Această dispută este alimentată de o serie de cercetări care au condus la rezultate, în aparență, contradictorii.

J.C. Lafon (1985) definește astfel termenii utilizați în surdologie:

- *surditatea* desemnează toate alterările percepției sunetelor, indiferent de gradul (gravitatea) acestora; ridicarea gradului de recepție a sunetului se referă la organul receptor - urechea;
- *surd* este acel subiect care are acuitate auditivă diminuată, indiferent de gradele acesteia, care au fost stabilite anterior;
- *deficiența auditivă* este o tulburare (perturbare, anomalie) senzorială auditivă a percepției formelor acustice, care poate exista fără să fie totuși surditate; ea situează subiectul în raport cu mesajul auditiv, deci se referă la funcție - auzul;
- *slab auzitor* (în franceză: malentendent, demi-sourd) este acel subiect care percepe vorbirea pe cale auditivă dar care nu are o acuitate suficientă pentru a sesiza corect forma; se referă la perceperea vorbirii, adeseori legată de o deficiență auditivă la un surd;
- *cofoza* este surditatea practic totală, care nu permite percepția formelor sonore chiar și cu amplificare.

În literatura română de specialitate este folosit frecvent termenul de hipoacuzie. Diferența dintre "surditate" și "hipoacuzie" nu e numai de ordin cantitativ ci și calitativ. Termenul "hipoacuzie" ar fi echivalent cu termenul de "slab auzitor".

Discuțiile terminologice sunt strâns legate de problema clasificărilor. Astfel, în 1968, B.I.A.P. (Biroul Internațional de Audiofonologie) face distincție între cele două orientări - medicală şi pedagogică - şi propune două clasificări.

A. Clasificarea audiometrică cu referire la curba audiometrică tonală, calculată pe baza frecvențelor clasice adoptate de OMS: 500-1000-2000 Hz.

B. Clasificarea în funcție de incidența pierderii auditive asupra vorbirii şi limbajului, aflată în legătură cu clasificarea anterioară.

D. Colin (1978) foloseşte termenul de "copil surd", precizând că se referă exclusiv la cazuri de surditate profundă congenitală sau cu debut precoce.

2. Poziții teoretice privind structurarea personalității copiilor surzi comparativ cu auzitorii

După Myklebust (citat de D. Colin, 1978), surditatea este consecința unui dezechilibru psihofiziologic global din cauza diminuării fluxurilor de stimulare senzorială care ajung la formațiunea reticulată mezencefalică. Acest lucru influențează, în primul rând, nivelul de vigilitate dar este şi un aspect cu implicații asupra întregii dezvoltări a personalității copilului surd. În acelaşi sens D. Colin (1978) decelează patru handicapuri esențiale ale copilului surd: handicap biologic, handicap verbal, handicap social-afectiv şi handicap intelectual. În opinia noastră, handicapul social-afectiv şi cel intelectual nu apar cu necesitate.

Handicapul biologic este cauzat tocmai de limitările funcționale impuse de surditate, legate mai ales de sărăcirea informațională, dar discuția se poate extinde în funcție de natura cauzelor care au generat surditatea. Este posibil ca leziunea să fie localizată strict la nivelul aparatului auditiv, însă în multe cazuri există şi atingeri vestibulare, vizuale, motrice.

Handicapul verbal poate fi cauzat de limitarea accesului la limbajul verbal oral precum şi de utilizarea limbajului mimico-gestual, cu tot cortegiul de influențe asupra gândirii surdului. Copilul surd îşi însuşeşte tardiv limbajul verbal, pe la 5-6 ani, în momentul includerii sale într-o formă de educație specializată, iar nivelul de competență lingvistică rămâne scăzut în ciuda a numeroase eforturi, fapt constatat pe plan mondial (Lepot-Froment, 1996). Pentru însuşirea limbajului verbal, sunt puse în lucru mecanisme psihologice şi neurofiziologice diferite de cele ale copilului auzitor. Astfel, procesele utilizate în învățare sunt: labiolectura, deci calea percepției vizuale; perceperea vibrotactilă, la subiect şi la interlocutor; atenția voluntară concentrată; limbajul scris însuşit în paralel cu limbajul verbal oral. Este oarecum artificial şi mediul socio-lingvistic în care este educat copilul surd. De cele mai multe ori acest mediu este internatul, iar locul familiei este luat de un mare număr de copii, precum şi de un număr de adulți care fiecare îndeplinesc anumite roluri şi se schimbă între ei pe parcursul unei zile. De cele mai multe ori copilul are deja o comunicare mimico-gestuală însuşită anterior care interferă cu limba vorbită sau scrisă, nou învățată. Schemele lingvistice sunt limitate atât prin modalitățile receptiv-expresive însuşite

anterior cât şi prin obişnuiţele de gândire impuse de mimică şi limbaj gestual. Limba vorbită este şi rămâne ceva artificial pentru copilul surd şi pentru că îi lipseşte frecvenţa practicării, singura care-i conferă echivalentul naturalului.

Handicapul social şi afectiv are de asemenea mai multe surse. Simţul auzului este prin excelenţă un mijloc de control asupra mediului, furnizând în permanenţă informaţii asupra aceea ce se întâmplă în jur. Calea auditivă furnizează extrem de multe informaţii cu implicaţii afective. Toate ritualurile care fac parte din viaţa copilului mic sunt însoţite de vocea mamei. Mereu se asociază prezenţa (imaginea) mamei cu vocea ei. Copilul auzitor trăieşte un sentiment de securitate chiar atunci când mama iese din câmpul său vizual; el o aude, sau aude sunete şi zgomote familiare. Copilul surd este privat de această legătură sonoră, ceea ce îi accentuează temerile şi sentimentele de izolare. Foarte devreme, copii surzi încep să înţeleagă că sunt "altfel", în comparaţie cu fraţii sau cu alţi copii, precum şi în comparaţie cu adulţii; îşi formează diverse reprezentări legate de starea lor, de cele mai multe ori greşite, cauzate de faptul că explicaţiile întârzie să apară. Se accentuează sentimentul de izolare legat de faptul că sunt "o minoritate". Ei nu pot recupera la timp şi în mod complet interdicţiile sau întăririle pozitive şi ca urmare îşi însuşesc tardiv şi oarecum artificial unele exigenţe sociale. Obişnuinţele care facilitează raporturile sociale sunt slab integrate. Îşi structurează un anumit stil în relaţiile sociale cu auzitorii, pe care le limitează la strictul necesar. Au tendinţa să trăiască în medii închise, grupuri formate din surzi, să ocupe locuri de muncă ce nu necesită decât un minimum de comunicare.

Handicapul intelectual constituie o temă foarte des abordată. Unii autori vorbesc de un retard al dezvoltării intelectuale sau de o creştere mentală mai lentă, care nu trebuie confundată cu deficienţa mintală autentică.

Studiile comparative pe loturi de subiecţi surzi şi auzitori au indicat, de cele mai multe ori, un nivel de reuşită al surdului inferior celui al auzitorului, în realizarea anumitor sarcini intelectuale. D. Colin (1978) precizează că nivelul reuşitei depinde de sarcina propusă. Astfel handicapul este accentuat când sarcina este mai abstractă.

Studierea surdităţii axată pe investigarea unor aspecte variate psihologice, fizice şi fiziologice, prin intermediul realizării comparaţiilor între loturi de copii surzi şi auzitori a condus la concluzii divergente şi chiar contradictorii. Domeniile investigate pot fi urmărite în figura 1, în care am utilizat datele furnizate de D. Colin (1978) referitoare la cercetările lui Myklebust, Ewing, Kendall, Herren ş.a.

Marea variabilitate a rezultatelor se datorează mai multor factori:

1. Dificultatea de constituire a unor grupe omogene şi reprezentative de subiecţi surzi.

2. Controlul variabilelor nerelevante (multe dintre acestea - variabile clasificatorii) care acţionează simultan cu factorii investigaţi.

3. Exprimarea şi măsurarea nivelului de dezvoltare la un moment dat.

Comparațiile la nivel global pot conduce la concluzii îngrijorătoare prin implicațiile lor. Acestea sunt puțin reprezentative pentru fiecare subiect în parte şi mai ales au utilitate redusă în stabilirea proiectelor educative. Foarte adesea, la vârstele mici, copiii surzi sunt greu de examinat, iar unii netestabili. Multe dintre rezultatele investigațiilor audiometrice şi psihologice sunt contestate de investigațiile ulterioare, iar valoarea lor predictivă este mică.

3. Abordarea individualizată în scopul reeducării copilului surd, pe baza unei monitorizări complexe

În aceste condiții, ne-am propus stabilirea factorilor cu rol mai important în "diagnoza" destinată luării în sarcină a copilului surd (figura 2):

1. Stabilirea stării auzului prin intermediul investigațiilor audiologice şi audiometrice. Se realizează monitorizarea resturilor auditive pentru protezare, examinarea câştigului datorat protezei, antrenamentul auditiv, reglarea pe parcurs a aparatului şi la nevoie înlocuirea acestuia.
2. Este importantă cunoaşterea naturii surdității şi a tuturor aspectelor legate de istoricul cazului pentru realizarea diagnosticului diferențial între surditate şi afecțiuni cu manifestări asemănătoare.
3. Se realizează o orientare inițială a copilului şi se procedează la includerea într-un sistem de educație orală sau gestuală, în funcție de un coeficient de dezvoltare care se stabileşte prin intermediul unei serii de investigații psihodiagnostice specifice. O certă valoare o au scalele de evaluare destinate copiilor surzi (de exemplu, scala Webster&Webster). Capacitatea de memorare şi reprezentare prin prelucrarea informației vizuale, tactil-kinestezice şi auditive (la subiecții cu resturi de auz) influențează reuşita procesului de demutizare. Din practică s-a constatat că însuşirea labiolecturii ține de o abilitate specifică şi corelează puțin sau deloc cu alte abilități care asigură reuşita şcolară.
4. Mediul de viață influențează ritmul dezvoltării şi învățării la copilul surd. Internatul are acțiune frenatoare: mediul închis favorizează comunicarea între copii printr-un sistem gestual constituit ad-hoc, apar frecvente tulburări afective şi dificultăți de adaptare de grade diferite.
5. Implicarea părinților ca parteneri activi în procesul educativ contribuie la accelerarea învățării şi la o mai bună consolidare a noțiunilor învățate. Există un decalaj evident între copiii educați şi stimulați în familie şi ceilalți copii.
6. Sistemul de metode şi tehnici educative şi corectiv-compensatorii conține metode clasice care conduc la rezultate în domeniul elaborării limbajului verbal, oral, cu condiția surmontării dificultăților de emisie şi consolidare. Sunt necesare numeroase repetiții pentru asocierea imaginii labiobucale şi a modelului tactil-kinestezic şi auditiv cu obiecte sau imagini denumite prin cuvânt. Persistă însă anumite disocieri şi limitări ale sistemului noțional, care vor perturba învățarea la nivelurile ulterioare de vârstă şi şcolarizare.

Informația auditivă se derulează în timp, prelucrarea ei se bazează pe M.S.D. şi pe abilitățile de stabilire a succesiunii temporale. Deprinderea de a auzi este dobândită; ea se învață de la sine în cazul copilului auzitor, dar trebuie învățată şi de către copilul surd. La copilul surd, în învățare, se ridică mai multe probleme, dintre care amintim:

a) Problema reținerii unei succesiuni de operații pentru realizarea unei sarcini mai complexe. Profesorul demonstrează, dă explicații şi apoi cere copilului să reproducă. Din cauza dificultății de a stabili succesiunea temporală, copilul îşi va aminti cel mult ultimii doi paşi, sau întreaga activitate va deveni confuză.

b) Problema triunghiului de referință (Wood şi colab., 1986) se referă la situația în care copilul surd se raportează simultan atât la un obiect cât şi la o persoană care face comentarii asupra acelui obiect. El trebuie să facă legătura dintre două trăiri diferite, declanşate pe cale vizuală, care sunt percepute la un interval de timp una de alta; deci trebuie să facă față unei intense solicitări intelectuale.

c) Dificultățile însuşirii citirii se leagă de focalizarea alternativă a atenției la cuvântul scris şi la fața profesorului, pentru a putea găsi explicația unui cuvânt, între timp trebuind să țină acel cuvânt neînțeles.

Monitorizarea acestor factori constituie punctul de pornire pentru proiectul activității de corectare-compensare şi de instruire-educare. Este evidentă necesitatea unei abordări flexibile precum şi a muncii în echipă multidisciplinară.

4. Optimizarea procesului de reeducare a auzului şi limbajului cu ajutorul unor noi metode şi procedee

Grafismul fonetic şi desenul discursului din metoda verbo-tonală

Această metodă are aplicabilitate în emiterea şi consolidarea fonemică, silabică, propozițională. Este o cale de învățare a limbajului prin intermediul unui grafism figurativ ghidat prin dinamica fonației, cele două fiind sincronizate.

Metoda citirii globale

Nu se procedează la o predare-învățare propriu-zisă a citirii şi scrierii, nici măcar a alfabetului, ci se asociază imaginea grafică a cuvântului cu obiectul sau desenul acelui obiect. Am plecat de la numele propriu al copilului. La început învață să-l recunoască, să-l citească, ulterior să-l scrie, "să-şi semneze lucrările". Treptat, copiii citesc cuvinte şi apoi propoziții.

Elaborarea de "nuclee semantice" prin metoda prezentării radiale

Prezentarea izolată a cuvintelor, apoi a propoziţiilor cu suport imagistic şi/sau grafic îl cantonează pe copil într-o formă de învăţare fragmentară, care îşi pune amprenta asupra operativităţii gândirii sale sub forma dificultăţii de realizare a asociaţiilor şi o slabă capacitate de transfer a cunoştinţelor. Am transformat suportul imagistic şi grafic, oferind simultan noţiunea ţintă (nucleul) şi notele acesteia, precum şi relaţiile dintre ele. S-a obţinut lărgirea câmpului de aprehensiune şi creşterea mobilităţii operării cu materialul verbal.

Metoda povestirii-interpretării

Pentru fixarea materialului verbal sunt necesare numeroase repetiţii, intervenind uneori monotonia. Unul dintre jocurile spontane preferate de copii este "de-a profesorul", moment în care se înregistrează o diminuare a comportamentelor agresive şi o mai bună colaborare între copii, comparativ cu alte jocuri. S-a intervenit în joc cu o interpretare (dramatizare) legată de temă şi de materialul verbal, furnizând un model al povestirii. Am făcut "echipă de povestitori" cu câte un copil, apoi i-am lăsat să fie singuri interpreţii povestirii.

Utilizarea computerului

Programele cu jocuri educative s-au folosit iniţial ca suport motivaţional, iar ulterior s-au utilizat programe specifice vizând educaţia senzorială. Utilizarea programelor computerizate s-a dovedit utilă în realizarea asociaţiilor între imaginea grafică a cuvântului şi desenul corespunzător. În viitor ne propunem să obţinem şi să utilizăm produse informatice destinate elaborării şi consolidării limbajului.

BIBLIOGRAFIE

1. Colin, D., *Psychologie de l'enfant sourd*, Masson, 1978.
2. Lafon, J.C., *Les enfants déficients auditifs*, SIMEP, Paris, 1985.
3. Lepot-Froment, C., Clerebaut, N., *L'enfant sourd; communication et langage*, De Boek Université, 1996.
4. *** *La Méthode verbo-tonale*, în "Le Courrier de Suresnes", nr. 58-special M.V.T., Ardennes, 1992.
5. *** *Psychology of Deaf*, University of Birmingham, 1995.

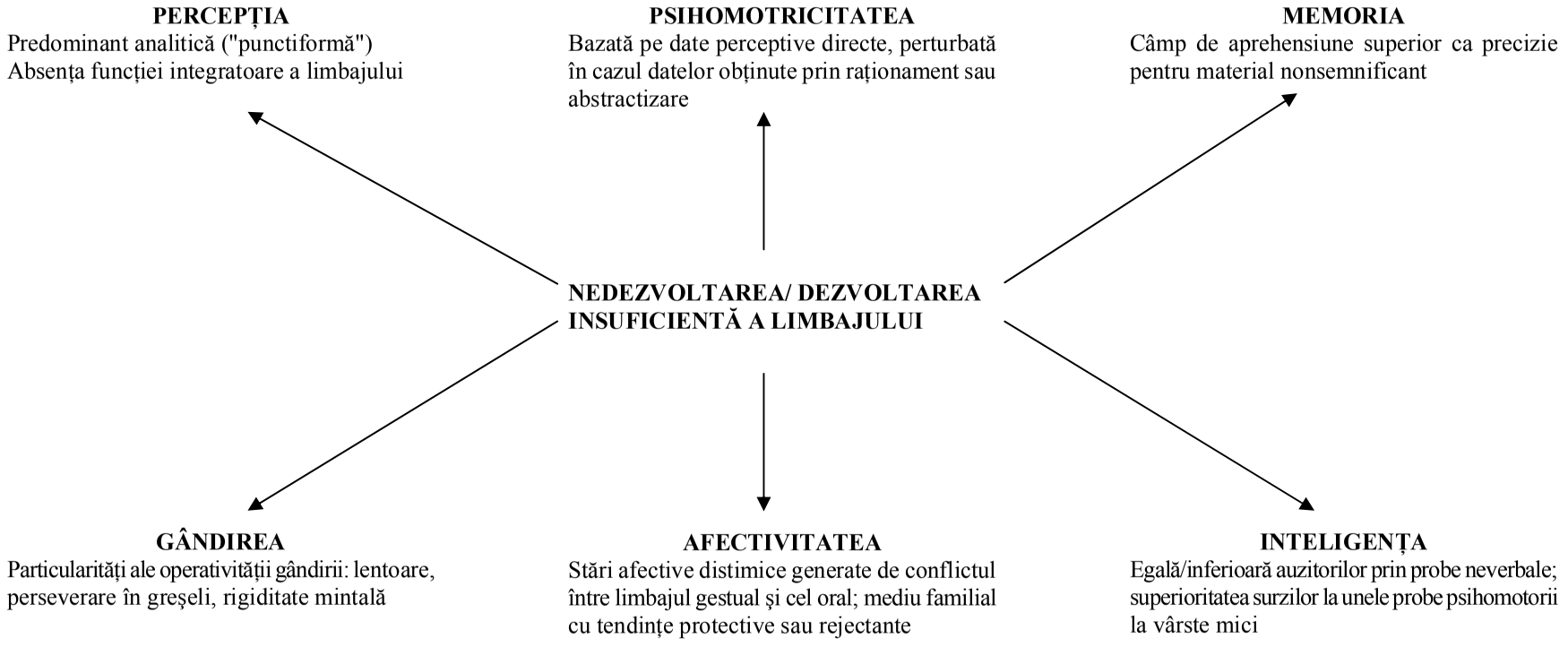
PERCEPȚIA
Predominant analitică ("punctiformă")
Absența funcției integratoare a limbajului
PSIHOMOTRICITATEA
Bazată pe date perceptive directe, perturbată în cazul datelor obținute prin raționament sau abstractizare
MEMORIA
Câmp de aprehensiune superior ca precizie pentru material nonsemnificant
NEDEZVOLTAREA/ DEZVOLTAREA INSUFICIENTĂ A LIMBAJULUI
GÂNDIREA
Particularități ale operativității gândirii: lentoare, perseverare în greşeli, rigiditate mintală
AFECTIVITATEA
Stări afective distimice generate de conflictul între limbajul gestual şi cel oral; mediu familial cu tendințe protective sau rejectante
INTELIGENȚA
Egală/inferioară auzitorilor prin probe neverbale; superioritatea surzilor la unele probe psihomotorii la vârste mici

Figura 1.

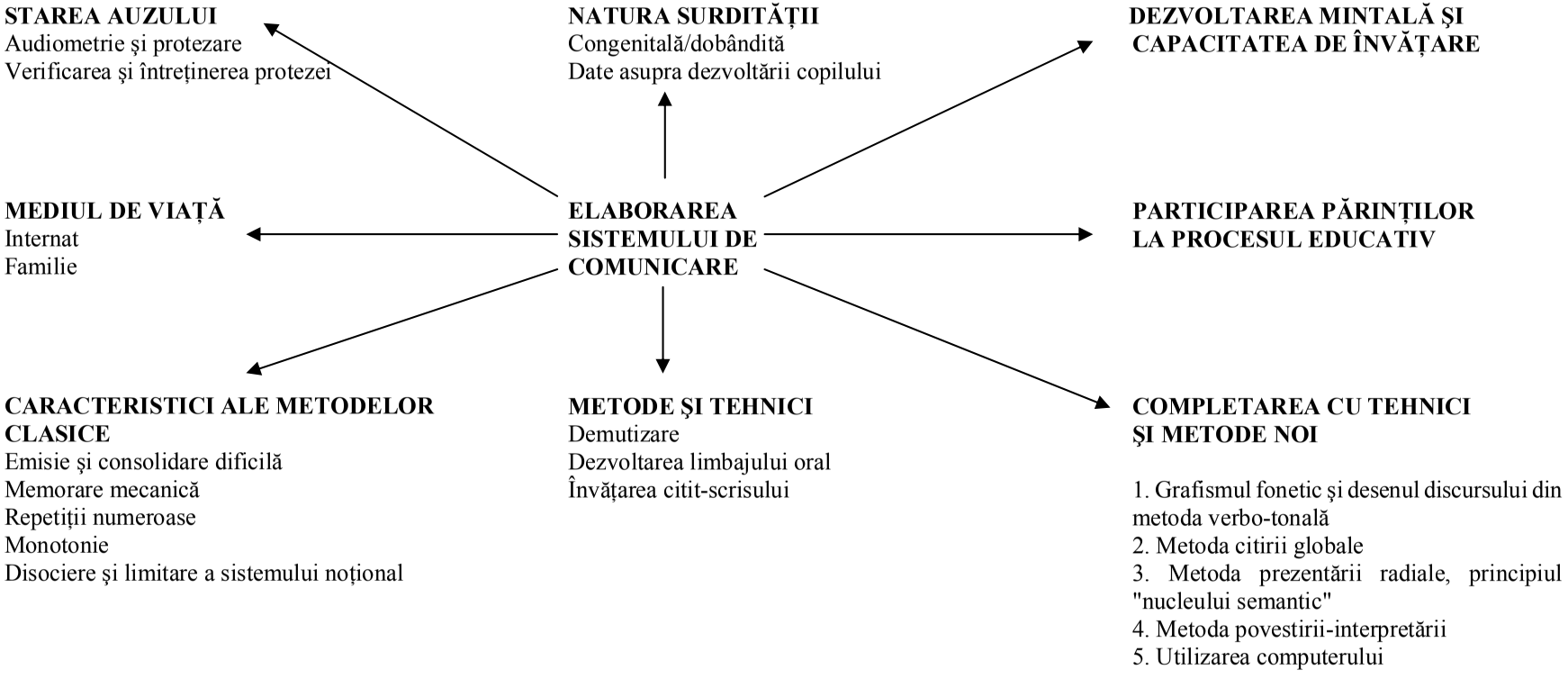
STAREA AUZULUI
Audiometrie şi protezare
Verificarea şi întreţinerea protezei
NATURA SURDITĂŢII
Congenitală/dobândită
Date asupra dezvoltării copilului
DEZVOLTAREA MINTALĂ ŞI CAPACITATEA DE ÎNVĂŢARE
MEDIUL DE VIAŢĂ
Internat
Familie
ELABORAREA SISTEMULUI DE COMUNICARE
PARTICIPAREA PĂRINŢILOR LA PROCESUL EDUCATIV
CARACTERISTICI ALE METODELOR CLASICE
Emisie şi consolidare dificilă
Memorare mecanică
Repetiţii numeroase
Monotonie
Disociere şi limitare a sistemului noţional
METODE ŞI TEHNICI
Demutizare
Dezvoltarea limbajului oral
Învăţarea citit-scrisului
COMPLETAREA CU TEHNICI ŞI METODE NOI
1. Grafismul fonetic şi desenul discursului din metoda verbo-tonală
2. Metoda citirii globale
3. Metoda prezentării radiale, principiul "nucleului semantic"
4. Metoda povestirii-interpretării
5. Utilizarea computerului

Figura 2.

STUDIA UNIVERSITATIS BABEŞ-BOLYAI, PSYCHOLOGIA - PAEDAGOGIA, XLII, 1-2, 1997

RECENZII

M. Ionescu, I. Radu, D. Salade
Dezbateri de didactică aplicată, Presa Universitară Clujeană, 1997.

Cartea "Dezbateri de didactică aplicată", apărută în anul 1997 la Editura Presa Universitară Clujeană se dovedeşte, prin temele abordate, de un real interes şi ajutor atât pentru slujitorii şcolii cât şi pentru nespecialiştii în domeniu.

Primul capitol al cărţii, intitulat "Receptarea noului în practica şcolară" (autor Dumitru Salade), se referă la problemele, de multe ori controversate, ale noului în pedagogie, la sincronica şi diacronica raportului schimbare-continuitate. Sunt evidenţiate în acest context reperele ce jalonează educaţia pentru schimbare, variabilele ce condiţionează schimbarea autentică în educaţie precum şi categoriile de subiecţi implicaţi în schimbare. Consideraţiile de ordin teoretic referitoare la aspectele anterior menţionate sunt dublate, pe tot parcursul capitolului, de pertinente observaţii experimentale, extrase graţie derulării unor cercetări minuţioase cu privire la schimbare şi receptarea acesteia în practica pedagogică.

Capitolul II, "Impactul informaticii în învăţământ; de la instruirea programată la I.A.C." (autor Ioan Radu) debutează cu câteva consideraţii introductive referitoare la importanţa utilizării calculatorului electronic în practica educaţională, consideraţii urmate de prezentarea argumentată a reperelor psihogenetice ale predării noţiunilor de informatică în şcoală şi a principalelor efecte de ordin formativ ale însuşirii informaticii de către elevi şi studenţi.

În continuare autorul întreprinde o succintă prezentare a instruirii programate în versiunea anilor '60 şi a câtorva experienţe şcolare de instruire programată pentru ca în final să insiste cu deosebire asupra I.A.C. (Instruire asistată de calculator), a exigenţelor pe care le implică acest mod de instruire precum şi a evaluării rezultatelor instruirii asistate de calculator.

Capitolul III, "Relaţia principii - strategii de instruire din perspectiva didacticii moderne" (autor Miron Ionescu) se concentrează asupra evidenţierii unora dintre direcţiile actuale de cercetare din teoria şi practica instruirii. Este surprinsă în acest context dinamica raportului dintre predare şi învăţare, autorul propunând o perspectivă sistemică asupra procesului de instruire, perspectivă în interiorul căreia relaţia dintre predare şi învăţare este abordată mai ales prin prisma activităţii elevului. În continuare autorul se referă la intercondiţionarea complexă dintre principii, metode şi tipuri de activităţi didactice, la criteriile de stabilire a strategiilor de instruire. Sunt abordate pe parcursul acestui capitol teme privind caracterul sistemic al principiilor didactice, teoriile actuale ale învăţării şi proiectării instruirii precum şi modalităţi de valorificare a instruirii asistate de calculator.

Capitolul IV, "Cerinţe cu privire la alcătuirea sistemului de probleme în predarea chimiei" (autoare Muşata Bocoş), face referire la factorii care influenţează punerea şi rezolvarea problemelor în general şi a celor de chimie în special.

Autoarea se referă în acest context la locul şi rolul problemelor în activitatea didactică, la cerinţele a căror respectare condiţionează succesul utilizării acestora.

Sunt astfel surprinse, recurgându-se la numeroase exemple, exigenţele de ordin metodic ale proiectării şi utilizării sistemului de probleme, principalele dificultăţi ce pot surveni în întreprinderea unui astfel de demers dar şi posibilităţile concrete de soluţionare a acestora.

Capitolul V, "Orientări în modernizarea strategiilor de evaluare didactică" (autor Cristian Stan), este axat pe prezentarea şi exemplificarea concretă a principalelor direcţii ce stau la baza efortului global de restructurare şi modernizare pe plan mondial a tehnicilor şi strategiilor de evaluăre didactică. Sunt abordate în acest context aspecte ca: raportul empiric-ştiinţific în evaluarea didactică, problema standardelor naţionale de evaluare, contextualizarea evaluării performanţelor şcolare ale elevilor, asigurarea caracterului interactiv al evaluării didactice, introducerea tehnicilor de evaluare alternativă precum şi alte strategii concrete de acţiune, capabile să conducă la modernizarea evaluării didactice.

Capitolul VI, "Individ şi grup - noţiuni corelative în teoria instruirii" (autoare Ramona Răduţ), face referire la importanţa pe care înţelegerea şi utilizarea corectă a celor două noţiuni o deţin în teoria şi practica instruirii.

Un loc important în economia de ansamblu a capitolului revine circumscrierii conceptului "clasă de elevi"şi conotaţiilor pe care acesta le deţine în cadrele didacticii moderne.

O pondere deosebită în acest context revine problematicii relaţionării active profesor-elevi în activităţile şcolare, concluziile expuse în acest sens sprijinindu-se pe un set de constatări experimentale.

Capitolul VII, "Educaţia integrată - experienţe europene privind formarea profesorilor" (autor Vasile Chiş), debutează prin reliefarea importanţei pe care educaţia integrată o deţine la momentul actual, fapt subliniat de autor prin prezentarea unor experienţe pozitive în acest sens din ţări ca Anglia, Danemarca, Italia şi Spania. Sunt expuse în continuare câteva proiecte TEMPUS ce vizează cu predilecţie promovarea şi impulsionarea educaţiei integrate în România precum şi preocupările concrete privind dezvoltarea parteneriatului în formarea profesorilor pentru educaţia integrată.

Prin temele propuse şi maniera de abordare a acestora, cartea "Dezbateri de didactică aplicată" oferă cititorului atât informaţii relevante din domeniul didactic cât şi un util prilej de reflecţie.

ANDREI DANCSULY

D. Riverin-Simard, ***Muncă şi personalitate***, Ed. Les Presses de l'Université Laval, Sainté-Foy, 1996: un semnal pedagogic canadian.

Literatura pedagogică de pretutindeni se găseşte, în prezent într-o situaţie dificilă datorită progreselor rapide pe care le-au înregistrat unele domenii (informatica, bionica, ecologia, axiologia etc.) şi ale căror rezultate interesante pentru ştiinţele educaţiei n-au reuşit încă să le încorporeze şi să le integreze pe deplin în conţinutul lor.

Diversificarea disciplinelor ştiinţelor educaţiei, condiţionarea pluridisciplinară a acestora, precum şi caracterul global şi extinderea educaţiei la nivel planetar, au încetinit ritmul progresului din acest sector al vieţii sociale. Reformele periodice ale învăţământului din diverse ţări sunt un argument în această privinţă.

După apariţia celor 3 volume ale pedagogului canadian A. Paré, intitulate: "Creativité et pédagogie ouverte" (1977), care au făcut o analiză temeinică a învăţământului contemporan, alţi pedagogi, sociologi şi psihologi canadieni au abordat probleme ale învăţământului, educaţiei şi culturii din multiple perspective moderne. Ele reflectă, pe de o parte, interesul oamenilor de ştiinţă pentru problemele progresului cultural şi, pe de alta, oferă oamenilor şcolii un prilej de meditaţie şi un îndemn la iniţiative şi experimente îndrăzneţe.

Iată câteva titluri semnificative: D. Riverin-Simard: "Travail et personalité" (1996); Colectiv: "Savoir des enseignants"; L. Coté: "Psychologie de l'apprentissage et enseignement" (1987); M. Depres-Poirier: "Le systéme d'éducation du Québec", ed. II (1995); G. Racette et L. Forest, "Pluralité des enseignements en sciences humaines a l'Université" (1990); R. Fullinwider: "Public Education in a Multicultural Society" (1994); L. Poucet et L. Favreau: "Théorie et pratiques en organization communautaire" (1991); M. Sequin et L. Frechette: "Le Deuil: Une souffrance a comprendre pour mieux intervenir" (1995); S. Amégan: "Pour une pédagogie active et creative", ed. II (1993); R. Brien: "Science cognitive formation" ed. III (1997); Landis, Rabi, Bhagat: "Handbook of intercultural training", ed. II (1996).

Cu toate că cele mai multe din aceste lucrări merită câteva comentarii şi aprecieri, ne vom opri doar asupra uneia din acestea şi anume asupra "Muncii şi personalităţii" a sociologului D. Riverin-Simard. Lucrare de aproape 500 de pagini cu referinţe bibliografice pe 15 pagini, aceasta se constituie într-un fel de monografie a problemei prin numeroasele sale perspective din care este abordată problema relaţiei muncă-personalitate. Autoarea lucrării, profesoară la Universitatea Laval din Montreal, consideră că într-o lume a muncii, aflată într-o degringoladă fără precedent, omului i se cere "o formaţie solidă şi diversificată şi de asemenea, mai ales, o cunoaştere totdeauna reînnoită a calităţilor sale, a valorilor şi aspiraţiilor sale.". Cartea "contribuie direct la această redefinire continuă a identităţii profesionale".

O simplă şi scurtă trecere în revistă a structurii lucrării ne va convinge de cele spuse mai sus.

În "Introducere", autoarea dezbate evoluţia muncii: etapele, tranziţiile şi haosul. În partea I se tratează "Istoria muncii şi tipurile de personalitate" în două capitole despre "Personalitate şi istoria socială a muncii" şi "Personalitate şi muncă: noţiuni şi tipuri". În partea a II-a, intitulată "Personalitate şi traiectorii profesionale", în şase capitole se dezbat "Căile profesionale ale diverselor tipuri de personalităţi" (artistice, întreprinzătoare, cercetătoare, realiste etc), iar în partea a III-a, intitulată "Personalităţi şi evoluţia muncii", în cele 4 capitole, se discută/analizează "Personalitatea şi evoluţia profesională", "Personalitatea şi bipolaritatea evoluţiei vocaţionale", "Drumurile vocaţionale şi dezvoltarea personalităţii adulte" şi "Personalităţile vocaţionale şi societăţile".

Cartea se bazează pe cercetări întreprinse asupra unui colectiv de 1000 de persoane adulte, grupate după vârstă şi tipul de personalitate şi oferă cititorului o serie de sugestii, sfaturi şi recomandări privind

modul în care individul îşi poate influenţa, adapta sau modifica traiectul profesional, pentru a se afirma, în funcţie de o serie de condiţii concrete ale comunităţii în care lucrează şi pentru a contribui la "evoluţia socio-economică a colectivităţilor respective".

Chiar dacă cele 6 tipuri de personalitate adoptate de autoare: realist, investigator, convenţional, artistic, întreprinzător şi social sunt susceptibile de unele obiecţiuni, ele oferă cititorului bogate observaţii cu privire la evoluţia fiecărui tip. Personalitatea vocaţională este înţeleasă ca "un ansamblu unic de atitudini vocaţionale (sentimente, credinţe, valori, forme de exprimare) care fac originalitatea persoanei şi pe care ea o poate pune la dispoziţia societăţii oneros sau gratuit" (pagina 71).

Lucrarea răspunde şi unor chestiuni concrete, nu numai teoretice. De exemplu, în ce măsură rolul personalităţii vocaţionale este legat de evoluţia socio-economică a acestor societăţi şi în ce măsură ele condiţionează (facilitează) şi beneficiază de realizarea proiectelor profesionale ale fiecărui individ. Muncile care vor caracteriza secolului XXI cer viitorului specialist să fie "creativ, flexibil, întreprinzător, poliva-lent, perspicace, creator de funcţii, vânzător al competenţelor sale, capabil să interpreteze mişcările lumii socio-economice" (pagina 79).

Meritul lucrării în discuţie constă în analiza pertinentă pe care autoarea o face rutei profesionale a fiecărei categorii de specialişti (din cele 6), subliniind mereu pe lângă dinamica schimbărilor ce intervin în drumul profesiunilor şi cerinţele care privesc pregătirea viitorilor specialişti.

Citându-l pe W. Bridges care susţine că pe viitor muncitorilor li se va cere pe lângă dobândirea unor noi competenţe tehnice şi o calitate fundamentală: "aptitudinea de a găsi şi de a realiza lucrări într-o lume lipsită de locuri de muncă stabile şi clar definite" (pagina 456), autoarea accentuează cu fiecare prilej importanţa preocupării fiecărei persoane de a-şi elabora cu grijă proiectul profesional. (De altfel, autoarea a funcţionat mulţi ani ca şi consilier în orientare).

Cum suntem în pragul secolului XXI, când numeroase evenimente ne obligă să privim lumea într-o formă globală, cartea ne atrage atenţia asupra adevăratelor imperative ale personalităţii vocaţionale şi cu deosebire asupra naturii exigenţelor intraindividuale care o comandă, în acestea constând câştigul lecturii acestei lucrări.

DUMITRU SALADE

CRONICĂ

Catedra de psihopedagogie specială

Manifestări interne:

- Modalităţi de optimizare a procesului instructiv-educativ în învăţământul special (simpozion).

Manifestări internaţionale:

- Sisteme de instruire deschisă şi la distanţă (workshop)

Colaboratori din străinătate şi vizite la catedră:

- Herman Gresgnit, Olanda, preşedinte ICEVI (International Council for Education of People with Visual Impaiment)
- Michael Callaghan, De Montfort University, Leicester, UK
- Theodore Tauth, University Claude Bernard, Lyon, Franţa

Participări la manifestări ştiinţifice externe:

- Vasile Preda, Mirela Arion: workshop "Trainig of teachers of the Visually Impaired in Europe", Budapesta, 22-25 martie 1997
- Vasile Preda: Universitatea Claude Bernard, Lyon, Franţa
- Mirela Arion: De Montfort University, Leicester, UK

Catedra de Ştiinţe ale Educaţiei

Simpozionul naţional: Formarea continuă a profesorilor, 06.06.1997

Colaboratori din străinătate şi vizite la catedră:

- Kazy Smith, Peyron, Utah, S.U.A
- Grozdanka Gojkov, decan Colegiul Institutori, Vîrşeţ, Yugoslavia
- Dr. Martin Groos, Katolische Universitat, Eichstatt, Germania
- Roberto Sammarchi, director Centro Europeo Universita e Ricerca, Italia
- Charles Temple, profesor, Geneva University, New York, S.U.A.
- Ellinor Haase, profesor, Asociaţia Universităţilor Populare Germane, Bonn, Germania
- Angeles Parilla Latos, Facultatea de ştiinţe ale Educaţiei, Sevilla, Spania

Participări la diferite manifestări ştiinţifice externe:

- Miron Ionescu, profesor, vizită la Colegiul Institutori, Vîrşeţ, Yugoslavia, noiembrie 1997
- Vasile Chiş, conferenţiar, specializare în educaţia la distanţă, Cambridge University, Marea Britanie, aprilie 1997

CRONICA EVENIMENTELOR ŞTIINŢIFICE 1997

Catedra de Psihologie

- **ianuarie-februarie:** lect. univ. Liviu Matei în vizită de documentare la Universitatea din Chambery şi la Grenoble, la conferinţa "Psihologia controlului".
- **februarie-mai:** Visiting Profesor David Manier, de la New School for Social Research, New York, USA.
- **27-30 mai:** Simpozionul Internaţional "Memory Systems", cu participarea unor personalităţi precum Morris Moscovitch, Toronto University, Canada, David Rubin, Duke University, USA,William Hirst, New School for Social Research, New York, USA, şi a colegilor de la universităţile din Bucureşti şi Iaşi.
- **iunie:** participarea conf. dr. Mircea Miclea la simpozionul "Ways of thinking" organizat de Universitatea de Stat din Viena la Heiligenskreutz, Austria; lect. univ. Liviu Matei participă la Paris, la seminarul cu tema "Psihologia câmpului social".
- **1-14 august:** Şcoala Internaţională de Vară cu tema "Cognitive-behavioral therapies in anxiety and dynamic assessment", Cluj-Napoca, având participanţi din Austria, Slovenia, Croaţia, Republica Moldova, SUA.
- **1-7 august:** Şcoala de Vară pe teme de psihologia muncii, Ilieni, Braşov.
- **septembrie:** lect. univ. Adriana Baban participă la European Health Society Conference, Bordeaux, France; lect. univ. Vargha Jenö-Laszló şi asist. univ. Anamaria Moga participă la Conferinţa Internaţională PIfE, Krakow, Polonia.
- **16-17 octombrie:** Conferinţa "Expressing Sexuality", prima manifestare ştiinţifică pe tema homosexualităţii din România, cu participarea internaţională a unor experţi în domeniu ca Simon Le Vay, New School for Social Research, New York, USA, Brigitte Lhomond, Centre National de la Recherche Scientifique, Lyon, France, Edward Stein, Yale University, USA, William Hirst, New School for Social Research, New York, USA, şi a specialiştilor români din Cluj, Iaşi, Timişoara, Bucureşti.
- **19 octombrie**: Simpozionul "Fizic şi Psihic", simpozion-satelit al celei de-a IV-a Conferinţe Naţionale de Biofizică, organizat de Catedra de Psihologie în colaborare cu Institutul de Tehnologie Izotopică şi Moleculară, Cluj-Napoca.
- **noiembrie:** conferinţe pe teme de psihologie socială, susţinute de Olivier Desrichard, Universite de Savoie, S.C.R.I., Chambery Cedex France şi Andre Sirota, Paris X, Nanterre
- **19-23 noiembrie:** participarea conf. dr. Mircea Miclea la Psychonomic Society Conference, Philadelphia, USA, cu lucrarea "Intentional forgetting of affective-laden information".