STUDIA

UNIVERSITATIS BABES-BOLYAI

Psychologia - Paedagogia

CLUJ-NAPOCA 1996

1-2

ANUL XLI 1996

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PSYCHOLOGIA—PAEDAGOGIA

1-2

Redacţia: 3400 CLUJ-NAPOCA, str. M. Kogălniceanu, 1 ● Telefon 19 66 81

SUMAR — CONTENTS — SOMMAIRE

STUDII DIN PROGRAMUL TEMPUS „EDUCAŢIA INTEGRATĂ"
PAPERS FROM TEMPUS PROJECT „INTEGRATED EDUCATION"

IN MEMORIAM

RECENZII — BOOK REVIEWS - COMPTES RENDUS

CRONICĂ — CHRONICLE — CHRONIQUE

STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA - PAEDAGOGIA, XLI, 1-2, 1996

SUPPORTING CHANGE IN SCHOOLS: OBSERVATIONS FROM AN INTERNATIONAL COLLABORATION

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ABSTRACT. In this chapter we intend to partray some of the activities in which we have collaborated with colleagues in Romanian schools. In that our main focus has been on schools and that we, ourselves are professional educators it is inevitable that we have to some large extent been partial in our glimpse of the situation in the Romanian communities in which we have worked

We believe that the special educational needs of children and young people vary both in severity and form across a spectrum of learning difficulties. If these special educational needs are to met effectively then there must be a matching degree of variation in provision. Put simply a broad spectrum of need requires a broad spectrum of provision. The very breadth of special educational needs suggests that the education service, as presently constituted in most states, cannot meet this broad range of needs from within its own capacity to make provision. Interservice collaboration in decision making and resource provision for children with special educational needs and those at risk becomes a necessity in contexts where there is genuine concern that needs are met. The effective meeting of needs depends on the combined contribution of a wide range of agents and agencies ranging across statutory and voluntary sectors including parents, parents organisations and community groups. Effective collaboration within and between these agencies and agents is required if decisions are to be made which result in action which meets needs. Such actions must also be carried out effectively as well as efficiently. Thus we would ask that the experience that we discuss here should be seen alongside developments in Health, Social Services and general community development projects within Romania.

We have been involved in collaborative work with colleagues in Romania over a period of about four years. In this chapter we will discuss our initial impressions of the school based integration projects, our work in seminars, our partnership in evaluation procedures and our experience of acting as hosts to Romanian visiting groups.

As Europeans we share a common cultural heritage. As north western Europeans we differ in many of our experiences and understandings from our partners in south eastern Europe. Throughout our work in Romania we have attempted to present ourselves and genuinely act as collaborative partners in a common project.

Collaboration may be related to both co-operation and co-ordination. Distinctions between these terms are important to us in the context of this project.

> „Collaboration is the joining together of 2 or more individuals in an egalitarian relationship to achieve a mutually determined goal" (Conoley, Conoley, 1982).

Conoley & Conoley discuss collaboration in terms of agents, relationship and goals. Whilst Caplan agress that these dimensions are relevant he lays particular emphasis on relationships.

> „The egalitarian nature is the most distinguishing characteristic of collaborative strategy. Collaborative strategy joins the consultant and consultee in the determination of the goals, problems definitions and solution set" (Caplan, 1976).

There is a sense in which these definitions may be used to describe poles within a dimension of collaboration. In some sense they also relate to the co-operation co-ordination distinction. Rogers & Whetton (1982) define and compare co-operation and co-ordination as follows:

> *Co-operation* is defined as, „deliberate relations between otherwise autonomous organisations for the joint accomplishments of individual goals". This definition stresses more informal relations, autonomy and individual goals. By comparison, *co-ordination* is „...the process whereby two or more organisations create and/or use existing decision rules that have been established to deal collectively with their shared task environment".

We see our work as that of collaboration with a network that is coordinated within Romania.

Initial Impressions

As was noted in an initial report on this collaborative project (Daniels, Daunt, 1994) the first impressions were that important examples of integration are established in Romania. We would cite as examples the developments in School No 22 in Timisoara and in School No 10 in Cluj. In both citiesthere are the first endeavours in integration being undertaken by the Vocational Schools. There is also the provision of external support to integration offered (for example) to children with learning difficulties by the Speranta Rehabilitation Centre in Timisoara, and by the Rehabilitation Centre for deaf children in Cluj. Thus there are examples of state and non governmental organisations (NGOs) working together to meet special educational needs and promote change within schools.

The individual integration in Timisoara's School 22 is a more familiar form of integration than the inclusion into the special sector

operating in School 10 in Cluj, and offers the possibility of significant progress in integration by means of extension to other children and other schools in the short term. In Cluj on the other hand it was observed that the work with the children in the special unit was linked to the demands of the mainstream curriculum. The Cluj model also provides the opportunity for a new kind of close relationship between a special and a regular school. Moreover there has already been a development of exceptional interest in the role of the two specialist teachers working there: that other teachers were asking their advice about difficult individual didactic problems demonstrates how the function of the specialist teacher is actually enhanced rather than diminished as a result of an integrating initiative.

What differences there are between the two projects can be interpreted in a positive way: provided the two approaches in the 'lead' schools are not perceived or presented as contradictory, their existence will increase the amount of learning experience which the Pilot Project programmes has to offer. They will also enhance the transferability of the programme's results throughout the country.

Four aspects of the cultural, professional and institutional context in which the Projects are set struck us as particulary relevant to integration.

The first refers to the ways in which *children* are assessed and taught. Associated with the high academic tradition of the regular schools in Romania is a formal pedagogy not noticeably responsive to differences in attainment, understanding or learning styles of different pupils. As for children with special educational needs, the defectology model of their behaviour and potential appears to be still widespread if not actually prevalent; the psychological apparatus for allocating children to categories, for example, does not appear to have been subjected to significant theoretical or practical challenge.

The second point relates to the roles of *teachers and other professionals*. We saw little evidence of a tradition of communication and cooperation between professionals of different categories. Decision-making opportunities would seem to be concentrated at the higher levels (head teachers, inspectors); views about the value of intervention and the ways in which decisions are made are relatively rigid. It is not clear what incentives exist in either special or regular schools to encourage teachers to innovate by means of individuals initiative. These remarks do not imply that we detected in the schools an authoritarian spirit, or a lack of commitment among the teachers; that is not at all the case.

Thirdly, *parents* have few legal rights, so that they are unduly dependent on good will if they are to be consulted or otherwise involved. Although their associations are developing with energy and enterprise, it is not clear that their legal status is sufficiently well protected or that they have the opportunity to achieve a reasonable level of financial independence.

The last point concerns the general apprroach to the innovative task of the projects. While this task is based on a concept of community development, the interventions proposed tend to focus on individuals rather that on the need for institutional change.

These considerations should not be perceived as a mere list of impediments to innovation in general and integration in particular. But, in so far as we have identified them correctly, they are factors which need to be borne in mind when devising the strategies by means of which integration will be progressed.

Intensive Seminars

During the middle portion of this phase Miguel Melero from Spain, and Harry Daniels from England visited Romania to work with teachers; Daniels in Timisoara, Melero in Cluj. In the event this involved some 30 hours of intensive in-service training, which was much appreciated by the course members but rather more than the visitors had bargained for.

Short courses present tutors with significant problems. Issues of relevance and responsiveness are causes for concern in in-service training within states. When the trainer is from overseas the problems may be amplified. In the context of ideological shifts in the underlying paradigms which direct schooling there is the potential for confusion.

The relation between conception and perception is of prime importance here. If the audience and the speaker occupy different conceptual spaces then the substance of a training event may be open to more than the usual range of interpretations. We attempted to engage with value positions as well as discuss the development of skills knowlegde and understanding. Our impression was that this was successful. At the very least the seminars opened a collaborative space in which dialogue could develop. Orientations on both sides were much clearer and the spirit in which the events were conducted facilitated genuine debate.

The Interim Evaluation for UNICEF

The initial phase was brought to a close when Harry Daniels, Mihaela Ionasi, Doru Popovici were commissioned to undertake a 'Review and Evaluation Mission of Integration of Disables Children Into Community Projects in Cluj and Timisoara' for UNICEF.

The objectives of the review included the following specific tasks:

1. To conduct:

- one visit to each site including the schools where the disabled children are integrated;
- meetings with project teams;

- interviews with families and children benefiting from the project;
- interviews with other professionals as and when necessary;

2. To read and comment on the evaluation reports developed in each site by project teams.

3. To write and submit to the UNICEF office and the Ministry of Education a report containing the findings and practical recommendations for:

- the future development of the pilot projects;
- the development of similar projects in other regions of Romania.

The interview approach adopted was to use identical questions across subject groupings and to induce categories of response which themselves were progressively built back into the interviews. These 'new' questions functioned as probes in order to cross validate the impressions gained. This form of qualitative data gathering, reduction, analysis and portrayal requires rather more time than was available. However the evaluators feel that they could place a high level of confidence in the general orientation of the findings. The evaluators felt that the use of preordained interview categories was highly inappropriate for such an exercise. The intention was to preserve, as far as possible, the original meaning of the interviewees statements in the analysis.

The following practical recommendations for the future development of the pilot projects were developed on the basis of evaluation data. In terms of new objectives, it was suggester that the project teams should try and identify 'gaps' in existing provision and seek means of filling them. For example with respect to:

- pre-school provision for children with severe learning difficulties and physical and neurological impairment (PNI);
- units for children with PNI in special and/or mainstream schools;
- units and/or class based integration in vocational schools;
- to collect and collate a bank of evidence which could be used to demonstrate the impact of project work. Video and newsletter material along with personal anecdotes from parents, teachers and children were seen by those in the field as vital data.

The following resources emerged as desirable in the collective mind of those interviewed. In was felt that there was a need to develop a series of networks which would act as resources and integrators of resources:

- between teachers, health workers and social workers. This would be best achieved through existing friendship patterns and informal contacts.
- to provide a means by which local governmental agencies can communicate and support each other to the benefit of the project.
- to develop and strengthen partnership with NGOs.
- to promote networking between special, mainstream and vocational schools in such a way as to support the effective and satisfactory transition of pupils between one sector and another.

- to promote the development of parental support networks which may also involve parents of children who do not have SEN but who wish to promote the development of more open and flexible forms of schooling.

A very clear and important target was to secure and develop means of transportation for pupils with PNI who are to integrated into schooling. It was felt that this may be achieved in collaboration with NGOs or possibly in partnership with some form of sponsorship.

There were also recommendations at the level om means and modes of operation of the projects. It was suggested that there was a need to consider means and modes of integration in a developmental way. For example in Timisoara the move has been through unit provision to in-class provision. It was felt that this development may be appropriate at different stages for different groups of pupils and will reflect the priority of social protection of the broadest possible population. It was also felt that it was important to encourage the development of school based consultancy involving teachers and other professionals (notably Speech Therapists).

In terms of evaluation it was argued that there was a need to develop a means of monitoring pupil progress through forms of provision in order to ensure that pupils do not get 'stranded' in socialy isolating and damaging 'gaps'. In order to do this it was suggested that whole project teams should meet to evaluate their work on a regular basis. These meetings could form the basis of twice yearly reports for the consultative group, for partners in the project, and local authorities. These reports could also be part of the means of informing public opinion.

Developments

The following key developments were advocated at that stage:

- to focus on early intervention in order to inhibit the processes of early social isolation and discrimination.
- to involve social work departments from the Universities. Social Work could be placed in schools and communities with the task of providing support for families involved in project schools. The European Social Pedagogue is seen as possible model.
- to provide support for the development of local parents groups. Parents associations were stronger in Cluj where an NGO had operated in this way.
- to develop established project schools as training centres.

The tension between the development of a strategy oriented to quality of provision as against a strategy oriented to social protection emerged as a major issue during the course of this very brief evaluation. The most powerful presentation on this matter was from parents with children in Special School No 1 in Cluj. It was also underlined very strongly by parents in Timisoara. The project had enabled their

children to avoid processes of social exclusion. This can be analysed both from an educational perspective as well as from a community integration perspective. Inclusion in Special School in the community allowed these children access to the 'normality of schooling' as well as the 'normality' of residence with their parents in their own communities. The evaluators feel that a strategy of support for social protection measures is regarded by almost all actors in the field (including parents) as the priority. This finding has major implications for the development of the integration zones.

The strategy that emerged from the data involved tht following developmental moves:

1. Situation Analysis

* To conduct a situation analysis which would identify likely sites for integration. This would involve identifying:
  - — schools that were willing to participate which were valued as 'good — schools' in local communities;
  - — headteachers who were sympathetic to the integration principle;
  - — a key local decision maker as project leader.
* Inside each nominated school:
  - — Teachers who displayed positive attitudes and values rather possession of skills and knowledge alone should be selected for participation.
  - — The headteacher would play a key role in identifiyng, supporting and motivating these teachers.

2. Training and Development

* To promote the development of awareness and initial ESN teaching strategy training in all forms of teacher and educator training.
* To promote patterns of locally based in service training based on key project schools as centres of excellence. Teachers from established project schools could be sent on a short term basis to new schools to both teach integration classes as a demonstrators and run In-Service training on site. Teachers from new project schools could be sent to established schools to obtain an overview of practices and possibilities. The project team suggest that new school principals are important first targets for such experiences.
* To develop systems of curriculum based assessment and evaluation as alternatives to the existing grade based system. The intention here being to both provide a clear link between assessment and teaching and for purposes of communication with parents and other professionals.
* To review the forms of vocational training offered to students with disabilities and difficulties in the light of changes in the Romanian market place.
* To consider ways in which the evaluation and promotion of teachers could be linked to their integration activity.

Cultural Influence

* To initiate a national media campaign designated to convey the reality of project based work without distorting it for polemical/ political purposes.

* To support the development of a national parents forum. This could provide the integrated base for dialogue with government and other agencies. This could also provide a forum for inter government department discussion around a common cause.
* To include matters of disability and human rights in the High School curriculum.

Legal Influence

* To promote discussion on the implementation and possible development of the following aspects of legislation:
  — *Law 3* (1970) the issus here is with respect to financial support for children with SEN in mainstream schools.
  — *Law 57* (1992) the issue here is concerned with the development of sheltered workshops.
  — *Note from the Ministry of Education 271801* (1995) the issue here is with respect to continuing support over the coming years.

Economics

* It is suggested that economic analysis of the financial implications of integration are evaluated.

Above all it was argued that a 'Life Time Perspective' should be adopted in which national policy should be steered towards a life time perspective on the development of the quality of life of people with disabilities and difficulties.

This evaluation was conducted very rapidly and thus only gained a glimpse ofthe situation. The conclusions and suggestions have to be treated with some caution. However it was felt that they was a considerable consensus of view within the group of people who were interviewed.

Follow up developments

As part of the follow up developments from this initial phase of international collaboration funds were secured from the European Union (EU) to develop a masters programme in integrative education. A prime objective for this next stage was to seek ways in which in service training could be used to support change within schools and within initial teacher training. Provision of a masters programme within Romanian Universities was seen a one strand of this development.

Four Romanian Universities expressed an interest in working on this project along side four universities from EU states. The four Romanian Universities were University of Babeș-Bolyai in Cluj, the University of Timiscara, the University of Bucharest and the University of Iasi. They represented sites with Romania where integrative education was taking hold as well as representing a spread of educational zones

around the country. They were also at different stages in relation to the range of current course they taught, and the staffing expertise that they held.

The four EU University were similarly diverse. They were the Royal Danish School of Education, the University of Birmingham (UK) the University of Bologna, (Italy) and the University of Malaga (Spain). Each represented a different tradition of inservice education as well as different perspectives of integrative education.

Thus the project brought together eight very diverse institutions whose aims was to work collaboratively with Romanian colleagues to produce a masters programme which would support change in schools. To this challenge was added the factor of a very short time frame within which to achieve this objective. Normally a masters programme would have a one to two year gestation period from the start of the ideas to the first taught session being delivered. In this instance the funding came in such a manner that the collaborators had just over seven months from start to the delivery of the first sessions in each of the four Romanian Universities.

To meet this challenge required a clear focus on the issues and processes which need to be addressed. To achieve this the project relied upon two members of the group to produce a strategy whose aims were:

- to provide context within which the eight universities could work;
- to establish a process for auditing needs;
- to enable communications between the partners to flow easily.

As Conoley and Conoley (1982) pointed out for collaboration to take place it is necessary to establish 'a mutually determined goal'. Whilst at this stage of the collaborative process there was a common aim, that of establishing a masters programme, the form and substance of the programme remained to be 'mutually determined'.

With no recent history of masters provision to draw upon the Romanian universities were facing fundamental question relating to course construction, course delivery, staff involvement and inter--university co-operation. On the one hand this gave the partners an opportunity to start with a 'clean sheet'. On the hand there were no parameters within which the Romanian partners could contextulise what EU partner Universities were presenting as masters programmes.

Thus the first stage of this phase of the project was to arrange for a exchange of information between the EU Universities and the Romanian Universities. This was achieved by the simple expedient of meeting face to face in Bucharest and presenting papers on the masters programmes presently being run within the EU Universities. This gave an indication of the very different approaches that exist. Upon reflection two broad approaches to masters work could have been discerned, particularly in relation to supporting change with schools. One could be deem a more rationalist approach where the course emphasises the skills, knowledge and understanding required by educationalists to

effect change and to meet educational needs. The other was an approach which emphasised the moral, ethical and philosophical understanding necessary to cause and achieve change.

Achieving an understanding of this distinction in a forum which was communicating through four different languages in order to arrive at mutual goals, was not easily achieved. Indeed the extent it was achieved is yet to be tested as the first masters programmes are launched in Romania and their documentation makes clear the stance taken by Romanian colleagues as to what should inform the core focus of their programmes

The exchange of ideas was further enhanced by stays of one month at EU Universities The plan had been to ensure that one member of each of the Romanian Universities visited each of the EU Universities in oder to maximise the breadth of collaboration. When it came to puting the plan into practice human and logistical factors came into play. The net effect was that EU universities and Romanian Universities were poired up. This left Romanian colleagues with the task of collaborating separately amongst themselves to exchange information from their visits.

A stay of four weeks provided for in depth study of the EU Universities masters programmes. In particular the process whereby the EU University ensures that its programme support, initiate and enhance change within schools. In the case of Birmingham we were able to show this by:

- course delivery which involves serving teachers;
- course assessmentsn which involves course participants in practical work within the own working context;
- close liaison and involvement with non-governmental agencies;
- links with local educational authorities;
- course review structures which involve schools;
- the availability of a modular programme which can be flexibility in meeting individual schools needs.

Further reinforcement of these exchanges was provided by a week's exchange for Romanian colleagues. On this occasion the exchange parties were made up from a wider group of personnel to include headteachers, non-governmental organisations, and school inspectors. The aim here was to provide potentially key change agents with the opportunity to see how university courses could be used to support change within schools.

These two periods of visits were then followed by a seminar with all eight participating universities where Romanian colleagues presented the outline plans for the masters programme. The challenge of creating a master's programme was one which all the partners had rose to. The logistics of producing the programme in the time scale was one which all the partners found difficult to manage.

Our experience of collaboration in this project has been one where to achieve an egalitarian approach (Caplan, 1976) has not always been an easy process. In part because of the expectations we as Western

Europeans have of time lines, deadlines and what should constituite the details of a programme. If our expectation are that there will be clear aims and objectives which relate to skills, knowledge and understanding, whilst others have a view which is articulated in moral, ethical and philosophical terms then just achieving an agreed starting point can be fraught with difficulties, especially when these underliyng differences are not clear even to the proponent of them. The problems of working in four different languages can compound these difficulties.

Collaboration when construed in an egalitarian manner feedbacks into other projects as well as our ongoing work. It has also had an effect on the reflective process of evaluating our own courses. This collaboration has been focused upon achieving a master's course which support change in Romanian schools but it has provided un with an opportunity to begin to reassess our masters courses and the extent to which they actually effect change in UK schools. This is particularly pertinent at a time when initial and in-service teacher training in England is coming under scrutiny by the government because it is felt that it has insufficient affect on improving the education pupils' achieve.

Finally the collaboration has achieved its stated aim of creating a masters course. The partners have agreed a means of evaluating the first year's programme. Perhaps more importantly further collaboration is being planned which seeks to further support change in schools in the UK and Romania.

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DISTANCE EDUCATION AND PROFESSIONAL DEVELOPMENT FOR TEACHERS IN SPECIAL EDUCATION

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ABSTRACT. This paper discusses distance education as an option for the professional development of teachers in special education. It is argued that distance education provides flexible opportunities so that students are able to study in their own time and place and can develop independence and reflection in their learning. Their study can be directly linked with their practice in school. Effective support for distance education students is important and their study can be enhanced when they are supported by tutors and by colleagues in the workplace. There is then a potential for professional development by distance education to have an impact on both the individual who undertakes the course and their work context.

Introduction

Since the 1980s there has been a decline in the opportunities for teachers in the United Kingdom to undertake courses, particularly those offered full time. Mittler describes the 'gradual attrition of opportunities for teachers to study for award bearing courses' (Mittler, 1993).

Like other parts of the world, the UK has experienced some economic stringency in recent years. Changes in funding arrangements within a context of more general changes in education in England and Wales have adversely affected numbers of teachers undertaking development opportunities in special education to the point where, in 1994, a Special Educational Needs Training Consortium was set up to address a perceived crisis in the availability of specialist teachers (Special Educational Needs Training Consortium, 1996). Providers of professional development opportunities for teachers have needed to respond to changes in the funding and organisation of education by introducing alternative modes of course delivery and more flexible modular structures for programmes. Amongst these, the development of distance education programmes has provided important opportunities for teachers. This paper discusses some of the features of distance education at the University of Birmingham in the United Kingdom (UK) where specialist courses have been developed for teachers in special education.

What is distance education?

The distinguishing feature of distance education is that the learner is separated from the educational institution. Formerly, the term 'correspondence education' was used but this implies that print was the main

medium. The terms, 'distance learning' and 'distance teaching' are used, but 'distance education' has gradually been adopted internationally to cover the range of teaching and learning activities. Distance education employs media in many forms. It includes written and recorded materials, radio, television, telephone and electronic media. However, it is increasingly recognised that a face-to-face component enhances its effectiveness. The sole reliance on text is not considered to be the best way of promoting learning in students who might be experiencing isolation and the lack of opportunity to engage in any form of dialogue.

Distance education has provided important educational opportunities for people who can not or do not wish to participate in conventional and traditional educational provision. However, there frequently seems to be a view that distance education courses are a compromise or 'second best' to a traditional face-to-face mode of teaching. Walker (1993) suggested that critics of distance education frequently start from a deficit model. They consider that 'real' education is campus-based and the priority in development is to transform information from on-campus to off-campus use. This may particularly apply to institutions with a tradition of face-to-face classes rather than to distance education institutions or courses which have previously not been offered on campus. Some persuasion may be necessary to encourage acceptance of these alternative approaches to teaching and learning by demonstrating how, for professionals, they can be effectively based on practice.

Adult learning and distance education

Distance education can be found at all stages of the life cycle. It in successful in a range of contexts from traditionally 'academic' courses to practice-based programmes for development of workplace skills. However, much of it is concerned with meeting the educational needs of adults. Its flexibility means that students can study in their own time and place and sometimes, if the distance education is also 'open' education, at their own pace. Distance education courses vary in the level at which they accommodate the needs and interests of the individual student and in the extent to which a course can be described as 'open learning'. In the genuinely open approach, a student may enter and leave the programme at any time and complete the programme over an indefinite period. In practice, many programmes, in particular those which carry an award, set boundaries within which the student will study and complete assignments.

The development of distance education materials and the way in which courses are presented has led to reconsideration of many fundamental aspects of teaching and learning. More recent theoretical discussion increases the focus on the 'education' in distance education and a number of writers point to the opportunities distance education presents to 'transform' students and to develop independent and reflective learners. By implication, students are away from the educational institution

and are usually expected to develop independence in their learning. One of the challenges of distance education is to develop effective support systems for students so that an appropriate balance between autonomy and dependency can be encouraged.

The distance mode provides opportunities to people who would not otherwise be able to, or wish to, undertake courses by attending an educational institution. For example in so-called 'developing countries', where there have often been economic constraints on course attendance and because of the need to educate large numbers of people effectively and at low cost, distance education has provided access to literacy and to teacher education (Perraton, 1993). There are also examples of prisoners, lighthouse keepers and oil rig workers who undertake courses (Perry, 1976). Distance education has been an important source of development opportunities for teachers. The Open University in the UK has always attracted teachers to its courses. A similar situation has been observed in Australia, with teachers constituting over 80% of all enrolments in one institution (Evans, Nation, 1991). Smyth (1989) and Burge and Haughey (1993) describe aspects of distance education which aim to develop critical reflection in teachers as adult learners.

Professional development in special education

In 1982, the University of Birmingham began to offer a specialist course for teachers of children with visual impairments (Chapman, 1982). Since then, courses have been developed in a number of specialisms including: speech and language difficulties, hearing impairment, multi-sensory impairment, autism, emotional and behaviour difficulties and learning difficulties (mental handicap). The School of Education now has more than 15 years' experience in running these courses, which are unique in their specialists fields. Programmes are offered at Bachelors level, Post-graduate Diploma level and at Masters level. Students come from the wide range of provision including mainstream and special schools, special units and support services. Completion rates for the courses are high with less than 5% failing to finish (see Mason, Miller, 1991; Mason, Miller, Lomas, 1993). Currently more than 350 teachers and other practitioners in special education are registered for a range of courses. There is evidence that demand is increasing.

The courses are based on materials sent by post to students, who are spread all over the country. Students complete assignments which are exactly equivalent to those completed by conventional campus-based students. They are supported in their learning by regional tutors and by the staff of the University and, once or twice a year, they attend residential schools in Birmingham. The residential schools are arranged when other students are on vacation and so good use is made of the University facilities, which might otherwise be empty.

Full-time campus-based courses allow teachers to leave their work-base and, from the learning institution, have time to reflect on their

work. Sitting in a library, talking to fellow students and to their tutors, there are opportunities to develop new ideas and to think about how they might do things differently when they return to school. Distance education however, offers a development opportunity for experienced professionals, to learn whilst they remain in their schools. There is a potential for this to have an impact on both the individual who undertakes the course and on their work context. The effects can be systemic, that is they may be observed throughout a system. They can also be more immediate.

Materials

The self-study materials, which carry the core content of the courses, are presented as 'interactive text'. This is text which is interesting to read and speaks directly to the student. The style is relatively informal. Activities and self-assessment tasks are included. Although there can be no obligation to complete these, it is suggested that students' understanding of course materials will be enhanced if they do so. Distance learning offers opportunities to design practical activities and assignments which can be interesting, challenging and of practical value to the student, their colleagues, their school and, most importantly, the children and young people whom they teach. Course design can take advantage of the fact that the student is in daily contact with pupils and colleagues. Students can be helped to reflect on their day-to-day experiences in school. In evaluations of courses in the University of Birmingham, many of the teachers appreciate the opportunity to relate the course to their practice. They see that a fulltime secondment, whilst offering some advantages, might not be the answer to their needs in practice. The following are extracts from interviews with students who expressed their views on the links between the course and their practice:

'... I think it's genuinely a good way of doing it.... I think it makes it very experiential and I think that's the main thing about a course like this. You can constantly relate it to the work you are doing, ... it's going on all the time and affecting what we were doing all the time'

One particular plus for this type of course is that it draws on experience and has a substantial influence on practice as one goes along.

I like to be actually carrying out the ideas,... for me it becomes real if I can relate it to my work ..., you read something and you think, oh I don't know and then you're in a situation with a child and you say, Oh — I can see what tht writer meant and it ... sparks you off.

There is evidence that teachers take their distance learning materials to school with them. When the materials go into school, other people see them; they ask about them and may borrow them. Although this can deter some people as it gives colleagues the impression that a course is 'too much hard work', it also means that they have opportunities to benefit from the materials. One teacher reported that

'Teaching colleagues seem to feel they have participated in the course by proxy'

Tht materials may provide a stimulus for discussion and they will last, either as the property of the student or as a school resource, after the course has finished.

'I go back to those (materials) *often, . . . P my colleague'll say find out about this, . . . about a child. "I think, I've got something somewhere, I'll go and dig it out" It's been very helpful to me.*

Support for students

Although distance education may be a particularly suitable form of study for professional development, some student can experience isolation. The opportunity to study alone may be attractive but the nature of teachers' work suggests that working in complete isolation could be a disadvantage. An important writer in distance education believes that empathy is a key element:

> 'a need to share discoveries and intellectual experiences with someone else, to exchange views and through this exchange learn confidently to work with the intellectual matter concerned' (Holmberg, 1987, p. 60).

The opportunity to receive support and guidance is important. For the majority of students, their education prior to a distance education course is likely to have been conventionally campus-based and they may need help in making maximum use of distance learning. Specialist teachers may rarely meet with others with similar interests and may need help in making the best use of tutorials and discussion groups. It has been observed that school settings do not necessarily provide a context for teachers to discuss their work:

> 'in-service courses provide a legitimate setting to meet such needs. . . . It validates talk which in the school context might be seen as excessively zealous and permits insight into the way that other schools and classrooms operate' (Collins, 1991, p. 70).

It may be too that the practicalities of busy school life do not create many opportunitites to sit down for an extended discussion about anything. Small group study in the form of tutorials and seminars is an important element of the distance education courses. Students are helped to interpret the course materials and have opportunities to discuss activities with other teachers. Evaluations in Birmingham suggest that one of the most important functions of the tutorials is for teachers to exchange information about their practice. Tutors and staff of the University can be available for discussion and to help in the planning of written assignments.

The distance education courses in Birmingham were set up in order to provide for a group of professionals who would otherwise not have development opportunities. In some cases, campus-based equivalents had failed to be supported by sufficient numbers. Added to this, the

majority of teachers in primary education and in special education in the UK are women. The age profile of the teachers, whether men or women, suggests that many would have family commitments. Even if funding was available, it is unlikely that many would have been willing or able to leave home to attend a campus-based course, either full- or part-time.

There can be some disadvantages, as there are to any form of self-development. In evaluation of courses at Birmingham, teachers describe chronic pressure in undertaking a course whilst committed to a full-time job. For all of the students, courses are undertaken in addition to their daily work and not all of them are given study time. If they are not given study time by their employers during the working day, it is likely that adjustments have to be made to teachers' personal time. The course work is most likely to be accommodated in their family and domestic schedule. As the majority of these teachers are women, it is likely that this is no small consideration.

There is a challenge for all concerned to ensure that the professional development activities of teachers are compatible with the overall development plans for their school. It should not be difficult for head teachers to imagine the positive impact that a distance learning course could have on practice and therefore to support colleagues in their study. However, they may see distance education as the ideal way to develop teachers and improve the quality of their work, without loss of time or money. Some of the teachers interviewed from one of the Birmingham courses expressed frustration and experienced exhaustion from the course. They had little time to reflect or to follow up ideas and further reading. In spite of this, they were able to describe changes to their thinking and practice. Some also described changes to their colleagues and to their whole work system (Miller, 1995). For example, a teacher reported that:

'as a unit we have worked through various issues raised by the course'

Given a little more time and support as an essential element of the distance learning process, perhaps there could be even greater gains for the teachers and their employers. There could then be benefits to a whole school and to a group of colleagues.

Financial aspects

The main financial cost benefits of distance education courses are to employers. The main money required is a course fee and additional expenses for the student, perhaps to buy books or to travel. There is also some cost to their colleagues who may be covering aspects of their work whilst they undertake course-related activities.

Costs to the institution offering the programmes are high in the early stages of course development. Budgets need to meet staff time and payment of external staff if they are involved in writing materials.

A rolling programme of updating and revision of materials must be funded. Budgets will also need to cover: external, locally-based tutors if they are to be used; technology for desk-top publishing; printing. University staff time will be taken with the management of external tutors and the overseeing of student cohorts, which may be large compared with campus-based courses. Additionally, course developers who are probably employed primarily as academic members of staff, rapidly find themselves learning to manage publishing facilities and design and layout principles in order to make the course materials as attractive, friendly and easy-to-use as possible.

Conclusion

This paper suggests that distance education can provide opportunities for large numbers of practitioners to undertake professional development. There is evidence that distance taught courses can contribute to the enhancement of practitioners' knowledge and practical skills. For in-service courses for professionals who already have experience and who have access to their place of work during the course, there should be no reason to think of distance learning as 'second best' to campus-based courses. Indeed, there is plenty of reason to think of distance education as a highly effective mode which can offer excellent value. It should be considered seriously as part of the range of professional development options.

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STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA—PAEDAGOGIA, XLI, 1 - 2, 1996

THE INTEGRATION OF CHILDREN WITH SEVERE LEARNING DIFFICULTIES INTO MAINSTREAM SCHOOLS IN UK

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Introduction

Integration has been the main focus of investigation in education in the UK for more than twenty five years, and has influenced all aspects of special education. Staff in schools for pupils with severe learning difficulties (referred to in some countries as the 'mentally retarded') have found it necessary to undertake a closer examination of their educational philosophy in the light of trends towards the greater integration of their children into mainstream schools. This article outlines the dominant models of practice currently available for such children in Britain, and suggests that locational and social integration are vital prerequisites for functional integration.

Identification

In the UK it was estimated in 1978 that 20 per cent of all school-aged children would have special educational needs, which at some point in their school careers may require additional resources (DES, 1978). A child may, for example, require extra support with reading, or additional help in acquiring an understanding of the concepts underpinning the sciences, or the extra resources to master or reinforce a particular mathematical skill. Approximately 2 per cent of these children with special educational needs, however, have severe physical, intellectual or emotional difficulties, some of which may remain with them throughout their lives. For many years they were excluded from the mainstream, and received their education in special schools. The intellectual, emotional and social problems of a small number of them are so great that, until 1971, they were considered to be 'ineducable' and were completely excluded from the education system. They were then the responsibility of the Local Health Authorities and some of the more able were cared for in Occupation and Training Centres; others were placed in institutions or were allowed to remain at home and received little or no adequate help or support from the state.

Throughout history, negative labels such as *mentally handicapped; idiots; imbeciles; severely retarded,* or *educationally subnormal* have been given to such children, and their quality of life was determined by the medical profession. In 1971 the Education (Handicapped Children) Act was passed and responsibility for them was transfered to the Local Education Authorities. As it was at last recognised in the UK

that there were not two sorts of children (those who are handicapped and those who are not) and that all children have a basic right to education, the former Training Centres became special schools (Heddell, 1980).

The severe difficulties in learning, experienced by these children, are often hard to detect and may be the result of neurological dysfunction; chromosomal abnormalities; disorders of metabolism or brain damage. Although the causes may alter their physiological processes and affect their rate of learning, they do not result in a general incapacity to learn. Their rate of progress may be painfully slow, but systematic and skilled teaching can enhance cognitive development. Some children may also have additional sensory or physical impairments resulting from neurological damage, and certainly there may be substantial delay in some, or all, of the main areas of general development. Equally, however, learning difficulties can be exacerbated by the restricted experiences offered. The slow rate of progress of some pupils can lead to professionals offering the same learning experiences with relentless monotony, resulting in both pupil boredom and frustration (Tilstone, 1992).

Integration/segregation

Not only have children with severe learning difficulties experienced a *life apart* from education, but when education did become available it was only offered in segregated provision, although these children have the same rights as all children to the services offered by health, education and other community resources. The political perspective on educational integration is that it is a fundamental human right, and that to deny a child a place in a mainstream school is to segregate him or her in a way in which criminals are, through prison sentences, removed from normal society (Lewis, 1995). On the other hand, it can be argued that the right to *choose* a particular type of provision is also a human right, and that having the opportunity to make an informed choice between special and mainstream schooling is preferable to having a situation where mainstreaming is imposed (Lindsay, 1989). Such a view raises the fundamental issue of who should choose. Are parents given enough information to make informed choices or are the crucial decisions made by professionals who, supposedly, *know best*? The *special needs industry* is seen as providing opportunities to perpetuate the vested interests of the professionals working within it (Tomlinson, 1982; Barton, 1988; Norwich, 1990), and whilst special schooling remains, resources (both human and financial) will be diverted away from the mainstream. Another important perspective which is often overlooked in the enthusiasm for integration, stems from the innovations and initiatives in Denmark on the quality of life for people with severe and profound and multiple learning disabilities. Holm, Holst and Perit (1994) identified three essential conditions for an acceptable quality of life in

any situation, including schooling. First, that any individual should be involved in the social network; second, that the pupil should have control over any situations in which he or she is involved; and third, that the relationships within the learning environment should lead to positive experiences. They stress that it is important not to intervene in the lives of others on the basis of undefined, or merely implied, ideas of what is good for them, and it is, therefore, of vital importance to set up systems which enable pupils with SEN to be actively involved in the decision-making process. This will not be easy for pupils with profound and multiple learning difficulties whose language development may be at an early stage. However, as Mittler (1996) points out, practices must be in place which emphasise the importance of choice and decision-making:

> 'Even if they cannot speak they can often understand what is said by others and also develop other means of expressing choices and decisions, for example by physical expressions, through the voice, by means of the eyes and in many other ways personal to the individual, but understandable by others.' (p. 9)

Great strides have been made to integrate children with a range of disabilities in the UK, and it is possible to construct a hierarchy of disabilities which appear to be more easily fully incorporated into mainstream schooling. Inevitably, such a hierarchy mirrors the acceptance of certain disabilities by society as a whole and, although many children with physical and visual impairments are fully integrated into mainstream schools, children who are perceived as very *slow*, who behave *inappropriately*, or who do not match the *Hollywood image* (slim and perfectly formed) are the last to be included. Children with severe learning difficulties often display all three characteristics and therefore the progress of integration into mainstream education, as into society generally, has been painfully slow.

Profiles of two children with severe difficulties in learning

'J'

'J' is almost 5 years old. She understands simple commands including the prepositions 'in' or 'on', and can point to a number of body parts, including shoulders, eyebrows, fingers and thumbs. She can name simple objects, and label pictures of single objects, but her spontaneous speech is a babble containing few clear, single words. When playing alone with an adult she will repeat familiar words and attempt to sing a number of nursery rhymes and simple songs.

She walks unsteadily with feet wide apart, and climbs stairs by bringing her feet together on each step; she descends in a sitting position. She can kick a ball without falling over and throw it innacurately.

She is predominantly right-handed and uses a palmer grip to control a pencil. She can copy a circle and vertical and horizontal strokes. She cannot cut with scissors and has some difficulty in building a *tower* of more than two bricks.

'J' plays alongside other children and often gets upset when invited to interact with them. She needs to be reminded to go to the toilet, and bowel control is not established. She has Down's syndrome and her large tongue makes feeding difficult.

'S'

In contrast 'S' is 10, and has physical difficulties. He is still at an early stage of development. He can sit with support, but needs to use a special chair and a standing frame to strengthen muscles and to encourage correct positioning. He receives physiotherapy twice a week, and his teacher carries out the prescribed programmes daily. When placed on the floor he can roll around the room and can also move by pushing his feet whilst lying on his back. Like 'J', eating is difficult as he has a tongue thrust, but he manages to eat mashed food when it is placed in one side of his mouth. He can control parts of the eating process by taking a loaded spoon of food to his mouth.

He likes people and has a ready smile. He uses his whole body in an enthusiastic welcome routine with familiar children and adults, and will indicate that he does not want things by turning away or pushing objects from him. He shakes his head for 'no' and makes a consistent gesture for 'yes'.

He can select familiar objects from a choice of two and can eye-point to two familiar and similar objects in a group of three. He does, however, find in difficult to open his hands and grasp objects, but after massage his performances improves. Although bowel and bladder control are not established, he will remain clean and dry throughout the day if toileted at regular intervals.

What forms of integration are available for 'J' and 'S'?

The Warnock Committee (DES, 1978) identified wide range of integrated educational-provision: locational, social and functional. At a basic level each brings children with severe learning difficulties into contact with the more able in their peer group, and therefore each can be seen as a form of integration. At a more sophisticated level, however, some kinds of provision are a contradiction in terms. Lewis (1993) suggests that the locational (where children attend separate special units on the same site as a mainstream school) and the social (where children go to separate special classes but mix with the mainstream children for meals, at playtimes and assemblies) are only partial integration and:

> 'an attempt to present an unpleasant reality (segregation) in a more comfortable way, like the term ethnic cleansing for the enforced mass migration of specific ethnic groups . . .' (p. 5).

Hall (1996), in defining inclusion rather than integration, takes this issue further when he explains that to be included fully in the educational mainstream means:

> 'Being a full member of an age-appropriate class in your local school doing the same lessons as the other pupils and it mattering if you are not there. Plus, you have friends who spend time with you outside school.' (p. 99).

Both 'J' and 'S' are far from that definition, but as Ballard (1995) argues inclusive schools deliver a curriculum to children throught organisational arrangements that are different from those used in schools which exclude some children from their buildings. Examples are varied and numerous and deppend largely on Local Education Authority policy and the history of its provision. Farrell (1996), however, attempts a comprehensive list of examples in the UK of the main types of arrangements currently available to children with severe learning difficulties which bring them into close contact with a more able peer group, and includes:

- full time placement in a local neighbourhood school;
- full time placement in a unit for children with severe learning difficulties housed within a mainstream school;
- the placement of a whole class of children with severe learning difficulties within a mainstream school;
- an integrated nursery within a special school for children with severe learning difficulties;
- regular visits by pupils with severe learning difficulties to local mainstream schools (link schemes).

What form of integration are 'J' and 'S' receiving?

The number of children with severe learning difficulties who are fully integrated into mainstream schools is not known, as computer school records tend to show the number of *statemented* children with *special educational needs* on their registers. Rightly or wrongly, the adoption of this global term has made it difficult to distinguish, from the data available, those children with severe learning difficulties from those with a visual, or hearing, impairment and mild learning difficulties. The number of those who have full time placements in their local primary school is increasing steadily, but there is evidence that many of them return to a segregated special school when they reach secondary-age (11 years) (Tilstone, 1991). It would be naive to suggest that full-time integration in a mainstream school can be anything more than the *physical* placement of the child within its walls. Individual case studies often show that the integrated placement is, in fact, a microcosm of segregation (Tilstone, Lacey, O'Hanlon, Turner, Ribbins, in preparation).

Neither 'J' nor 'S' is undergoing functional integration. By focusing on their experiences it is possible to show the reality of the situation for the majority of children like them, and to challenge the all-too-often assumption that the staff of special schools have their own vested interests in keeping special schools open and are, consequently, not interested in promoting integration. Pure inclusionists see all special schooling as a negative experience which devalues children, and denies them opportunities. They do not, however, see that there may be a need for an enabling stage, which helps to promote an inclusive ethos, and lays the foundation for true inclusion. Many children will do equally well, socially and academically, in mainstream schools but others (like 'J' and 'S') are excluded from the mainstream owing to fear and prejudice. In their case, far from perpetuating educational apartheid, the special school staff have taken the initiative to break down the barriers to acceptance.

'J'is attending integrated nursery within a special school for children with severe learning difficulties. The lack of nursery facilities in her rural area prompted the special school to develop much needed nursery provision for up to 20 pre-school children between the ages of two and five years, half of whom have special educational needs. At compulsory school-age, the ordinary children transfer to their local primary school, but for those with special educational needs a range of other options is available, including the opportunity to join their peers in a mainstream school or to attend a unit for children with learning difficulties within a mainstream school. Arrangements for transfer are flexible, and 'J', although she will remain on the role of the special school in which the nursery is housed, will, when she reaches compulsory school-age, attend the mainstream school along with her ordinary peers for part of each day. The nursery's teachers and nursery nurses are on the staff of the special school, and provide varying degrees of support when children with severe learning difficulties transfer to full or partial integration within mainstream schools. In 'J's case, she will be in a group of five children with special needs, who will be accompanied by a nursery nurse during their first term of partial integration into mainstream (a situation which is closely monitored and reviewed). The school has also employed an integration-support teacher, whose main function is to develop extensive integration links across all sectors of education, not only with mainstream schools in the locality, but with others in its rural area.

The experience of 'S' are very different, as, despite his profound and multiple learning difficulties, he participates in two contrasting forms of integration. In the first, he is fully integrated into classes of more able children with severe learning difficulties within the special school. This example appears to be typical of recent developments in integration along the continuum of special education, although as Farrell (1996) argues, the literature on integration consistently overlooks the experiences of children with profound and multiple learning difficulties, who are often still segregated in special classes within such schools. He

emphasies that an important first step along the continuum of integration is to abandon such special classes. This philosophical/sociological argument has influenced integration initiatives, although there is little research evidence on the educational benefits for all the children involved. O'Connell's (1994) small scale research indicated that where a child with pmld (profound and multiple learning difficulties) and a child with sld (severe learning difficulties) were paired to work together in structured activities (*special friends scheme*), higher levels of interaction were recorded than if the children had not been paired. The more able, who were paired, also showed a greater degree of tolerance to their partners with profound and multiple learning difficulties; reflected in the literature on link schemes, designed to extend and deepen contacts (Whitaker, 1994; Walsh, Shelvin, Moore, de Lacey, Stirch, 1996).

'S' is also involved in a link scheme in which all members of his class are integrated into their local mainstream school and taught alongside their mainstream peers for one half-day per week. Such programmes have developed in the UK over many years, and of the 898 special schools which took part in a recent research survey, 83% were involved in collaborative arrangements with ordinary schools (Fletcher-Campbell, 1994). These schemes vary from 'one-way visits'; 'reciprocal'; 'regular but infrequent'; to weekly and daily. The most successful (Lewis, 1995; Shelvin, 1992; Shelvin, Walsh, 1994) encourage shared activity based on common interest. Pupils from the different schools are paired if they share a common enthusiasm for a subject or an activity, and as part of the planned integration programme are allowed either formally or informally to develop their interest collaboratively (Tilstone, 1996).

As the literature from a range of countries shows, successful integration is a highly complex phenomenon. Ainscow (1994) is amongst the researchers in the UK who has considered integration through school improvement which he believes hinges on the six basic conditions of:

- effective leadership;
- the involvement of school staff, students and the community in the development of policies and the making of decisions;
- a commitment to collaborative planning;
- effective co-ordination strategies;
- attention to the potential benefits of enquiry and reflection;
- a policy for staff development.

There is, however, another fundamental condition, which is particularly relevant for children with severe learning difficulties, but is often overlooked in the academic literature. Structured attitude change is of crucial importance to the acceptance of children like 'J' and 'S'. If they had been born thirty years ago, not only would they have been considered 'ineducable', but it is likely that they would be living in long-stay hospitals segregated from the larger community. This histo-

rical legacy has left its mark, for although around three-quarters of the population have never met a person with severe learning difficulties, the popular images of *mental* handicap (so easily confused with mental illness) are locked doors, doctors, psychiatrists and violent behaviour. Unfortunately, attitudes not only depend on contacts in the present, but are also determined by the feelings reactions and beliefs of the past, and, unless they are challenged, are likely to be handed down from one generation to another.

Although neither 'J' nor 'S' is experiencing functional integration, their carefully planned and structured activities are helping to break down fear and prejudice at an early age. Information and research evidence is available on policies of integration, but there tends to be an assumption that society is *ready and waiting* to receive all those with special educational needs. It is not, and it can hardly be blamed for being reticent. As McConkey (1996) emphasises, widely distributed information about the rights and needs of people with disabilities is unlikely to affect the attitudes and behaviour of members of the public, particulary when they have never had contact with children with severe learning difficulties. In the case of 'J' and 'S', the special school staff did recognise that the first step in facilitating true inclusion was the changing of attitudes through positive experiences and the creative use of functional and social integration.

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STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA–PAEDAGOGIA, XLI, 1–2, 1996

THE BLIND LEARNING APTITUDE TEST — A POTENTIAL ASSESSEMENT TOOL FOR USE WITH ROMANIAN BLIND PUPILS

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Introduction

This article describes the use of an American psychological assessment test, the Blind Learning Aptitude Test (BLAT) with a substantial number of blind children and young people in England and Wales. By examining the standardisation data from the USA, it was possible to make some interesting comparisons of the use of the Blind Learning Aptitude Test with children in schools for the visually impaired in England and Wales and the USA. As the author of the BLAT claims that it is a 'culture-fair' test, then it should be an appropriate tool for use with Romanian blind pupils.

Background

The Blind Learning Aptitude Test (Newland, 1971), developed during the 1950s and 1960s is an American 'touch' test for blind pupils consisting of 49 items. It has been standardized for use in the USA with blind children and young people between the ages of 6 and 16.

The test items

The 49 test items are divided up into 6 groups, and each group is preceded by 2 non scoring trial items. Each group requires a different type of behaviour from the child. The items become more or less increasingly difficult within the group but not necessarilly from group to group.

Item Group 1, consisting of 8 items.

In this group, classification skills are tapped as the child has to find the figure that is 'not like the others' for example, a circle among different straight lines (Figure 1).

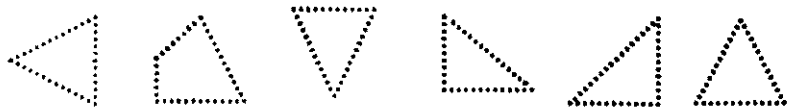

Fig. 1

Item Group 2, consisting of 7 items.

The child has to find a shape similar to the one on the extreme left from a group of other shapes testing the ability to match-to-sample (figure 2).

Fig. 2

Item Group 3, consisting of 6 items.

This requires the child to examine 3 shapes in a series and to find the next one from a possible selection of 6 shapes. For example, the child examines a 3, 4, 5 sided shape and then has to select the 6 sided shape from the other figures (Figure 3).

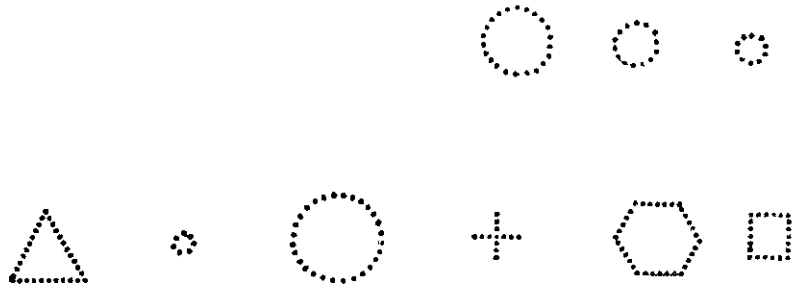

Fig. 3

Item Group 4, consisting of 16 items.

This is the largest group containing almost 33% of the items. In this group, the child has to complete a pattern or matrices by choosing one shape from either 4 to 6 possible shapes (the earlier items 22—27 have 4 choices, items 28—37 have 6 choices.) It is claimed that the ability to determine analogous relationship is being assessed (Figure 4).

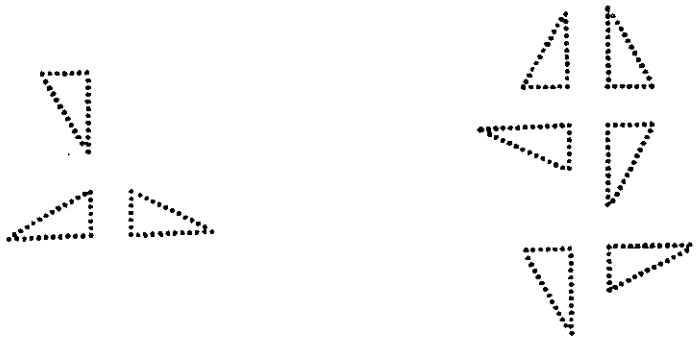

Fig. 4

Item Group 5, consisting of 5 items.

In this group, the child has to identify from a choice of 6 possible answers, the missing part of a large shape or pattern which is incomplete in some way. For example, a corner missing from a rectangle. Knowledge of part-whole relationships is required (Figure 5).

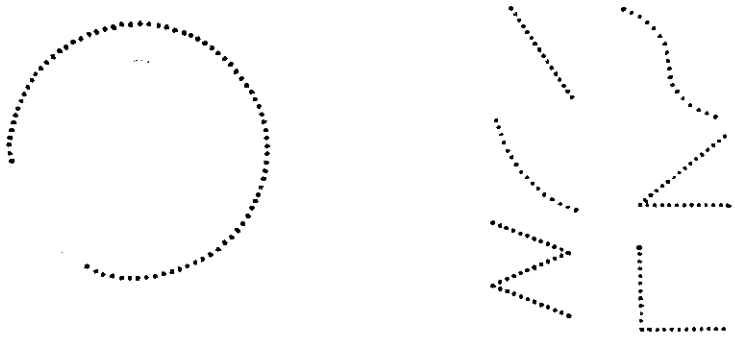

Fig. 5

Item Group 6, consisting of 7 items.

This group consists of a 9 element (3 rows by 3 columns) matrix in which the last part is missing. The child has to search for the missing part from a choice of 6 alternatives. The relationship can be determined by examining the shapes either vertically or horizontally. The ability to recognise the relationship between the figures and to use the relationship rule to determine what figure would come next is required (Figure 6).

Fig. 6

From the raw score, a maximum of 49 it is possible to calculate a BLAT Learning Quotient which is similar in structure to an Intelligence Quotient in that a score of 100 is considered to be 'average' and also

a BLAT Learning Aptitude Age Equivalent score in which it is possible to see if the raw score is above or below that of the child's chronological age. For instance, the average score for a child of 10 is a raw score of 18. If this child scored 23, then the age equivalent is 13 or similarly, a raw score of 7 is the age equivalent score for a 7 year old child. This score can be a useful indicator to see if a child is achieving their potential within he formal academic curriculum.

The design of the Blind Learning Aptitude Test.

BLAT has been designed to tap predominantly the processes of learning in terms of a Spearman type of thinking about the nature of the behaviours to be sampled. In addition, the following design restrictions were imposed:

- The 49 test items and 12 training items were constructed in an embossed form consisting of dots and lines
- The tactual discrimination demands which had to be made on the child when interpreting the dots and lines had to be less than those needed for braille reading.
- Apart from the directions, none of the stimulus materials were to be verbal.
- A verbal response or solution to the items was not required although it could form part of the response.
- The variety of test element patterns which were developed would require from the child the education of relationships and or correlates.

Newland (1971) claims that the BLAT is a 'culture fair' test and measures the learning aptitude of a blind child drawing heavilly upon the processes involved in learning rather than just assessing what the child has already learnt. In the rationale for the design of BLAT, Newland is clearly critical of some of the early attempts to measure the intelligence of blind children believing that too great an emphasis was placed upon obtaining average IQs of the blind approaching or equalling the average for the fully sighted. In addition, none of them had been developed specifically for use with the blind all, existing IQ tests were adapted from those instruments used for the sighted with very little consideration given to the type of psychological processes they were tapping or to the widely differing kinds of acculturation among blind children. This point is discussed in further detail below and is one for consideration in the Romanian context.

Newland (1971) strongly believed that there was a definite need to obtain a different, and, in one sense, a more informative picture of the learning potential of young blind children than was believed obtainable by extant procedures. He was concerned that whilst many of the widely used individual tests would yield much useful information about a blind child, they would not elicit a full picture of the early psychological development of the child; this information being crucial as the

child entered into a programme of full time education whether in a residencial or day school.

Newland was also of the opinion, that these young blind children come into full time education from a much more diversified background of acculturation than do non impaired children. (Acculturation refers to experiential backgrounds and opportunities to learn in both formal and informal educational settings and not simply that the pupil comes from a different ethnic group race or has a different coloured skin. It does however, depend upon the experiences in a child's environment (culture) and the length of time the child had had to assimilaite those experiences). He also thought that this would be more true of blind children entering residential schools than those attending day schools as the residential schools tended to serve a dual purpose, a welfare one as well as an educational one. As a result, Newland felt that as the other individual intelligence tests adapted for the blind in the USA at this time, viz. the Hayes Binet and the Wechsler Intelligence scale for Children (WISC-V), were not sensitive to the acculturation of young blind children and was also unhappy with these tests as they were sampling, in his opinion 'product' i.e. what the child has learned, rather than 'process', the psychological processes that make learning possible. In other words, they relied heavily upon what the child had previously learned and remembered.

As stated, Newland was of the opinion that blind children entering formal educational programmes whether in day or residential schools come from a much more diversified background of acculturation than do non-impaired children' and that this was probably more tenable with respect to blind children entering residential schools than day schools. Certainly, research by Bauman (1964), investigating differences between residential and non-residential blind students found that in general, the residential school group showed more problems of social and emotional adjustment. Some research by Lukoff and Whiteman (1970) was concerned with the factors that influence the choice to send the blind child to a special school, usually a residential one; they found that the most important factor was the age of onset of blindness: the earlier onset, the more likely was the attendance at a school for the blind. This research found an interesting relationship between school attendance and the family's expectations for the child's independence. There was a difference in the expectations from the congenitally and later blind groups. For the first group, the congenitally blind, there was relatively little difference between attendance at special schools and high expectations for independence. However, for the youthfully blind, the highest proportion (64%) attented special schools where there were low expectations from the family for the child's independence. The lowest proportion of 35% had high expectations. These research findings may confirm the perceptions of Newland about the differing roles of special and mainstream schools. It is interesting to examinte another view. Whilst Newland believed that many children went to residential

schools because they were in need of both the educational and welfare facilities. Vander Kolk (1981) was of the opinion that residential education could retard certain levels of development. Vander Kolk (ibid.) stated that the educational system to which a child is exposed will play a most important role in developing intellectual potential and that placement of a child in a residential school for the blind rather than in a regular school could bring about differential effects in intellectual as well as academic development. Special facilities, programs, and professional who must deal every day with blind children can provide a more growth-producing atmosphere for the child and isolation from the sighted community with its concomitant effects, such as limitations in learning social concepts, or lack of intellectual interaction in the community, may retard intellectual and social development. Whether agreeing or not with Vander Kolk, these are issues facing any country which relies heavily upon a system of segregated special schools, especially those which may be administred by NGOs (non governmental organisations) rather than Ministries of Education.

The present study

The primary aim of this study was to examine the performance of the pupils in England and Wales on the BLAT and also to compare them with the USA standardization data to see if the 'scores' which were obtained from the raw scores, i.e. learning aptitude age and learning quotient, were meaningful for both populations. One of the secondary aims was to examine whether the BLAT could be considered to be a 'culture fair' test as claimed by Newland.

Methodology

During a period of 18 months, 14 schools in England and Wales for the visually impaired, both residential and day schools, were visited to administer the BLAT to functionally blind pupils, all of whom were tactual learners, in the age range of 5 to 16 years, and for the purposes of the study, 110 pupils' results were included in the final analysis i.e. 10 pupils in each age range from 6 through to 16 years. The 14 schools represent the specialised provision for the education of blind and low vision pupils in England and Wales. Nine of the schools had some kind of residential provision although for many of them, this tended to be Monday to Friday only. Apart from one, all the schools admitted pupils from the age of 5 or earlier and had provision to keep them through to at least 16 years of age. Every attempt was made to get a thorough heterogeneous sample by testing all the children who were present on the day of testing if they fulfilled the following testing criteria:

- were unable to solve the test items through sighted methods and were tactual learners
- were able to understand the verbal instruction but not necessarily be able to give a verbal response

It was decided to omit any child who had severe learning difficulties and who had obvious difficulty in responding to a formal test situation.

For some pupils, this soon became apparent and for others, the advice of the class teacher was taken, although every attempt was made to make sure that the sample was fair by attempting to test any 'borderline' cases.

Results and discussion

Interesting demographic trends emerged during the testing period and there was great difficulty in finding enough pupils in certain age ranges. This could be the result of the decline in numbers of children in schools for the visually impaired following the trend for integration into mainstream schools although the totally blind child has not been integrated to the same extent as those with some vision. The numbers also follow a national pattern in the birthrate but the figures also indicate a decrease in numbers of blind children overall as a result of better medical intervention before birth, at birth and during childhood.

For example, 8 schools for the visually impaired had to be visited before a viable sample of 14 year olds could be tested and 7 schools for the visually impaired to test the 6,8 and 13 year olds but only 4 schools for the 16 year olds. Needless to say, it was impossible to test an equal number of boys and girls reflecting numbers of visually impaired children through the world. This is considered partly due to the fact that many of the inherited eye conditions are sex-linked. The final numbers tested were 66 boys and 44 girls, which means that 60% of the sample were males, and 40% were females (Table 1). The Department of Health and Social Security statistical returns (D.H.S.S., 1987) show that 57% of registered blind youngsters in the age range 5 to 15 years were male and 43% females; the sample tested was therefore reasonably representative of the national population in terms of gender.

Table 1

The distribution of male and female pupils in each age group

age	male	female
6	3	7
7	5	5
8	4	6
9	4	6
10	4	6
11	3	7
12	3	7
13	4	6
14	5	5
15	4	6
16	5	5
total	44	66
%	40	60

(n = 10)

It was not possible, due to the small numbers available, to make any conscious decision about excluding or including pupils on the basis if they were day or residential pupils. As the pattern or residential placements have changed considerably during the last ten years in the UK in that pupils go home at the weekends and that many 'day' pupils may stay the occasional night to fit in with social and leisure activities, the influence of residencial or non residential was not considered to have any major influence on the results of the testing. It was not possible either to omit any pupil who had not been learning by tactual methods for all of their school life but instead to use the criterion of being unable to solve the problem by sighted methods and was a tactual learner. In a small sample as this, one has to raise the problem of "technical adequacy" as described by Bradley-Johnson (1986) for instance, the sample size even though it represented a substantial proportion of all the blind child in England and Wales, age of onset of the visual condition and the type of education provision received by the child.

Comparison of the British and USA scores

One major difference is the number of pupils used for the American standardization. Whereas the British sample had 10 pupils in each age range, the American numbers ranged from 67 to 106.

Table 2

Summary of mean raw scores, BLAT mean Learning Quotients and Learning Ages for the sample of children from England and Wales and the USA

	England and Wales (n = 110 n = 10 in each age group)			USA (n = 836) n (ranges) = 67 — 106		
age group 6	raw score	LQ	LA	raw score	LQ	LA
6	13.2	118	8.0	5.89	97	6
7	14.8	108	8.5	10.83	100	7.0
8	18.7	110	10.5	12.06	100	7.5
9	22.3	111	12.5	16.03	100	9.0
10	22.4	107	12.5	19.04	100	10.5
11	23	106	13.0	20.00	100	11.0
12	23.8	102	13.5	21.88	100	12.0
13	24.8	102	14.0	23.81	100	13.5
14	25.6	101	14.5	23.80	100	13.5
15	26.2	100	15.0	26.76	101	15.5
16	26.6	100	16.0	27.49	100	16.0

Table 2 would suggest that the BLAT raw scores for the British sample of primary aged children (6—12 years) indicated that they had performed, in terms of chronological age, well above their USA peers

with the highest levels of difference in mean scores being recorded with the younger age groups between 6 and 9 years. However, the results of the mean raw scores for the secondary aged pupils showed marked similarities.

A possible clue to the high discrepancy between the scores may be found in the statement by Newland (1971) when describing the USA standardized population:

> "Generally blind children do not start their schooling as early as do sighted children. Compulsory school attendance tends not to be enforced in the case of blind children as consistently as sighted children." (Newland, p. 3)

As children in the USA do not start their formal schooling until the age of 6, i.e. one year later than the UK., it may appear that in view of the above statement, many of the blind children in the USA which formed part of the standardization, may not have had the same formal educational experiences as their British peers at the age of 6. This may include such important areas as tactile dicrimination and tactile information processing, an essential part of the curriculum for all young blind children. Observations of the strategies used by the younger pupils during testing in Britain on the Blind Learning Aptitude Test were perhaps a good indicator of the quality of the teaching received by these pupils. Whilst many of the pupils had highly developed skills in searching a tactile 'field' systematically, were confident to use both hands and had good finger position and were very relaxed in their approach to the new situation, it was obvious that some pupils had not acquired such good techniques. It is also possible that the majority of pupils in this study may have had the benefit of very early intervention, from birth in many cases, from the various support services for the Visually Impaired in England and Wales, ranging from those provided by the NGOs, for example, the Royal National Institution for the Blind to those by the local education authorities, a benefit and a service perhaps not available to the sample of children in the USA used for the standardization at the time of testing.

It has to be remembered also, that there are approximately 20 years between this study and the original standardization; attitudes towards the importance of early intervention during this period of time have changed drastically in both countries. In England and Wales, the Education Act 1993 and subsequent Code of Practice for the identification of pupils with special educational needs requires intervention by the local educational authorities for these children from the age of two years onwards. In practice, many families are receiving support at a much earlier stage than this. For some families this support has been available since the early 1970's and has coincided with the growth of the peripatetic (itinerant) services for the visually impaired. In the USA, acceleration of early intervention coincides with comparable legislation, Public Law 92—142 (1975) and the Headstart programmes for disad-

vantaged children. Therefore, it is perhaps unwise to try to draw too many conclusions about the differences in Learning Quotient and mean scores of the two samples. However, it would be interesting to compare scores with the existing primary aged population in specialised schools for the visually impaired in the USA.

The results of the secondary aged pupils almost mirror those of the original sample in the USA and the raw scores might suggest that the two samples were very similar. It is possible that the UK sample may be diluted by the fact that no attempt was made to test blind children of secondary age in mainstream education, all pupils coming from specialist schools for the blind. (There is a small but growing number, especially at the primary level of highly motivated blind pupils who are integrated with support into mainstream schools).

Newland (1971) was aware that the results of the older pupils on BLAT, i.e. from about 12 upwards, may suggest that it loses some of its discriminative power but was of the opinion that this was not a defect but instead "this reflects the psychological reality that the psychological processes tapped by it actually start maturing, or do mature, by that age." (p. 24)

The BLAT as a 'culture fair' test

Newland, (1977) also believes that the BLAT is able to discriminate positively for the 'disadvantaged' groups of blind children, and used as his example black children from the 12 geographically scattered American States in which BLAT was standardized. When these children were tested on the Hayes-Binet and the verbal portion of the WISC, it was found that the IQs for the black children were one standard deviation below those of the white children. (This figure was similar to results of the fully sighted white and black children.) However, the raw scores on BLAT indicated that there were no differences. From these results, Newland concluded that the test scores involving a considerable amount of 'product' (Pt) i.e. items sampling primarily what the child has learned, and reflected the differences between the advantaged white pupils and the disadvantaged black pupils. The scores on BLAT reflected the fact that the items were sampling 'process' (Ps) i.e. the way in which children function psychologically in the process of learning. The non-white population in the UK in the special schools for visually impairmentped cannot be considered as a "disavantaged' group in the same way as the black Americans were in the late 1960s, especially those in the southern states were there was segregation and bitter racial unrest and discrimination. However, many of the Asian pupils are at a disadvantage in some respects because their mother tongue may not be English, the language of instruction (although this is not considered to be a 'special need' in terms of the 1981 Education Act.) As long as the Asian pupils in this particular study were able to understand the instructions and fulfilled all the other criteria, they

were included and perhaps one of the most interesting facts to emerge from this study are the results for these pupils. Whilst it was not the policy of the writer to separate the results of the children from other ethnic cultures, it is interesting to note the raw scores and Learning Quotients of the Asian pupils in the sample to see whether the BLAT could be considered to be "culture fair' as it would then be a welcomed addition to the assessment procedures for these pupils (Table 3).

Table 3

BLAT raw scores and Learning Quotients of Asian pupils

Pupil	raw score	LQ
age '6'		
A	17	124
J	18	127
Age '7'		
F	23	124
J	16	111
Age '8'		
G	25	126
J	18	111
Age '9'		
A	34	134
H	16	98
Age '10' none		
Age '11'		
D	20	100
G	20	100
Age '12'		
A	18	95
Age '13' none		
Age '14'		
F	18	91
Age '15'		
-	26	100
Age '16' none		

These results may confirm he opinion of Newland that the Blind Learning Aptitude Test is not affected by the 'acculturation' of a pupil and that it may discriminate positively for those children who may be disavantaged in some way e.g. English may be their second or even third language.

It is interesting to note that the results of these Asian pupils closely follow the overall trend of the sample as a whole; the younger pupils, aged 6—9, scoring higher than the older pupils in terms of Learning Quotients. If the language barrier was going to be an important

factor, it could be assumed that the effect would be more noticeable at the younger age range where the child may still be at the early stages in learning English but this is not apparent in the results.

General conclusions

Whilst the results do not necessarily confirm the claim made by Newland (1971) that the BLAT is different from other 'intelligence' tests used with blind pupils in that it is measuring the processes involved in learning rather than what the child has learnt, there is no doubt that the BLAT can add significantly to the psycho-educational assessment of blind children. As Tobin (1984) states,

> "the only proof that the BLAT is measuring learning aptitude is the fact that it has been constructed in accordance with the author's conceptualization of what learning aptitude is." (p. 3)

However, a great deal of useful observational information can be gleaned from the way the child attempts the test items, the speed at which they arrive at a correct solution and the way answers are explained. This information can then be used as a part of a diagnostic profile in which the strengths and weaknesses of the child can be identified and a suitable teaching programme can be drawn up. Perhaps there is evidence to suggest, that for some of the items, there is a heavy reliance upon the tactual perceptual skills alongside the purely cognitive competence. Therefore these items may discriminate against those pupils whose tactual skills are not highly refined for whatever reason.

Perhaps the most exciting conclusion is that it would appear that the BLAT may be a 'culture fair' test and so can be used safely with the group of children for whom English is their second language — a growing population in many schools for the visually impaired in the UK. It has been used successfully in India (Mason and Shukla, 1992) so there is no doubt that in Romania the BLAT, for the reasons outlined, can be used with confidence and could form an important tool in the psycho-educational assessment of blind children.

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WORKING WITH MEd STUDENTS

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Introduction

In most universities masters level study aims to encourage students to achieve substantial subject knowledge, together with a high level of academic craftsmanship and solid grounding in the research training. This chapter is an account of one tutor's experience of working with masters level students in a School of Education in a large, established university in the centre of England, UK. The structural, educational and pastoral aspects of the programme are discussed.

Structural aspects

The structural aspects or running a masters programme include admission requirements, modes of study, differentiating masters level study from other levels of study, and course evaluation. The masters programme is set in the professional development area of the School of Education, distinct from the programme for Initial Teacher Training and higher research degree (MPhil and PhD) study.

Admission requirements

Applicants to the masters level programme may register directly or by progressing through other levels of study. If students register at masters level and subsequently find that they are unable to succeed at this level they may move to a lower level of registration. To register directly at masters level the prospective applicant must have successfully completed a degree or its equivalent, a programme of professional study and have two years' professional experience. Most of the School of Education's masters students are teachers but there are a growing number who are from related fields. Until recently, all students who enrolled for the masters level studies had to have a background in teaching. This regulation was changed because of requests from other groups who were involved in educational contexts and wished to qualify themselves in the field of education. In the area of special education, for example, personnel traditionally seen as 'medical', such as nurses and speech and language therapists, are interested in enrolling for courses. Another example are social workers who work with children and adults with special educational needs. This flexi-

bility has been negotiated not only with the University's academic gatekeepers, — the Academic and Faculty Boards — but also in some instances with the professional bodies involved, such as nursing and social work.

The variation in experience and academic background of students has implications for teaching subject courses and supervising. Tutors need to be cautious about assuming that their students have a shared body of knowledge or perspective.

Modes of Study

Campus and Distance courses

The School of Education offers campus and distance modes of study. Distance courses are offered in the field of special education and there is one module in research methodology for masters level students studying by distance. Most of the distance courses are also offered on campus.

Full time / Part time / Distance students

Students may study at masters level as full time or part time students. Only a few home students register for full time study now because of the changes in funding professional development courses in the UK. Part time students usually attend evening teaching sessions, or study by distance. For distance education, students studying at masters level it is important that their regional tutor's have a masters qualification.

Modules

The masters programme comprises six modules and a dissertation. We have developed two tracks. The more traditional tracks has five subject modules, a research methodology module and a dissertation. A newer track has a slight change of emphasis away from subject content and towards research, with four subject modules, two research modules and a dissertation.

A module comprises teaching, study (learning) and assessment in a subject area throughout a term or semester. It involves 120 hours of student effort. This is usually divided between contact time and individual study time. About one third of the time is given to contact time with the module tutor which includes tutors-led presentations, student-led seminars as well as tutorial time. Individual study time allows for reading, seminar preparation and assignment writing. For students studying by distance most of their effort is spent reading the texts, doing the activities in the texts and reading further in the field. Regional tutorials are held twice a term or semester which allows students to discuss aspects of the course with each other and their regional tutor.

Differentiation

Teaching

In the School of Education students at different levels of study attend the same teaching sessions. There is usually no formal attempt to differentiate MEd students from other students in terms of the teaching and learning material. All students are recommended the same books, journals and reading lists. Seminars and discussion groups are also mixed. This is for pedagogic and practical reasons. Pedagogically, this arrangement facilitates a wider range of exchange of opinion, critical comment and experience between students. On a practical level, differentiation of masters level students would result in some very small teaching groups which would militate against an exchange of a wide variety of opinions and experience. In Schools of Education where there is large recruitment to masters programmes differentiating teaching sessions may the preferred option.

Study

Master level students are required to read more widely particularly more recent journal publications. They are expected to know about the subject area of the module in some depth and to appreciate the theoretical frameworks involved. They are encouraged to develop critical reading and writing skills which they should demonstrate in their presentations and written work. Distance education students at masters level need to read beyond the distance education texts and the recommended papers.

Assessment

The opportunity for masters students to demonstrate their endeavour and perceptions of the subjects covered in the module is offered in the assignment. At this level the students' work is differentiated according to the distinctive nature of the assignment and the different marking criteria. Masters level assignments usually require more critical evaluation of the theoretical and practical aspects of the subject chosen by the students. They are expected to show familiarity with a wider range of relevant literature, particularly recent publications in the field, as well as to demonstrate links with pedagogic practice.

There may be several forms of assessing learning at masters level. Written assignments of 4,000 words are the usual form of assessment. Students may select a title suggested by the module tutor or negotiate a title which reflects their own interests and experience. Alternatively, a personal log may be kept by individual students as they progress through the module, noting their reflections and insights into their work and the nature of the subject through the teaching, discussion and reading of the course.

Presenting a paper in a student-led seminar for discussion with the student group and tutor is another form of assessment which can contribute to the overall assessment of the student's assimilation of the module. Along the same lines is an assignment task for group work in seminar sessions which can be evaluated by the group, that is they assess and grade each other's contributions and work. This method is successful with students who are in regular contact with each other, such as full time campus students or students who work together. Initially, students and tutors may be reluctant to embark on this approach, feeling uneasy about placing so much trust in student-led evaluation. Yet, for masters level students participating in the peer evaluation process is a valuable learning experience, developing responsible critical faculties concerning others academic work.

Work submitted at masters level is marked according to distinctive marking criteria. All work must demonstrate good, logical organisation of ideas and argument; it must demonstrate relevance between theory and practice particularly within the student's experience; it must show wide, recent and relevant knowledge of the literature through appropriate use of references and quotations; it must be well presented and not show misjudgements of genre, weak, grammatical constructions or spelling and punctuation errors and it should be typed or word processed. Where there is an example of the student's research methodology in the assignment this is evaluated in terms of appropriateness, rigour and accuracy.

There are several issues concerning marking masters level work. Tutors new to masters level work, including regional tutors on distance courses, need to have professional development sessions in marking practice. Further, some argue that masters wak should be second marked, that is also marked by a colleague, particularly the dissertation, because the tutor may be too close to the work for objectivity. However, there is ususally no one else on the staff with sufficient subject knowledge to mark the work. It also has implications for tutors' workloads. At this point, the role of external examiners becomes crucial in their capacity to monitor marking consistency and quality of work in a subject area.

Course evaluation

Masters courses, like other courses in the School, are evaluated by students and tutors. At the end of the module campus and distance students complete a brief questionnaire about the quality of teaching and relevance of the module which is retained by the tutor. Some courses also seek quality assurance from their students. Every three years or so the course, through its documentation, is evaluated by peer review. Interestingly, although this process is extremely valuable, it is not a widespread exercise. It allows good practice to be identified and improvements to be implemented.

Educational Aspects

There are three main educational aspects to the masters programme for students: developing a substantial level of knowledge in their subject area, developing sound research training and writing un their own investigation in a dissertation.

Subject area

The subject area studied can be specialist or generalist. Students can choose to study a subject as a specialism, such as autism, visual impairment or curriculum development. They study their subject modules in this area. Where there are not enough subject modules in one area, they can choose one or two modules from a related subject area. In contrast to a specialist choice, students can choose a more general approach and select modules from a range of fields of study. They are usually related to the students' interests, experience or work.

The student will usually receive tutorial support from the tutor of the subject module in preparation for the assignment. In cases where the students choose a specialist field, the same tutor may direct most of their taught subject modules and offer tutorial support. In addtiton, this tutor will most probably be the student's dissertation tutor. When there are large specialist groups at masters level, it is a demanding tutoring load for one subject specialist. Yet the student may feel there is substantial cohesion across the masters programme.

Distance education students at masters level are offered courses in one specialist area, such as speech and language dificulties, or they may study two specialist areas, such as speech and language difficulties and autism.

Students who follow a more generalist programme are likely to have different tutors for each subject module and for tutorial support. They need to identify a tutor to supervise their dissertation work and they are unlikely to experience the same degree of cohesion across the masters programme as their specialist peers.

Research methodology

The aim of the module in research methodology is to introduce the masters students to the ideas, frameworks and techniques of a range of methodological approaches. They are made familiar with experimental and ethnographic paradigms, qualitative and quantitative designs, case study and action research models. At the end of the module they will be in a position to be able to choose the research framework and design which is the best fit for their study.

There are at least two elephant traps that need to be avoided when developing introductory research training modules; fragmented and excessive content. In constructing the research training module it is tempting to have a variety of contributors who are specialists in particular

research approaches and designs. While this may offer high quality, sessions it may result in a lack of consistency and give a fragmented feel to the module for the students. This may also be the case for distance education material when the texts for different research approaches are developed by different authors. It is equally tempting to include too many research designs. Excessive content heightens the anxiety of students who may be anxious about the research sudies which in new subject to most of them. The module needs to achieve a cohensive, balanced and amount of content.

The research training module is the one compulsory module for all masters level students in the School of Education. This means that the tutor(s) involved must offer tutorial support for assignment preparation. This is a heavy tutoring load on the tutor(s) running the research training module. In some casese dissertation tutors are able to give tutorial support to the student for he research raining assignment.

Distance education students may get tutorial support for the research training module from their regional tutor. Alternatively, the tutor for the campus-based research module maw offer tutorial support once or twice a term at the School of Education or in different locations around the country. This may incrase the already heavy tutoring load on the tutor(s) running the module.

Information technology and the use of computers in research is usually a part of the research training module. Sessions to work on the computers are available for campus students while distance education students may need to attend tutorial days at the School for Education. Students need to become familiar with statistical calculation packages, as well as databases and spreadheets. These skills enhance their research techniques. However, they must also be aware of using these packages appropriately and with discretion.

Institutions need to consider investing in information technology for masters level programmes. Estimates of the amount of hardware (computers, printers, work stations) and software (packages for statistics, spreadsheets, databases) need to be drawn up and costed. Further estimates need to be made about the number of students expected to work at any one time on the equipment.

The Dissertation

The dissertation is a central part of the masters programme and counts for up to one third of the credits. It is the student's research enquiry, reflecting interpretation of the literature in a particular area demonstrating their ability to set up and complete an investigation according to the principles and practices of research methodology. It is assessed on the knowledge of the subject area, the appropriateness of the research techniques, the overall balance and cohesion of the work and its success in responding to the original research question. It must be completed within the word limit of 20,000 words.

Whether the student is following a specialist or a generalist programme of study the dissertation will be in one subject area. For generalists this may pose difficulties about appropriateness and availablity of tutors to be supervisors.

The student needs to pose a research question: What it is that she would like the answer to. To frame the question the student needs to be familiar with the literature and to have some working experience in that area. Defining the research question is fundamental to the success of the dissertation. This question drives the investigation and the argument. Without it the study has no direction. The student may need a few weeks or months to frame the research question and they will need to read and have tutorial support during this time.

The research question must be investigated through the methodology and method which is the „best fit'. Students can be informed about methodology and appropriate method by applying the knowledge that they acquired from the research training module as well as from the methods written about in the relevant literature on their topic of enquiry. In many cases, students may wish to start their enquiry immediately, before looking at the literature or investigating the appropriateness of their method or methodology. This is largely because it is 'hands on' work. This energy needs to be harnessed and guided by the supervisor. Completing a pilot study allows students to reflect on their practice and to identify areas of difficulty and success. In most cases this process drives them back to the literature and to defining their research question more closely. They are then in a position to amend their research method and achieve a better "fit".

One of the most familiar difficulties which masters students encounter is identifying the size of their investigation. Most arrive at their first tutorial with ideas which could take years rather that months to investigate. It may take some tutorial discussion to encourage the student to identify a research question which is suitable for the time and the resources available for masters level research. Reading journal articles in the subject area and looking at completed masters dissertations is a helpful way for students to get a feel for the size of the investigation.

Understanding the shape of the masters dissertation will help the student towards successful completion. Depending on the nature of the investigation the dissertation will differ slightly. Studies involving participants, such as experimental or ethnographic studies, have a similar shape. The research question is examined in the perspective of other research in the same area (review of the literature). The methodology of the investigation is discussed and the design, and methods of the procedure are detailed. The results of the investigation are set out either descriptively or in tabulated form and any statistical calculations are included. The findings are discussed with reference to the research question and to the issues identified in the opening section, (review of the literature). In many respects the discussion of the findings is a reflection

of the opening discussion, with the student showing how his/her investigation has contributed to the field by challenging or supporting previous research and suggesting new lines of investigation.

Students may chose to study documents for their masters investigation and the shape of the dissertation may look slightly different. The review of the literature would place the research question in perspective but there would be no sections on methodology or results, although the nature of the search and some of the documents might be discussed. The argument of the research question would define the shape of the dissertation and the focus of the sections and chapters.

Although the dissertation has a beginning a middle and an end, the the research need not take on the same sequence. Students may wish to start with the methodology and collect the data. This process may help them to understand the issues involved. They may then analyse their results and finally write up the review of the literature just before writing up the discussion of the results. This 'inside-out' approach is quite common.

The students must complete the dissertation to a masters standard by demonstrating certain aspects of academic craftsmanship. These include an appropriate title, acknowledgements to the those who supervised, and contributed to the research, an abstract, a complete set of references and appropriate supporting appendices. The document is usually typed or word processed and bound before being examined.

Supervisor

The role of dissertation supervisors for masters level tudents is primarily as subject specialists. They usually teach most of the modules to the student and where they do not, they need to know the subject modules which the students have studied. They can do this through liaising with the module tutors and establish the student's progress. It may also be through tutorial discussion where they can encourage the students to make connections between the various subject areas and their area of research.

Tutorials play an important part in masters level study. It is the opportunity for the tutor to locate the student within the learning of the subject area. For the student it offers an opportunity for high quality individual learning.

Another role of the superviser is to offer guidance on particular research methodology and methods and techniques for the student's research question. The supervisor encourages the students to identify the aspects of the research modules which are relevant to their proposed investigation, to locate their study in a theoretical context and in a methodological approach and to develop methods and techniques for proceeding through the data collection and analysis. The important issue for supervisors is to be aware of the influence they can exert on the student. Intentionally or otherwise they can encourage the student to select an area of investigation, methodology and method which they, the

supervisors, prefer or are most familiar with. There are implications for supervisors to have staff development on the range of research methodologies and methods. Another more expensive option would be to have paired tutoring.

The supervisor should encourage the student to use the facilities of the School of Education to support their study. Computer hardware and software should be used by the student in their research. The Library and information systems need to be fully used by the students in their literature searches. All their work, and particulary the dissertation, should reflect discussion of recent and relevant publications. Distance education students can access these facilities through their local library, although this may not be possible for all students, particulary in remote locations. Most schools and places of work have computers and students should use them.

Students, whose masters level dissertation achieve a high standard, should be encouraged by their supervisors to publish. The supervisor should be prepared to support and guide the student in identifying an appropriate peer-reviewed journal, and in amending the dissertation for publication. The paper would be co-authored. This process is important not only for students who publish but also because it makes available research which is often immediately pertinent to classroom practitioners.

Pastoral aspects

In higher academic study, the pastoral needs for students are often neglected or not acknowledged. In some instances, this may result in students failing to achieve their academic aims. For this reason, they are discussed here alongside the more easily recognised aspects — structural and educational — of masters level study. The aspects I wish to draw attention to concern supporting the student's study skills, guiding them through the system, and personal support. These aspects can be discussed through the institution's response as well as the supervisor's response to the student's need.

Study skills

The issues involved in supporting study skills concern the needs of mature students and distance education students, regional tutors' needs and access to facilities. In the School of Education most of our masters students are mature students, who left formal academic study several years ago. They have identified that they need substantial guidance about getting back into formal study routines and (re)developing their study skills. There is no institutional response to this need and it is largely left to subject tutors and supervisors to support the student in this area. Students are usually referrred to commercial texts on study skills for mature students. The distance education courses have developed a study skills guide for all their students, including those at masters level.

Guidance through the system

Guiding masters level students through the system is seen as an important need and the School of Education responds by organising an induction week. The induction week, at the beginning of the academic year, has sessions during the day for full-time students and evening sessions for part-time students. Masters level and doctoral level students attend. In the induction week the students are introduced to a variety of things, such as the organisation of the School of Education, the Library, the Information Technology facilities and the members of staff closely involved with masters and higher degress. It is also an important opportunity for students to meet each other and to identify themselves as a student body.

For distance education students, there is a session for masters level students during the residential component. The residential component is when the students come to the School of Education for a few days at the beginning of and during their course.

Students are expected to read and be familiar with the School's guidelines and regulations about masters level study. They can expect that on-going responsibility for guidance through the protocol and regulations will be taken up by the subject tutors and dissertation supervisors. In the case of distance students the regional tutors and, to a lesser extent, course tutors take on his responsibility. The tutors are informed by the Senior Tutor for Professional Development whose brief it is to keep abreast of current regulations set by the University. Students and tutors should also be aware of the procedures which the School and Faculty has in place for handling complaints and appeals about academic-related matters.

Personal support

Counselling: We find that most students at some time during their studies seek guidance about finding the balance between managing the personal demands of their lives and their academic studies. The students who enrol for masters level study in the School of Education are usually highly motivated and committed to completing their studies. In some respects they may be similar to students studying at lower levels but they are usually used to succeeding and achieving well Masters level studies are demanding for students in terms of acquiring and organising new knowledge and developing research skills. Most of our students have full lives outside of their masters studies. They have full-time professional jobs, families with young and older members, as well as other committments. There are three mechanisms through which students can find guidance and support in their studies.

There are **student counselling services** which are available at a campus level for all students at any level of study. Distance students can access this service by telephone. The staff are usually qualified counsellors with special training for working with students needs.

Our distance students are more likely to turn to their regional **tutor** for counselling support. For campus students at masters level in the School of Education the tutor resource may not be so clearly focused. They may be taught by several subject tutors and have to chose one, usually the tutor they think is likely to supervise their dissertation. Developing a good relationship between tutor and student is an important part of academic success. Supervisors may find themselves ill-equipped to offer personal counselling to masters level students. It is a recognised area of staff development. Regional tutors on the distance education courses have been offered some professional development in this area.

Student networking is strongly recommended as a student support mechanism. We have found that students who contact each other about study outside of teaching time indicate that they get more out of their studies. The students need to agree to circulating their names, addresses and telephone numbers early in the course/module. Tutors need to direct them to networking because students, particularly part timers and distance education students, are unlikely to initiate it.

Time management: An important issue which all subjects tutors need to be aware of concerns time management, including handing-in work and arranging tutorials. Some students, particularly in the early days of their course of study, find organising their time and meeting deadlines difficult. Subject tutors need to discuss these issues in tutorial time with masters level students and to offer guidance with particular reference to their subject area. The responsibility for arranging tutorials needs to be clarified between the subject tutor and the students at the beginning of the module, the course of the dissertation.

Timetabling the progress of the dissertation is crucial to its successful completion. An effective way is for the students to plan their work back from the handing-in date, towards the present. Supervisers can offer advice on the likely time of some tasks and activities, such as data collection and writing drafts of sections. Students should be encouraged to write-up their dissertation as they go along, avoiding the daunting prospect of writing up the entire dissertation in the final weeks before submission.

Feedback about progress: Students need to have opportunities for feedback about learning progress, particularly in areas of study which are new to them, such as research training. This needs to be done on an individual level. Tutorials and written feedback on assignments are good opportunities. Distance education students usually receive substantial written feedback on their assignments from their regional tutors. For masters students this is particulary important since they are working towards a new or deeper understanding of a subject area they are already familiar with. It is essential support for preparing them for their research investigation.

Conclusion

Schools of Education running masters programmes encounter particular challenges. Their students come from a wide variety of educational backgrounds and from a range of working experiences. They have left formal study for a while and are usually highly motivated and high achieving. They bring with them rich experiences and full lives. All these qualities make demands on the School and the masters programmes. The School needs to consider its response in structural and resourcing terms. Courses need to take into account students backgrounds and expectations. There are implications for professional development of tutors in assessment and supervision. Research training needs to be appropriate and have information technology support. Masters students need to be given the opportunity to articulate their ideas about the theories and practice of education not only with their tutor but also among themselves. Their needs for guidance and support through their studies should be acknowledged and met in a variety of ways. Tutors need to regularly evaluate their masters programme and collaborate to identify and promote good practice.

STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA - PAEDAGOGIA, XLI, 1–2, 1996

EDUCATION FOR SCIENCE AND CULTURE

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ABSTRACT. The paper emphasizes the necessity to think technical progress, first of all, as a human process, a psychological, a social and an economical one, and only at last as the emergence of machines, raw materials, manpower.

In the contemporary pedagogical thought general knowledge is conceived as a primary mean of multidimensional development of man; it forms the basis of the specialised culture.

The scientific education on which the open and complex philosophical and cultural profesional horizon is structured, should be correlated with the humanistic education which presupposes both a moral dimension meant to ensure the immanence of humanistic values and a social dimension regarding the assimilation of the new social moral values and ideals.

The blow-up of the scientific activity within the domain of human activities, sketches the horizons of a new age, within which man turns the aparatus of his scientific creation and thought into its main tool. Technical progress is, first of all, a human process, a psychological, a social and economical one, and only lastly it represents the ascending succession of machines, raw materials, manpower etc.

That is why among the professional activity priorities undertaken in our country, through specialised institutions, building up conscience, the system of moral values and norms with which it operates, educating people are situated in the foreground. And not by mere chance, as the activity of scientific-humanistic education is meant to contribute to the development of the people's knowledge and understanding level.

The central objective of our school constitutes in training people whose conscience is founded on science, on whatever the history of humankind offers as most enduring and valuable. The development of the Romanian society aims fundamentally not only at setting up some fair and equality social relationships, but its liberating of everything that for years on end hindered its free development, of everything that prevented it from distinguishing itself. From this point of wiew, shaping some profound and authentic scientific beliefs, a broad cultural horizon, the capacity to understand an interpret the phenomena of the material and spiritual world constitute a fundamental premise of the educational process.

We find ourselves within an age of a prestigious assertion of science, of the capability of the human being to continuously mould the results of his activity. *The battle for the social and economical development, takes from many points of wiew, the shape of the battle for*

the development of conscience in the broadest sense of the world since the vitality of progress, its perenity depend more and more on the solidity of the human premises which fundament it, and sustain it granting its evolution. Knowing somebody else, observing the development of his conscience under the present circumstances — of the contemporary society — becomes an imperious necessity, an art on which survival depends (Ph. Müller).

This new hypostasis imparts specific requirements on the process of *scientific and cultural education*. People called to master the utmost perfectioned techniques, conscientiously direct — on scientifical bases- complex economical, social and moral processes should have a broad outlook upon the world, should have thorough specialism knowledge and they should be able to turn them into professionals achievements. It is easily deduced that the endeavour for the shaping of the specialist with a broad horizon of knowledge and understanding, an opponent of conservatism and routine of ignorance and lack of culture should be in the centre of education.

We also notice that, along its history, human civilisation has never witnessed more rapid evolutionary rhythms, nor more obvious synchronising tendencies born out of its own inner dynamics. Supertechnicality, new industrialisation or superspecializing which passed from the preoccupational domains of futurologists into the very essence of daily life determine the multitude of alterations within social life with sometimes more difficult to predict, even impossible to foresee implications for the individual's life.

Man has at his disposal less and less time for assimilating and processing the data and facts of reality due to the fast rhythm these are spinning by as well as due to the increase of the interdependence of phenomena and their depth. And all these under the circumstances which make prospecting and reflecting more and more necessary, but at the same time, even more difficult to attain. Since recollection presupposes concentrating within oneself, within a limited moment of lucidly living again one's whole existence, implying thus, *an interior time*, of extreme depth which the clock cannot measure. Within this gathering of the being inside its central life nucleus, the unique rhythm of the individual duration, in its ineffable wealth is lived anew (A. Dumitriu). Unfortunately those who perceive the value of the above phrase, are but a few. But it helps us remember, once more, the necessity of our continuous training which also results from examining two factors which G. Berger calls *the average time for communicating knowledge and the inertia time in transmitting knowledge*.

Let us give some examples. In order to shape highly trained specialists 6—8 years are necessary after leaving high-school, to which the military service is added in the case of male students. Let us establish an average period of 8 years. The professional span extends for about forty years. We take 1/2 of the professional span, that is 20 years, to

which we add the training period: 20 + 8 = 28 years which represent *the average time for communicating knowledge.*

Let us imagine a specialist, regardless of his domain, who does not take into consideration what has happened within his activity domain during the 28 years. And something more, supposing that in higher education the future professor has accumulated the latest information and that his students will be able to use immediately what they have learnt (it is never possible), *the inertia time* in transmitting knowledge is much longer than the time which is necessary for science and its technical applications to change. This is a reality which has to be taken into consideration when the content of instruction is established and when the teaching-learning strategies are chosen, being aware of the fact that the instruction which transmits knowledge and develops skills has to leave place for education that forms people and that education has to be a permanence.

Within this context we also mention paradoxes of contemporaneity, that is: *the compulsory existence within the same time and space unit of narrow specialisation*, demanded by stressing the vertical development within all activity domains and the quantitative and qualitative increase of the informational volume within each specialism or subspecialism and of *interdisciplinarity both as a study method and as an attribute of the creative act.*

Analyzing this phenomenon of our days from the point of view of prospective thinking, we can define the behaviour pattern we have to follow in order to shape human personalities capable of moving society from present to future (G. Berger). Let us bare in mind the phrase: Only a well prepared and educated man can understand the meaning and the requirements of development, can sense what no longer corresponds to the present. Only surch a man can truly be free.

Culture — said G. Berger — does mean neither possessing vast knowledge, nor pure erudition, neither the art of sparkling in a society, nor knowing a priviledged discipline. All learning can offer us a culture if it is presented within a certain spirit. *Culture is the feeling for what is human,* or as A. Moles states, culture appears as the main material of thinking as contrasted to material life. As a material of thinking, culture represents that which exists while thought that what is built, or obtained out of this material.

(Social) culture is expressed through a system of values which society elaborates and stores under varied forms, constituting a permanent reserve for man. School and the other information channels, using up data from the mentioned reserve, offer each moment an image which influences the individual, setting within his consciousness what we call individual culture (Figure 1).

Thus, general culture is the result of selecting, processing and assimilating the messages built up in time and contained by „the memory of the world".

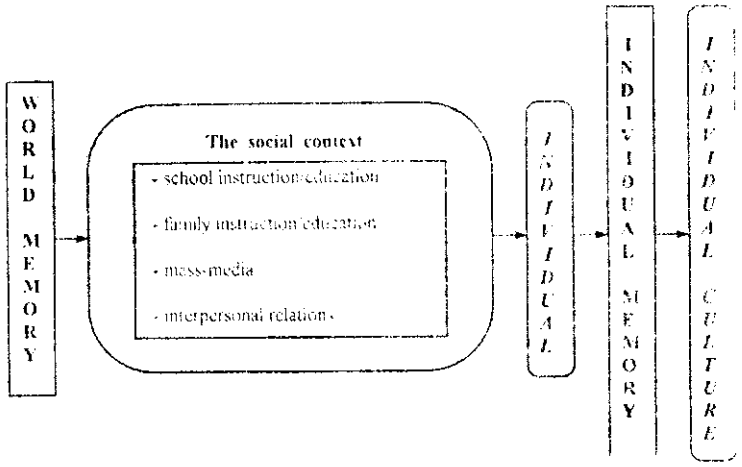

Fig. 1. Communication channels between the individual and world memory.

An interesting and useful point of wiew is that of P. Laugevin for whom, general culture consists in that which allows man fell, fully united with the other men, in time and space, both with those belonging to his generation and with those of the preceding and the following ones. Thus, being cultivated means having received an initiation which one should develop ceaselessly under varied human activity forms, independent from those corresponding to one's profession, so that one might enter a broad communication contact with the other people.

A point of wiew with benefic consequences within the educational act is that belonging to Şt. Bârsănescu, who approaches the concept from the standpoint of pedagogy. He claims: „general culture is the fundamental culture, necessary to any man, the connecting bridge which enables people to understand one another, regardless of their jobs." General culture, according to him, is made up of objective culture (essential knowledge from the domain of cognition) and subjective culture (developing skills and abilities, cultivating psychic processes, rationalizing feelings, shaping will, etc.), which has three stages or degrees: elementary, middle and superior.

G. Mialaret paying attention to the problems of the contemporary cultivated man, speaks about the stadia of his development. *The first* one is the stage of acquiring *instrumental culture*, that is the knowledge enhancing further cultural acquisition, generally or within some cultural domains and they are absolutely necessary to people. For example, reading and writing constitute the instrument of acquiring whatever culture; mental calculus, elementary arithmetic operations are instruments of the mathematical culture just as the solfeggio is the fundamental instrument for musical culture.

The *second stage*, is *the operational* one which presupposes the existence of an ensemble of knowledge and abilities with which the pupil

should operate and which has two levels: that of operationalising due to which the theory that has been learnt is applied in solving practical problems and that which is defined by *choosing from among several possibilities* the correct one, guiding the pupil towards a superior cultural formation made up of literary, artistic scientific, technical, psychopedagogical knowledge, methodological languages of scientific research etc. together with the eagerness to create and train oneself within a domain of the material and spiritual culture representing the *third stage*, that of specialism and *philosophical reflection* which reveal the presence and the substance of the moral values from the perspective of which the individual acts.

We could assert that a cultural attitude raised in the rank of state problems is necessary which should become a component of the socio-economical evolution, one of its inner forces. This requires thorough preoccupations and a broad humanist-scientific vision regarding the growth of the specialism culture and of the general one, closely linked to the outstanding progress attained by humankind. The conclusion that the broadening of the horizon of knowledge takes the shape of a permanent imperative is clearly drawn out from the truth that the developmental human resources have an ever greater importance these days and that one is preoccupied by the rhythms and the quality of development.

Our daily activity reveals the fact that the necessity of enriching the spiritual and general culture horizon acknowledges rigours specific to each occupation. The fundamental importance of professional culture and of the knowledge horizon of people naturally eliminates the idea that the responsibility to shape and continuously enrich this horizon would belong to a single domain, however important. On the contrary the whole span of levers at the disposal of society should be correlated, from education to mass-media, to cultural activity under its manifested variety of forms.

And this even more since, when we speak about broadening one's cognitive horizon, consciousness shaping we do not bear in mind only increasing the quality of knowledge, the enrichment and diversification of its items. We are speaking of something much more complex, of a real spiritual building or rebuilding, of forming a real theoretical matrix from the perspective of science and ethics regarding the world, life and man.

The educational activity undergoing at different levels and under varied forms does not aim only to increase the people's „quality" of knowledge. What is aimed at — what should be aimed at — is strengthening the ability to create and act, to alter conscience and ethic behaviour.

That is why education should at the same time approach shaping attitudes, beliefs, motivation, that is molding the internal and external conditions of shaping personalities which are psychological training for the approach of the becoming of the individual.

Molding the internal conditions and their quality finally decide the level at which professional training is socially turned to good account, it dimensions the size of personal contribution to the optimum progression of the activity.

An educator's job demonstrates how important it is while approaching the shaping of scientific beliefs, to carry out the educational act according to the characteristics of the developing personality, to the problems the human being faces daily, to the level of his conception/his conscience.

The outlook upon life represents a system of representations and views upon nature, society and thought, upon man and his place within the universe; man's understanding and appreciating the meaning of life and his activity, the meaning of history and man's destiny.

The scientific conception does not represent only the bookish product of instruction in school, but the result of combining knowledge and life's experience earned through contacting the realities people live and work amid. Consciousness shapes within the process of activities and multiple relationships the pupils are drawn towards. The crystallisation of the concept is not reduced to generalising the information since that presupposes a way of evaluation as well, of relating to objects, processes, phenomena and events.

The acquired knowledge offer fulcra for appreciating facts, but the affective component of person, one's anterior options, one's life experience grid intervene within the process. Quite often, integrating the new data is achieved as opposed to old representations or ideas which were obtained spontaneously, empirically. The inner agreement turns the acquired ideas into evaluation principles, a support of one's own attitudes. The stead faster the beliefs the more attentive the reevaluation of the external influences, the more labile the ideas, the grater the permeability to external influences. The integration of new elements is conditioned by the prestige of the source of influence, by the convincing power of the teacher and by his affective relationship to his pupils.

Developing a scientific view, through decanting the acquisition system, is to become objective within a firm attitude. The pupil/the youngster is required to bring his effort to the organising/reorganising, to changing society. This is the reason why *orienting the educational activity is to be the expression of the scientific conception*, while ordering and the systematisation of knowledge is to mediate the establishing of correlations pointing out the unity, the structure and the interconditioning of knowledge. Thus *the transition from the education for science* — in the sense of (p. 24) intellectualising the personality and developing the scientific outlook-is ensured.

Bearing in mind that the development of a humanistic outlook is fundamented on a great variety of objective and subjective factors, of variables that define the real dynamics of the school groups, a permanent control over these variables, the use of a scientific authentic idea con-

tent, the use of some productive teching-learning strategies are necessary.

From the perspective of developing a *scientific conception*, the necessity of detaching the theoretical implications of the scientific discoveries, of the philosophical conclusions as brilliant confirmations of today's science should be pointed out.

If an educational activity or the teaching of a lesson are not penetrated by the effort of decoding the results comprised by the scientific language, of understanding them, of analysing their philosophical practical significance then, the force, the formative significance of the respective action is diminished to a great extent.

The scientific education on which the open and complex philosophical and cultural professional horizon is structured, should be correlated with the humanistic education which presupposes both a moral dimension meant to ensure the immanence of humanistic values and a social dimension regarding the assimilation of the new social moral values and ideals.

The complexity of the domain of building up an outlook, of consolidating rationalistic beliefs on the background of a general and special, humanistic-scientifical culture implies necessarily that the instruction and self-instruction to take place continuously, while training and self-training to be guided by an effective strategy and by a long span programme in which, the finalities of different degrees to be present and well sketched.

Social dynamics and its long span character imposed reconsidering of the educational activity, including school. The latter, with its limited duration, however much it would try to adapt, can no longer offer the pupils knowledge valid for an entire life time.

A first conclusion imposing itself is that school's main objective should be endowing the young pupils with work and research methods and not merely transmitting them information so that they might continue the self-instruction and adaptation to contemporany life efforts and their own.

The idea of narrow specialisation, however unrelenting it might seem within the scientific and technical revolution has to be replaced by the idea of acquiring a large variety of knowledge, this due to the fact that the scientific and technical progress has pulled down the old walls diving classical objects. For example, the most abstract mathematical research is continuously feeding on the items raised by physics, chemistry, biology, time saving while mathematics itself becomes an extremely efficient tool within experimental scientific research, including the pedagogical one, due to its unifying character, through the extensions it hints at.

Today's youth spend a long time in school, between 8 and 18/20, a period they could-within the conditions of an abstract education be withdrawn from social, every day life. They have to be reintegrated into the flux of current life, they have to take part not only in the

process of instruction, but in the life of the society they live in. „The school of life" has to enter as a component part into school as such.

This is the meaning of the real reform in education, a transformation which itself has to be continuously adapted to the progress of science and culture.

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STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA—PAEDAGOGIA, XLI, 1–2, 1996

THE REFORM OF TEACHER TRAINING AND ITS FIRST EXPERIENCES AT THE LAJOS KOSSUTH UNIVERSITY, 1991—1994

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In the spring of 1991, in line with the national efforts, the university decided to launch a comprehensive training reform. Although at first glance it may not seem to be obvious, the timing of the introduction of the reform has been closely connected with the ongoing changes in society, i.e. the changes in attitudes, in economy and politics.

Hungarian higher education in undergoing an exciting crisis period of renewal and restructuring. The recent pains of rebirth in the summer of 1995 are related to the economic austerity measures and the staff reduction. However an updating related to content and organisation has also been going on that was commenced a few years ago.

The standard of Hungarian higher education is considered to be high in comparison with international standards. But the operation of the system is not economical enough, and not compatible with international requirements: e.g. the acceptance of diplomas, the system of scientific qualifications, etc.

Here and now my aim is to give an outline of these changes and efforts at the Kossuth Lajos University but I am not going to deal with the big issues of teacher training, which are also on the agenda.

I. Project

The main dimensions laid down at the time[1]

A. The main reasons (causes and objectives)

1. The *inherent structural difficulties* of the outdated training system: the forced marriage of specialised scholar training and teacher training, (students are often overburdened with two or sometimes three majors the rigidity of the training system, selection is too much restricted to the period preceding the university training and to the reproduction of factual knowledge, there are no aptitude tests, the poor motivation of learning activity etc.).

2. The establishment of the European standard and *compatibility* of arts subjects is an aim that seems to be feasible recently.

[1] Recommendations of the Arts Faculty for the comprehensive reform at the KLTE. Ed. by János Papp. 1991. Manuscript.

3. The imminent *changes in higher education policy:* 'opening the gates', raising the level of training, emphasis on the scientific aspects, a shift towards 'elite training' versus the mass training of the teacher training colleges, etc.

B. Basic principles

1. The implementation of bilateral *academic freedom.* The free choice of studies by the students and the free declaration of courses by the teachers to the maximum possible level is their professional right and duty. Students and teachers can reciprocally choose one another. However, this does not exclude that certain basic courses are not uniformly compulsory. Moreover, academic freedom goes together with the strict binding of certain professional, curriculum, and course minimum, clear-cut criteria in order that the individual freedom of choice could be as complete as possible in specialisation and the implementation Fewer things ought to be bound, but more resolutely than at present, in order that the academic freedom could more complete.

2. *Output regulation through requirements and exams*

The emphasis is laid rather on the results that can be measured in control situations rather than on the official definition of the order of studies and the passive participation. Progress in the studies until graduation depends on the precisely laid down and declared criteria and requirements.

Aptitude and learning tests based on measurement and one's own discretion should be implemented in the training, especially in the period of basic training. Professional career counselling will be available for those who would like to carry out a career correction.

3. In addition to adapting national and international patterns we should preserve and develop our traditions, characteristics and values. The necessary and sufficient conditions of the new aspirations should be carefully considered. In principle we agree with the free flow into the universities, but most of its preconditions are missing. The new system of training will be implemented gradually, in several steps. At same time it is also easy to see that delay and indecision may cause the decline in standards, provincialism and stagnation.

C. The strategic points of the reform

1. *The separation of arts and teacher training*

It is important that students who do not wish to be teachers, should not be forced to pursue pedagogic studies and the sense of vocation of would-be teachers should be developed and strengthened on a voluntary basis.

2. *The issue of one major and two majors*

In comparison with European standards, the loading of the currently typical two majors plus teacher training seems to *question the scientific and the university aspects of the training. We consider a training truly up-to-date which is professionally narrower, but the basis of its content is more extended and its standards are high.*

Concerning this issue we have several alternative recommendations. One of them was very much like the traditional two-major system, and the other was approaching the more modern one-major system, emphasising both flexibility and the freedom of choice of the majors. The currently operating system actually cannot be called either one-major or two-major, but its essence is the free choice of majors based on individual decisions and capacities, together with its drawbacks and advantages.

3. *Course structure and regulations*

The main modules of the training:

— general subjects laying the grounds of professionals: social theory, sociology, psychology, pedagogy, etc.;

— the courses of the special subjects (A and B majors);

— the courses of teacher training.

Within the modules, the proportion of obligatory courses is roughly 50%. The obligatory optional courses amount to about 25% and the optional courses about another 25%. This takes into consideration a growing degree of freedom and the involuntary arrangement of the courses.

4. *Teacher training*

'Teacher training major' is considered a specific major i.e. neither an A or a B major, which can be chosen as a recommended optional course after the 4th term through an internal entrance exam. The training, which is going on along with the special courses (concurrent model), is supported by pedagogical arguments and international experiences. The model is basically school and practice directed and both contemporary knowledge in pedagogy, psychology and sociology and continual personality development and teaching skills are emphasised. The *qualifying exam* follows the one-term teaching practice of the major.

Teacher training will be laid on new grounds by establishing the Teacher Training Institute.

II. Implementation

The aspects of the comprehensive reforms regarding teacher training.

Within the range of reform of the whole university, teacher training seems to be the most important area. I believe the flexibility in the choice of the majors is of great importance along with the freedom of choice regarding the participation in teacher traning. Organisation-l

changes are accompanied with the modernisation of the content and success will mainly depend on the harmony and the mutual reinforcement of the two aspects.

If I may say so, I will have some bad remarks on the course of the changes. However I basically agree with its main trend and I have also participated in its elaboration.

We still need a time perspective for proper evaluation. Our reform course has finished its third year and the operation of the new system can be seen only in its progress. At the science faculty, however, a similar system of courses introduced in 1989 may provide us with some experiences on the final stages as well. I think it is highly probable that significant changes have been initiated, and perhaps the reform one day may described as the beginning of the change of the system in the history of our university.

Well, let us take stock and have a look at the details.

A. THE COURSE DESCRIPTION OF THE TEACHER TRAINING MAJOR AT THE ARTS FACULTY OF THE KLTE, 1992 *(See Supplement)*

B. THE PROS

1. The institutionalised option of the *free choice* of the teacher training major. During the preparations of the reform no one questioned this issue. The gains are twofold:

a) someone's own decision will hopefully motivate the students,
b) the involuntary decision often demoralised those who did not with to be teachers.

2. The *one-majors teacher training* has become an established option (one-major plus teacher training major). Although it is not known yet how many students will be taking up this option, this is a very important phase, which has been hotly debated. There are serious arguments both for the one-major and the two or more major training.

What I consider an up-to-date training is a specialised training which has a solid basis encompasses the related areas, implies the functions of the professionals, and is easily convertible. One-major training can be seen as an opportunity for a profound study. I think more and more schools of high quality are employing teachers who concentrate on one of their majors. Unfortunately, no sociological surveys on employment and demands are available.

3. We managed to keep the paralell training system, although there have been advocates of the consecutive training model, mostly based on experiences in the English-speaking countries. Concentrating teacher training on the fifth course might be a clear-cut solution, but it might make career orientation, the development of teaching skills, and professional identity more difficult.

4. The *opportunity to choose curriculums* has grown, thus training is not as uniform, but it can be better adjusted to individual interests.

5. The training has become more *target-oriented.*

The *proportion of practicum* has grown and so has their quantity to a small degree, primarily in the fifth course. In the case of the teaching practice, in the demo schools and in the country, the practice is connected with the subject 'Social Issue of Education Public Education', which can actually be considered as education sociology.

Moreover, we also hope that the qualifying exam will raise the level of motivation and effectiveness. In this way the target oriented and practical aspects of the training will be emphasised.

The *structure of the courses* has also changed to a large extent. The courses mediating the disciplines of pedagogy and psychology are being replaced by more complex and integrated courses and studies, preparing the students for the tasks of teacher and educator. As a matter of fact the obligatory general courses, like basic psychology, basic pedagogy, school pedagogy, serve this aim. So do the obligatory optional courses, e.g. the development of the teacher's personality, the practical areas of the teacher's activity.

6. It is an important organisational aspect that the university has adopted the plans to set up a *Teacher Training Institute* within one or two years, and hopefully this organisational unit will be authorised to represent the interests of teacher training. The first step in this direction is the Teacher Training Board that was set up in 1993 December.

C. PROBLEMS

To tell the truth my expectation concerning the reform was that if the loading of the current two-majors plus teacher training major will be reduced, the remaining time and energy can be used for the updating and intensifying of teacher training proper. There is no question about it. I have intended to enlarge the *quantity* of the teacher training module, because I am convinced that the present framework is very limited. For example a student majoring in literature and history who graduated in 1992 had only eight out of his 90 marks and only ten percent of the total number of classes in teacher trainig. According to the reform syllabus, an A major will include 50 courses, the B major[2] will include 30 and the teacher training module 11 courses. The ratio however did not improve in favour of the teacher training module, but rather decreased. I would say it is a pity, whilst others might say thank God. Perhaps the collective wisdom of institutional democracy 'has protected' us from the 'expansion of pedagogy'. I would briefly refer to the issues concerning schooling, career, youth: the lack of perspectives, drugs, unemployment, drifting towards ideological extremes, poor personal relationships, self-destroying attitudes etc. We are not concerned with raising the formal prestige of pedagogy, although it would not be

[2] The term and the loading of B major has approached that of the A major regarding the courses. The most important difference between them is that that a traditional external entrance exam is required for the A major, and the internal entrance exam for B major.

as bad either, but what we are trying to emphasise is the more systematic and thorough preparation of would-be teachers for their educational tasks. Thus, they should be able to teach subjects like youth and family protection, school mental health, pedagogical social psychology, self-awareness, elocution, the culture of communications, etc. Is not it strange that no-one is questioning that children should study grammar, chemistry, computing etc., but s a very small amount of time and expertise is devoted to vocational guidance, family, harmonious human life, etc. Or should all these issues be tackled only by the family, even if circumstances there might be worse than at school? Our students are scoring successes at school competitions world-wide, but some of the families are having serious difficulties.

The expansion of pedagogy has not come about so far. I believe decision-makers are satisfied with the level of the teacher's psychological and pedagogical qualifications. Although Hungarian teacher training stands the test of international comparison, there are still serious difficulties.

2. My other expectation, namely the introduction of *aptitude test,* has not materialised either. I agree however, that even if predictive selection might be desirable, other methods may also serve the same aim. For instance, putting students in situations, which in the course of the training may reinforce career orientation or may raise the question of career correction. The question is how to do this, namely to assist career correction?[3]

3. Considering the structure of subjects, (perhaps arguing with myself), I might say, that the integrated subjects and the practice *'has devoured' theory.* This is not as bad, and it comes from what I have said above. But I wonder whether the three classes per week in School pedagogy during one term can integrate the relevant studies in theory of education, didactics, philosophy of education, sociology, human genetics, communications theory, when one class per week is devoted to watching classes. It is not the quality of the subject that I would question. Let us leave the 'pure' theory to those who major in pedagogy and psychology, and will be the experts in these areas. The trouble is that, within the given frameworks, the school and educational application of these disciplines seems to be unsolvable.

What makes the situation more difficult is the lack of proper integrated textbooks. Moreover, the problem of pedagogy on its own is the fact that the so-called 'socialist' theory of education lost its content, has become empty so to speak, and we are in need of an up-to-date and credible philosophy of education which would take into consideration the social changes of the past few years. This is why the theories of education, curriculum and methodology have been emphasised, which

[3] Cf. János Papp: Recent aptitude tests for teachers. Suggestions, recommendations for Conference on the Recent Research of Teacher Training at Nyiregyháza, May 57 1994.

is perhaps not a bad thing, because pedagogical theory will always be needed irrespective of the ongoing political changes. Perhaps it is not an utopian wish to have a pedagogy that need not be rewritten after each and every change of the system or government crisis. Recently it still has to rewritten and the synthesis has not been created yet.

4. If we consider the attractive list of the courses that can be chosen obligatorily, we cannot be completely happy with it. If I vote for the Gordon training e.g., I will miss situational games. If I became familiar with the work of the form-master, I may miss school administration and how can I be a school principal in this way? To put it more seriously, the areas above are related to each other, and eventually one can replace the other, but a 'decent average teacher' would need most of them.

The list seems to be a bit self-deceptive, suggesting what an awful lot of things a student in Debrecen will be able to study, but as a matter of fact, he or she has to make a choice. Therefore the completeness will suffer damage.

5. Further critical issues just in brief:

- There is no qualifying exam after the general courses of teacher training, which makes compatibility with other institutions difficult.
- The reform at the arts and science faculties are not properly harmonised and two totally different systems seem to be established at the two faculties which I find unjustified and unacceptable.
- Another, specific problem is that the relationship between the pedagogy major and the teacher-training major has not been settled namely the way they make up a system.

I am not going to discuss staff and material conditions. I am afraid that the austerity measures introduced in the summer of 1995 will hinder the above efforts. A theoretical decision entails practical consequences. The number of demo schools is few; teaching practice in the country would require a network of schools; activities to develop skills would require rooms and facilities; and the implementation of the qualifying exam has not been elaborated yet. The list is far from complete. All these concerns are delightful, however, and hopefully contributing to a real reform progress.

III. Updating the content of the teacher training module (With special regard to the general pedagogical subjects)

As far as the updating is concerned, we have envisaged a practice — directed teacher training model. I do not think it is useful and I personally dislike the idea of proving repeatedly that pedagogy is science. It can be science even if it is sometimes malignantly questioned. But this is not the point now. The most important aspect of teacher training is that the teachers starting their careers, beyond professional qualification, should have proper pedagogical knowledge, along with professional and self-awareness, sensitivity, and confidence. That is, teacher trai-

ning ought to focus on forming a mature teacher-personality so that the student will be able to cope with the practical tasks he or she will actually face. The woud-be teacher is not a student majoring in pedagogy and the practising teacher is not a researcher in pedagogy.

Without neglecting scientific aspects, we lay emphasis on career socialisation; on attaining career maturity. We wish to lay the grounds of a successful start.

In addition, the up-to-date criteria of science are also seen in a different light than one or two decades earlier. The related and borderline disciplines have accumulated so much knowledge that need to be interpreted and integrated into pedagogy (see .e.g. educational sociology, educational social psychology, pedeutology, metapedagogy, etc.). This is why the courses in teacher training are necessarily complex and integrative. Sometimes it seems to be difficult to find the right terms. Who knows e.g. what covers the traditional and neutral names Pedagogy I and Pedagogy II?

Our guiding principles has been to make the training more practical and to get rid of the over-ideological parts in the theoretical training, in general to update the content of the training. We are far from completing these objectives. The new course descriptions have been discussed; the staff and organisational conditions, though not optimal, have been established; and two textbooks have been completed.

Finally the new structure of courses and the new teacher training module has been developed (see Supplement). These suffered some alterations in the process of their adoption, but as a mater of fact our intentions and practical feasibility can be found in them. This module contains four pedagogic courses: The Social Basis of Education and Public Education, School Pedagogy, the History of Education, and the Teacher's Work. The first two courses are in line with the minimum curriculum and are obligatory, whereas the latter two are optional.

The course 'The Social Basis of Education and Public Education' is educational sociology, the course 'School Pedagogy' is mainly didactics and the History of Education is rather the history of schooling and its issues. Partly, the teacher's work is a kind of development of teaching skills.

The course 'The Social Basis of Education and Public Education' is propedeutics too and its conections with genetics, family sociology, educational economy are also important. Besides, in addition to core curriculum, every colleague may alter the material to a significant degree (60 : 40%).

The course in completed with a one lesson per week teaching practice on the third course, thus the students will have the opportunity to get into real school situations which hopefully will reinforce the career socialisation.

The ecurse is an introductory, basic course. Whilst psychology is laying the grounds of the personal and the subjective, (e.g. the teacher, the child, psychological aspects of educational effects), the 'social basis'

is showing the macrostructure of society, its institutional framework and functions.

I have also participated in outlining the other subject, called *'The teacher's work'*, which is perhaps not the best name and the course has had its teething troubles, but its future is bright. Its integral components are self-awareness, the development of teaching abilities, and the group teaching practices that were widespread in the teacher training colleges at the turn of the seventies and eighties. Another key component is the realistic knowledge of the teaching profession in its sociological and micro-social framework, with the *teacher's role* in the foreground.

Despite some conflicts and unsettled issues, the experiences seem to be promising. The teacher trainees sometimes are able to get rid of the submissive role of the learner and behave and communicate as would-be teachers, which is, I think, a great achievement.

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The gates have been opened up and we have a long way to go, but we hope we follow the right track in order to find the answer to the question: how to train good teachers? And the answer, hopefully will live up to the expectations of the turn of the millennium. Recently what jeopardises the profession is not politics, but rather the narrow-mindedness of the interest groups within the profession and the lack of financial resources. Or the attempts of restoration can also be perceived to be due to the emerging difficulties of democratic organisation in education.

We believe we will have enough strength, allies and supporters to carry out our plans with the least possible compromise.

SUPPLEMENT

List of courses at the arts faculty

Code	Course	Number of classes	Assessment
TK101	The *Psychological* Basis of Education	2	exam
TK102	The *Social* Basis of Education and Public Education	3	exam
TK103	*School Pedagogy* and Complex Pedagogical Practice	4	exam
TK109	The Theory and Practice (methodology) of Teaching Specialised Subjects	4	exam or mark
TK110	*Teaching* Practice and Complex Pedagogical *Practice*		min
TK104	*Qualifying exam*		exam

OBLIGATORY OPTIONAL COURSES

Psychology

TK105 *The Practical Development of the Teacher's Personality.* (It is obligatory to choose one course form the list below.)

a/ Gordon training
b/ Handling tensions in pedagogical practice
c/ The development of communications abilities
d/ Situational games in pedagogical practice
/ Analysis of life-styles

TK106 *The psychological aspects of education.* (It is obligatory to choose one course, which can be connected with school practice.)

a/ The psychology of the development of learning methods
b/ The psychological basis of developing talented children
c/ Psychological methods of exploring learners' personalities
d/ Methods of exploring and developing groups
e/ Psychology of the education of handicapped children
f/ The psychological aspects of the formmaster's work
g/ School mental health
h/ The psychological analysis of educational situations
i/ The psychology of alternative pedagogical trends

Pedagogy

TK107 *The teacher's work.* (It is obligatory to choose one course, which might be accompanied by school visits.)

a/ Micro teaching practices
b/ Conflicts and their solutions in pedagogical situations
c/ Assessment and planning in pedagogy
e/ Education in halls of residence
f/ Child and youth protection
g/ Pedagogy of handicapped children
h/ The sociological aspects of the teacher's job
i/ School management
j/ Occupation pedagogy
k/ Introduction into the methodology of pedagogical research

TK108 *The history of schooling and education.* (One course ought to be chosen.)

a/ The history of schooling and education between the 16th—20th centuries
b/ Issues from the range of the history of schooling and education between the 16th—20th centuries
c/ Trends in reform pedagogy in the 19th and 20 th centuries
d/ The history of the formation and operation of Hungarian civic public education or Educational technology

STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA—PAEDAGOGIA, XLI, 1—2, 1996

PERSONALITY AND COMPUTER ASSISTED INSTRUCTION (C.A.I.): BASES FOR DEVELOPING AN ADAPTIVE PROGRAM

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ABSTRACT. This study investigates the ways of designing C.A.I. programs in physics such as to be adaptable to the users' preferences and psychological characteristics.

A method for fast identification of the lesson variant most suited to each and every student was conceived and experimented. It is based on the pupil's preference for 8 leisure activities, 12 colours, and 6 drawings.

We investigated also the relationships existing between the means of detecting the preferred lesson variant and the personality traits.

1. The purpose of the study

Our study was intended to identify the possibilities of adjusting the form and content of lessons in physics to some psychological peculiarities of junior high-school students.

It represents an attempt to put into practice the model proposed by Pitariu and Albu (1996).

By means of our experiments we have tried to find the answers to the following questions:

- In how many ways should a lesson in physics be designed in order to meet the preferences of the largest possible number of users?
- What relationships do exist between the lesson variant preferred by a pupil and his psychological characteristics?
- How can the computer quickly identify the lesson variant best suited to each subject?

We considered that the content of the lesson should be adapted not only to the amount of the pupil's knowledge, but also, and mainly, to the depth of his understanding, to his ability to explain, prove, argue about, and interpret, physical phenomena, to solve exercises and problems (throughout this paper we called these aspects "performance level" in physics).

2. Method

Our **sample** was made up of 276 students from grades 6 ($N = 108$), 7 ($N = 21$), 8 ($N = 113$) and 9 ($N = 34$).

Psychological measurements:

The 8th-graders were given following psychological tests:

• The **Eysenck Personality Inventory** (EPI), assessing extraversion (E), neuroticism (N), and social desirability (L).

• The **California Psychological Inventory** (CPI) (Pitariu, Albu, 1993); we have used the following scales:

Fx, measuring flexibility;

vl, to assess introversion/extraversion;

Anx, a scale derived by us, to assess anxiety.

• The **State-Trait Anger Expression Inventory** (STAXI) (Spielberger, 1988); we have used these scales:

T-Anger/T: assesses a general propensity to experience and express anger without specific provocation;

T-Anger/R: measures individual differences in the disposition to express anger when criticized or treated unfairly by other individuals.

• The **CO92 Test;** this is a test developed by us (Albu, 1995; Albu, Pitariu, Ardelean, 1995), on the basis of the test for organizational ability of Albert Huth (Huth, 1953; Martin, 1954).

The CO92 test consists of a fictitious city map with 10 objectives marked in. You are required, after departing from home at 9 a.m., to reach all objectives, each of them being accessible only within a certain time span. In addition, you are expected to fulfil a number of tasks consisting in carrying some objects of various shapes and weights. You must be back exactly in 4 1/2 hours. You have to show the order of performing the tasks and the route you have covered. Test scoring is entirely computerized.

We have fixed three level of solving the test:

Level I: the route drawn by the subject is in no agreement with the order set for the objectives, or not all of the objectives have been attained, or some of them have been attained more than once.

Level II: the logical conditions stipulated by the test have not been met (for instance, one objective, accessible only until noon, has been reached after 12.30 p.m.).

Level III: one of the correct solutions has been found.

• Every pupil from the 8th grade has been rated for his performance level in physics through one of the terms "poor", "average", "good". The rating was made at the end of the schoolyear, by the physics teacher.

3. The stages of the research

The study went on in three stages, through two consecutive years.

In the first stage we identified a number of elements (characteristics) enabling us to create several lesson variants in physics. The student sample was made up of pupils from the 6th, 7th and 9 th grades.

The results served to prepare the research instruments for the second stage.

In the second stage we investigated the relationships existing between the preferred lesson variant, the scores obtained on some personality scales, and a few means supposed to be instrumental in quickly determining the preferred lesson variant (colours, drawings, leisure activities). In this stage the subjects were the students from the 8th grade.

In the third stage we inquired into the possibility of determining the performance level in physics through the way of solving the CO92 test. The subjects were part of the 8th-graders.

4. Results

4.1. Stage I

The first step of the research was meant to reveal a few different manners of describing physical instruments and phenomena.

Our investigation was founded upon the teach-back method, used in practice for the scientist's conceptualization of the mental model. It requires the subject to express to somebody else an overview of what has just been learnt.

The analysis of the pupils' written responses to a series of questions revealed four elements of the description of physical instruments and phenomena which, through the frequency of their occurrence, differentiate the subjects from each other. These are: *verbal explanations, drawings, examples,* and *formulae.*

It was assumed that these four elements must be taken into account when preparing lessons with a similar content, but different as regards their form of expression. In order to test this hypothesis, we chose a theme (the make-up and functioning of the balance) related to a chapter already studied by the students from grades 7, 8 and 9, and we devised a lesson in four manners, each variant having as prevailing element another one of the four mentioned above. The pupils were asked to rank the lesson variants according to their own preferences.

We found that every one of the four lesson variants is ranked now first, now last. Consequently, there is no such thing as a variant of lesson preferred by all pupils or rejected by all of them. None of the rank orders provided by the pupils for the four lesson variants did appear with a frecquency much higher than the others.

There are no statistically significant differences between the 7th, 8th and 9th grades regarding the lesson variant placed first ($\chi^2(6) = 5.779$, $p>.05$) and the one placed fourth ($\chi^2(6) = 5.095$, $p>.05$). Likewise, in none of the grades are these significant differences between sexes as concerns the lesson variants placed first and, respectively, fourth.

The fact that none of the lesson variants has been preferred or rejected by all pupils, as well as the existence of a great number of

different hierarchies of the lesson variants (24 hierarchy patterns provided by 151 pupils) entitled us to consider that all four lesson variants should be used when designing computer-assisted lessons such as to satisfy the preferences of as many persons as possible.

As regards, the reasons for choosing the kind of lesson that ranks first, most students mention the fact that the variant in question helped them to a better understanding.

4.2. Stage II

In order to find a fast method for detecting the lesson variant preferred by each and every pupil we proceeded as follows:

(a) we identified those personality traits that have some relationship with the preference for one or another lesson variant;

(b) we checked whether these traits are connected with the preference for drawings or colours;

(c) we tried to formulate, for each lesson variant, a set of conditions to be fulfilled mainly by those persons preferring that variant; some of these conditions concern the preference for colours or for drawings.

A. We raised the question whether the preference for one particular lesson variant bears any relation to the student's personality traits.

We investigated the following personality traits, assessed by means of some scales from the EPI, CPI and STAXI questionnaires: introversion/extraversion, anxiety, disposition to express anger, flexibility, and social desirability.

The existence of statistically significant differences between boys and girls in the scores obtained on scales N (boys: $N = 52$, $m = 11.10$, $\sigma + 3.76$; girls: $N = 58$, $m = 13.46$, $\sigma = 4.36$; $p < 01$), v1 (boys: $N = 51$, $m + 16.59$, $\sigma = 5.12$; girls: $N = 58$, $m = 18.97$, $\sigma = 4.71$; $p<0.1$), and Anx (boys: $N = 51$, $m = 15.04$, $\sigma = 4.83$; girls: $N = 58$, $m = 17.67$, $\sigma = 4.93$; $p<0.1$) made it necessary that all processing of the scores on these scales be done by sexes.

For every lesson variant we defined the dichotomous variables $V_{var,1}$ and $V_{var,4}$, which take the value 1 when the lesson variant is being put in the first place ($V_{var,1}$) or in the fourth place ($V_{var,4}$), and the value 0 in the rest of cases. Then, for each personality scale, we determined the regression function of each dichotomous variable on the scores obtained on that scale. To this end we chose, from among 10 function models, the one that provides the best approximation in the sense of the least squares. The cases when the regression functions are monotonous are presented in Table 1.

The data from Table 1 are to be interpreted as follows: for both sexes, as the scores on scale N are increasing, so is the frecquency of placing in the first position the lesson with many examples; similarly, an increase of the scores on scale v1 (which means an intensification of introversion) is associated with an increase in the frecquency of placing in the first position the lesson with many formulae.

Table 1

The cases when the regression function of the frequency of placing a lesson variant in the 1st or 4th position on the scores obtained on a personality scale is monotonous (increasing or decreasing)

Lesson variant	Position	Boys		Girls	
		Scale	Type of monotony	Scale	Type of monotony
Verbal explanations	1	T-Anger R	increasing		
	4			Fx	decreasing
Examples	1	Anx	increasing		
		N	increasing	N	increasing
		E	increasing		
	4	vl	increasing	Anx	increasing
Drawings	1			Fx	increasing
	4				
Formulae	1	vl	increasing	vl	increasing
				N	increasing
	4	Fx	increasing		
		Amx	increasing		

B. We tried to identify a few possibilities of detecting the lesson variant preferred by each pupil.

This action has to be accomplished by the computer prior to running the program with the lesson under discussion. It has to be short, it mustn't constitute a source of anxiety, and it should not be fatiguing for the user. Hence, it must be made up of operations simple to perform.

Consequently, the subjects were asked to rank, according to their own preferences, the elements of three given sets. They included:

(a) 8 leisure activities: reading, talking, writing, drawing, watching animated cartoons, solving problems (mathematical or physical), constructing, walking;

(b) 12 objects identical in shape and size, but differing in colour: pink, red, yellow, orange, blue, violet, bluish-green, light green, dark green, brown, grey, black;

(c) 6 patterned drawings which in psychological practice have been brought into connection with certain personality types (analytic, synthetic, artistic) (Şchiopu, 1994).

The choice of these three sets of elements relied on the assumption that both the preference for one particular lesson variant and the preference for certain leisure activities, colours, and drawings can be traced back to the influence of some personality characteristics and of education.

The role played by personality traits and education in determining the preference for some colours and drawings was the object of a good many psychological research projects (Guilford, 1934; Eysenck, 1941; Cerbus, Nichols, 1963; Schaie, 1963; Cattell, 1967; Child, 1970; Francès, 1970; Enăchescu, 1975). The results are, however, contradictory because of the dissimilarity of experimental conditions. For this reason we began by checking whether the drawings and colours we were using bore any

relation to the personality traits assessed through the scales used in the study.

Throughout the experiment, in order to standardize the test administration, we took care to present the coloured objects in quite identical lighting conditions.

The coloured objects were fastened on a white board, and arranged in such a way that constrasting colours should not be beside one another. The pupils were required to indicate the preferred and the rejected colours by giving their code numbers.

The six drawings to be rank-ordered were made in black on white sheets, and all hexagons were of the same size.

We found differences between boys and girls regarding their preferences for activities, colours, and drawings. Therefore all processing of data about activities, colours and drawings was made separately for boys and for girls.

We studied the question whether the scores on the personality scales depend significantly upon the preference for activities, colours and drawings. We considered that an activity/colour/drawing is being „preferred" if it ranks first or second; it is „rejected" if it is put in the last or next-to-last place; and it is „neutral" if it shows up in one of the other positions.

In Table 2 are listed those pairs (activity/colour/drawing — personality scale) for which we could find, by means of the F test, such dependences, statistically significant at the $p = .05$ level, and monotonous to the effect that the mean score on the personality scale increases or decreases depending on the preference for that activity/colour/drawing.

Table 2

The cases when the scores on personality scales depend significantly ($p < .05$) and monotonously upon the preference for an activity, a colour, or a drawing

Activity	Sex	Scale	Mean scores on the scale when the activity is: preferred	neutral	rejected
Talking	F	v1	14.909	11.927	9.500
		T Anger/T	9.182	7.595	7.250
		T-Anger/R	11.455	9.310	8.000
Writing	M	v1	23.000	16.478	15.850
		N	5.500	11.080	11.500
		I_c	5.600	2.760	2.650
		T-Anger/T	6.687	7.308	8.700
		T-Anger/R	8.000	8.962	11.000
Drawing	M	T-Anger/T	8.400	8.233	6.786
		T-Anger/R	11.000	10.333	8.000
Watching animated cartoons	M	v1	14.250	16.625	19.500
		I_c	2.000	2.923	3.667
Solving problems	M	T Anger/R	8.889	9.125	11.125
	F	N	10.250	14.200	14.357
Constructing	F	T-Anger/T	–	9.250	7.653
Walking	F	N	14.438	12.650	8.750

Table 2 (continued)

Colour	Sex	Scale	Mean scores on the scale when the colour is: preferred	neutral	rejected
Green	F	Anx	17.000	17.140	21.857
		N	11.714	13.279	17.429
Red	M	L	2.063	3.194	3.250
Blue	M	Anx	16.917	13.231	--
		L	3.292	2.444	--
	F	Anx	15.444	18.417	22.667
		vl	21.278	18.194	14.333
		E	10.611	12.806	17.000
		N	11.611	14.444	15.333
		T-Anger/T	6.789	8.333	10.667
		T-Anger/R	8.895	9.639	13.667
Yellow	F	T-Anger/T	11.000	7.957	7.222
Violet	M	vl	22.000	16.891	9.333
Brown	F	Anx	--	18.513	15.944
Pink	M	L	--	2.556	3.533

Drawing	Sex	Scale	Mean scores on the scale when the drawing is: preferred	neutral	rejected
4	F	N	14.600	12.231	11.444
5	M	Fx	10.130	11.200	13.500

It appears that most monotonous dependences relate to the blue colour. Boys preferring blue exhibit more anxiety and a stronger desire to make good impression than those who regard blue as a „neutral" colour (none of the boys has placed blue in the 11th or 12th position). Girls rejecting blue are more extraverted, more anxious, more irritable, or showing a more intense neuroticism than the rest of them.

C. We tried to determine, for each lesson variant, a set of conditions (related to leisure activities, colours, and drawings) such that, the greater the number of those met by a person, the higher be the probability for that kind of lesson to be preferred by the subject.

To this end we defined 56 dichotomous variables as follows:

- one for each lesson variant; these variables take the value 1 if the lesson is „preferred" (placed 1st or 2nd) and the value 0 if it is „disliked" (placed 3d or 4th);
- two variables for each activity, drawing and colour; the first variable takes the value 1 if the activity/drawing/colour occupies one of the first two places, and the second variable takes the value 1 if the activity/drawing/colour occupies one of the last two places.

By means of cluster analysis we studied the grouping of the 56 dichotomous variables. By way of coefficient of similarity between two variables we used the coefficient of association of two dichotomous variables.

Eventually we retained those clusters which include the variables

corresponding to the lesson variants and in which the associations of all variables are positive.

The results of this procedure are presented in Table 3.

Table 3

Conditions used to identify the preferred lesson variant

Lesson variant	Sex	Conditions
Lesson with *verbal explanations*	M	colour "violet" preferred
	F	colour "bluish-green" disliked; colour "light green" disliked; activity "drawing" preferred
Lesson with *examples*	M	colour "bluish-green" disliked; colour "violet" disliked; colour "black" preferred
	F	colour "dark green" preferred; colour "blue" disliked; activity "talking" preferred; activity "solving problems" disliked
Lesson with *drawings*	M	colour "red" disliked
	F	colour "red" disliked; colour "pink" preferred; activity "talking" disliked
Lesson with *formulae*	M	drawing "2" preferred; activity "writing" preferred; activity "watching animated cartoons" disliked
	F	drawing "2" preferred; colour "blue" disliked

In order to check whether these conditions are instrumental in determining the preferred lesson variant we acted, for each person, as follows:

- For each lesson variant we computed the percentage of fulfilling the conditions imposed, equal to the ratio between the number of conditions satisfied and the number of conditions shown above, multiplied by 100.

- We assigned to each person the lesson variant for which the percentage of satisfying the conditions imposed was maximum. If this percentage was zero (that is, none of the conditions was fulfilled for any lesson variant), we assigned the lesson with drawings, because this variant appears in the first two places with the highest frecquency in the experimental sample.

We found that for 65.70% of the subjects included in the study, the lesson selected by means of this algorithm was among the preffered ones (indicated in the first two places).

Consequently, the conditions determined by the authors through the experiment enable us to identify the preferred lesson variant with a fairly good probability.

4.3. Stage III

We tried to find out whether it is possible to assess, with a high probability, the students' performance level in physies, relying upon the way they solve the CO92 test.

The analysis of the test results presented in Table 4 entitles us to make the following remarks:

1. None of the poor students does solve correctly the test.
2. The majority of the average students (78.13%) indicate correctly the route covered, but they cannot get to a correct solution.
3. Very few of the good students (14.29%) come to achieve a Ist-level solution.

Table 4

Frequencies of the three levels of solving the CO92 test

Performance level in physics	Level of solving the CO92 test I	II	III	Total
Poor	13	13	0	26
Average	6	25	1	32
Good	2	7	5	14
Total	21	45	6	72

For a person who has given a Ist-level solution there is a probability of 61.90% to be a „poor" student, whereas the probability for a student, drawn at random from the whole sample, to be „poor" is no more than 36.11%.

For somebody who has given a IInd-level solution the probability of being an „average" student amounts to 55.56%, while the probability for a student, drawn at random from the total sample, to be „average" is only 44.44%.

For an individual who has given a IIId-level solution there is a probability of 83.33% to be a „good" student, while the probability for a student, drawn at random from the entire sample, to be „good" is a mere 19.44%.

It is possible, then, to assess the performance level in physics, leaning upon the way of solving the CO92 test, as follows:
- poor student, if he has given a Ist-level solution;
- average student, if the solution put forward by him is of the IInd level;
- good student, if he has solved the test correctly.

When proceeding in this way, the performance level is being correctly assessed in 59.72% of all cases.

After having solved the CO92 test, the pupils were asked to rate how difficult and how fatiguing they found the test. The greater part of them said the test is „not difficult at all" or „not so difficult". 88.73% of the pupils considered the test as „not fatiguing at all" or „not so fatiguing".

These results lead us to the conclusion that the test in question may be administered before starting the work with the tutorial program, in order to diagnose the performance level in physics.

5. Conclusions

The research carried out so far can be credited with the following achievements:
- It has revealed four elements (verbal explanations, examples, drawings, formulae) that make it possible to devise a lesson in physics in several variants, each of them featuring another prevailing element.
- It has found a few relationships existing between the preferred lesson variant, some personality traits, an some preferences for leisure activities, colours, and drawings.
- It has developed an algorithm which, on the basis of the subject's preference for 8 leisure activities, 12 colours, and 6 drawings, enables us to identify, with a probability of 65.70%, the lesson variant preferred by each and every pupil. The algorithm makes use of the conditions presented in Table 3.
- It has shown that the way of solving the CO92 test renders it possible to diagnose, with a probability of 59.72%, the performance level in physics.

6. Suggestions for continuing the study

The continuation of our study will be directed toward the following aims:
- Finding out more elements that have some relation to the preferred lesson variant (for instance personality characteristics or other drawings). By increasing the number of conditions imposed to select each lesson variant we could heighten the probability of assigning to each subject precisely that variant which he would put in the first place.
- Creating computer programs in which one and the same theme is being treated through different lesson variants; by means of knowledge tests, identical for all subjects, we will check whether the preferred variant is also the most appropriate one for the pupil.

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STUDIA UNIV. BABEŞ-BOLYAI PSYCHOLOGIA PAEDAGOGIA, XLI, 1, 2, 1996

PARAFOVEAL PERCEPTION AND IMPLICIT MEMORY IN READING

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ABSTRACT. Two experiments are reported that examine the effect of parafoveal perception on reading.

In Experiment 1 we established:

a) the relation between parafoveal perception and implicit memory;

b) the influence of semantic context constraints on the ability to use parafoveal visual information.

The sentence context was manipulated through five conditions: high predictability, average predictability, negative predictability, unpredictability and null predictability of parafoveal target words.

The results showed:

a) the parafoveal perception works enough to the right of perceptual span, and that its effect is significant;

b) parafoveal information is stored in implicit memory;

c) the influence of sentence context on lexical decision for target words and implicit on reading activity can not be neglected.

In Experiment 2 we proved that parafoveal perception occurs both horizontal and vertical but there is an asymetry in favour of horizontal direction.

Theoretical background

Recently there has been considerable interest in the topic of whether individuals can use parafoveal information in reading. The researchers are interested about what kind of information is extracted from parafoveal region and how far from the fixation point works parafoveal perception.

When people read a text in their introspective experience their eyes are moving continuously across the line of text. However this is an illusion. Actually during reading the eyes move in a series of „jumps" rapid eyes movements known as sacades. Between this sacades the eyes stay more or lees fixed on a point for relatively long periods of time, known as fixation.[3] The lenght of each sacades is influenced by a variety of factors (e.g. the complexity of text) but is typically approximately eight letters or spaces and its duration is about 10—20 miliseconds. The fixation last for about 200 to 250 miliseconds although there is considerable variability in the duration of fixation. The information is extracted from the text only during each fixation and not during the intervening sacades; so the reader's visual information, when he reads a text, consists of a discrete series of „snapshots" from the fixation (Rayner, 1978a; Rayner and Pollatsek, 1987).

Reading span

A central question about reading that has been of interest for at least 100 years, is how much is actually extracted from a printed page during a single fixation. The fact that the eye is moving to new locations every quarter of a second suggests that the visual information available on a fixation is limited. There are also psychophysical data indicating that visual acuity rapidly decreases as one goes away from the point at the eyes are directed. That is because there is just a small area of high acuity in the center of retina known as fovea and visual perception is much precise outside foveal vision.

The perceptual span (reading span) — the area of useful information available during the fixation — is affected to some extent by the difficulty of the text, the size of the letters, and so on but is relative small under all conditions. Generally, it extends no more than approximatelly 3 or 4 letters to the left of fixation point and 15 letters to the right.

Relying on several studies Rayner and Pollatsek (1987) have pretended that there are three different reading spans: a) the „total perceptual span", which consists of the total area from which useful information is extracted on a fixation; b) „letter identification span" — the area provided information about letters; c) „word identification span" — the area from which the relevant information for word identification is provided. The total perceptual span is probably the longest of these three spans, and the word identification span is the shortest.

The size of the perceptual span means that parafoveal information (information from outside the high acuity of foveal region) is used in reading. The evidence for partial words processing in the parafovea (those words nearly fixation but not directly fixated) comes from several sources. Perhaps the clearest evidence comes from an experiment by Rayner, Well, Pollatsek and Bertera (1982) in which word „n + 1" was never fully exposed, only its first three letters were (and less than three letters if whole word was three letters or less), with the other letters replaced by visual similar letters. In these conditions subjects read significantly faster than in conditions in which only the fixated word was exposed, and about the same rate when the whole word „n + 1" was exposed. This indicates that partial information about a word can be used to speed reading. However it has been shown that a parafoveal preview of the word decreases the time spent fixating the word (see Blanchard, Pollatsek and Rayner, 1989). There is a model that tries to explain these results. That is, the first three letters excite a neighborhood of lexical access (including the correct one) but not up to the thereshold of identification when then the eye fixates the word, this partial excitation of the lexical access allows the word to be identified faster than if no preview has been presented. Perhaps, the most

surprising finding (Rayner, McConkié and Zola, 1980) is that the facilitation obtained from parafoveal preview is undiminished.

Similar results obtained McConkie and Zola (1979), in case that all the letters have been changed (for example chest turn to CHEST), when they made changes like this: aLtErNaTiNg to ALTeRnAtInG. This finding indicates that the integration of information from one fixation to the next is not at the level of visual features but at more abstract letter level. Rayner, Balota and Pollatsek, have also found that the fixation time for a word (e. g. „tune") is reduced when a similar string of letters (e. g. „turc") have just been presented for parafoveal vision. However, presenting a semantically similar word (e. g. „song") to the parafoveal, have no effect in subsequent fixation time. But the fixation time on a word in a sentence is determined by numerous factors.

The sentence context effect

Of particular interest to cognitive psychologists are the ways in which the sentences context influences the fixation time. One way in which meaning has an effect on fixation time is in the context provided by the earlier part of the sentence. A parafoveal word is more likely to be skipped if it is predictable from the prior sentence context. In addition, it has been shown that a word that is more predictable is also fixated for a shorter time when it is fixated (Ehrlich and Rayner, 1981; Schustock, Ehrlich and Rayner, 1981; Zola, 1984). Thus it appears that less time is needed to process a word if it is predictable. It is less clear, however, what aspect of processing is affected by the prior context; is it the access of the word in the lexicon that is facilitated or is it a later stage such as fitting the word into the context of the sentence.

The research on this topic bears in the general issue of „modularity" (Fodor, 1983), which has received a great deal of attention in the past few years. Fodor's claim is that different „modules" (for example: those that handle lexical access, syntactic processing, thematic processing) do not communicate directly with each other. He pretend that lexical access is a „module", in the sense that lexical access could not be affected by „postlexical" processes.

There are various arguments to suport Fodor's position. Word recognition for isolated words generally occurs so rapidily and automatically in adult readers that there would probably be little benefit to be gained from attempting to make use of context. In any case, readers are not very succesful at predicting the next word in the most sentences, wich suggests that usefulness of context to word recognition is likely to be limited. Also using processing resources in the attempt to predict the furthcoming words in a sentence might well disrupt the other processes involved in reading.

Instead, there are several studies which seems to disconfirm the modularity assumption. For example the Balota and colleagues' ex-

periment (1985) seems to be an evidence against the hypothesis that lexical access is a module, because the speed of lexical access appears to be modulated by „predictability" an index of higher — level discause processes. Thus if lexical access was affected by the predictability of the word in sentence context it might be evidence against modularity because the predictability of a word is presumably computed by a higher-order mechanism that is constructing the overall meaning of the text.

Perhaps the clearest test of Fodor's hypothesis would be a study in which the predictability of function words was varied. If predictability has a clear effect in the visual processing of these words, a strong version of modularity could be rejected. But if we are able to control the context effect and other variables, then we assume that a decrease in processing time for a word from outside of the word perceptual span is due just to parafoveal perception. That means that the word was primed and probably this kind of priming is stored in implicit memory. Actually the parafoveal perception is a kind of implicit perception and as Kihlsitrom (1992) said the distinction between implicit perception and implicit memory is a little fuzzy at the edges. Moreover if memory is the residual trace of perceptual activity, then even implicit percepts should be stored in memory and perhaps these memories may be expressed only in an implicit way.

Experiment 1

The aim of the first experiment was to assess the role of parafoveal perception and implicit memory in reading. More exactly we wanted to prove that information that is gained from parafoveal region is stored in implicit memory. It seems that is quit difficult to know how deep are processed parafoveal words or what kind of information is extracted from these items. Therefore we used two implicit memory tests, a conceptual one-lexical decision and a perceptual one-word stem completion. Srinivas and Roediger (1990) differentiate these two types of tests by suggesting that perceputal tests "rely heavily on the match of perceptual features between learning and test episodes, and conceptual tests require the encoded meaning of concepts for successful recollection". In order to eliminate the context effect we have controlled the predictability of target words through five context conditions (see the design).

Hypothesis: 1. Information from parafoveal region is stored in implicit memory; 2. The sentence context has a small effect on implicit memory tests for parafoveal words and implicit on speed of reading.

Method

Subjects: 80 pupils from high school and 20 introductory psychology students from Babeş-Bolyai University. All subjects were native Romanian speakers with normal uncorrected vision.

Design: There were two independent variables. The first was the predictability of target words there were five conditions: high predictability (e. g. Barking dogs seldome bite), unpredictability (e. g. Someone look soldame bite), average predictability (e. g. I am reading an interesting book), negative predictability (e.g. Barking dogs second page) and null predictability — for control group. The second independent variable was the word position in sentence that is, in what location after word perceptual span was the target word. The dependent variables were reaction time for lexical decision test and the number of correct completion for word stem completion task.

Apparatus: An IBM-PC 486 with an SVGA monitor was used to present the sentences in study phase, the target words in test stage and to collect the subject's responses. This kind of monitor does not give the subjective impresion of leaving any visible screen persistence following stimulus offset, even when white stimulus are used on a black-ground.

Materials: For the study phase we used twenty sentences, five sentences for each conditions. In each sentence there were two target words, one in the first position after word perceptual span, and other in the second position. The target words varied in lenght from 5 to 9 letters and were nouns, adjectives and adverbs with a average frecquency in romanian language. Additional were used twenty nonwords for lexical decision task. For the word stem completion test, the stems consisted of the first three letters for each target.

Procedure: The subjects were tested individually in a dimly lit computer room. Each trial begin with the presentation of a centered „X" sign for 1000 ms, that served as a fixation point. The subjects were instructed not to move their eyes from this point until they made the first response. Immediately after „X" a sentence containing the target words appear for 250 ms. This shorter exposure duration, which is the average visual fixation time, was used in order to prevent eye movements. After sentence display it was a short pause, 5 seconds, in which the subjects had to tell aloud the words, from the beginning of sentence, that they conscious perceived. These words in fact, constitute the word perceptual span. After pause subjects completed the lexical decision or word stem completion task.

The subjects were set before a monitor and keyboard. During the lexical decision task, one key on the keyboard was labeled „Yes" (the key <L>) and another (the key <A>) was labeled „No". Subjects were instructed to press the „Yes' key when they thought the presented item was a word and the „No" key otherwise. The target words and nonwords were presented one at a time in random order. Each word or nonword was preceded by a light border which pulsated on the screen for five times in order to attract the subject's attention to a place where will appear the word (nonword). The task was self-paced, with the items staying on the monitor until the subjects made a response.

The key used and the reaction time for each string of letters was collected by the computer in a response file.

For word stem completion task on the monitor were presented one at a time just the first three letters for each target words (the word stems). This stem has stayed on the monitor until the subjects completed them with the first word that come in their mind.

Control groups performed just a lexical decision or a word stem completion task, without any parafoveal or direct perception of the target words.

Results and Discussion: Lexical decision task.

Mean response times and their standard deviation for all combinations are presented in tables 1 and 2.

Table 1

Context Word perceived	H.P.	U.P.	B.L.
F.W.	539	549	668
	95	130	117
S.W.	566	529	608.5
	66.44	124	100

Table 2

Context Word perceived	A.P.	N.P.	B.L.
F.W.	513.6	517	6.17
	85.4	102.5	74
S.W.	509	529	597
	89.3	90.98	84.23

Legend:

H.P. — High Predictability
U.P. — Unpredictability
B.L. — Baseline
F.W. — First Word
S.W. Second Word
A.P. — Average Predictability
N.P. — Negative Predictability

The statistical significance of this results was assessed by analysis of variance ANOVA two way revealed a significant difference between experimental groups and baseline group and the absence of a significant difference between means for first and second target words.

For table 1: $F = 10.59$, $p < 0.0001$;
For table 2: $F = 13.82$, $p < 0.001$;

These results, first of all proved that parafoveal perception works enough to the right of perceptual span, and that it's effect is significant. Instead it seems that predictability has just a small effect on performance in lexical decision task. Anyway we have to accept that the perception and processing of information is dependent on the interaction of two class of variables: the nature of the stimuli and the expectation of the human processor. For word completion stem task we didn't find any significant differences neither between experimental and control groups nor between experimental groups. The fact that we obtain a sig-

nificant effect of parafoveal perception for lexical decision but just a small (insignificant) effect for word stem completion it is a sign that these two tests benefits from different processes. It is wellknown that word stem completion (a perceptual implicit memory test) relays heavily on the match of perceptual features between learning and test episodes. Instead lexical decision task it seems that used another kind of information. Actually, several studies (e.g. McConkie and Zola, 1979; Coltheart, 1981) have proved that integration of information from one fixation to the next is not at the level of visual features but at a more abstract letter level. Therefore is very possible that words are accessed through that abstract letter level, and lexical decision profits more much than word stem completion, by this level. However, as the most studies demonstrate, there is no indication that any level of representation other than abstract letters level is of any functional significance in encoding parafoveal information. It is possible, of course, that more sensitive tests will cause change in this conclusion.

Additional we found a facilitating effect of seeing the first three letters of the target words in the parfovea. It is possible that these letters excite a neighborhood of lexical acces (including the corect one) and this partial excitation of the lexical acces allows the word to be indentified faster than if no preview have been presented.

If we come back to the context effect the outcomes permit us to say that although nonsignificant, there is anyway an effect of predictability both for high predictability and for average predictability. Moreover we are sure that this effect is higher if we'll use the same procedure like in others experiments (McClelland and O'Regan, 1981; Papp and Newsome, 1981; Stanovich and West, 1983). In our experimental procedure, just for H. P. — group, the high predictable parafoveal word was displayed with a delay interval in wich there was exposed another word. So it is very posible that this modification to alter the lexical decision for parafoveal target word.

In 1985 Balota and colleagues tried to answer to folowing question: "does the predictability of the word interact with the visual aspect of the stimulation?" Their results confirm the Stenberg's assumption (1969): the context is modulating the extraction of visual information, and hence influencing a relatively early stage of procesing that would be part of lexical acces. Our results, which are consistent with Stenberg's assumption and Ballota's results, proved that in some sense the readers were extracting visual information from a wider region when the word was predictable than when it was not. That means that context is afecting the amount of visual information extraction and therefore is affecting lexical acces. So the size of perceptual span may not be constant. In this case it is affected by the predictability of the word in the parafovea. On the other hand, other studies indicate that the size of perceptual span is also affected by the dificulty of the text (Rayner, 1986), the legibility of the foveal stimulus (Inhoff, Pollatsek, Posner and Rayner, 1989), the frequency or syntatic complesity of the foveal word (Henderson and

Ferriera, 1987). Although, in the present procedure (which is closer to normal reading activity) the main effect was produced by the parafoveal previewed of target words several studies proved that when subjects have sufficient time to instantiate expectation about parafoveal targets (and there is not any distractor stimulus) then the contextual effect is higher.

Is modularity disconfirmed? It is dificult to answer to this question, although our results similar to Balota (1985) and Fischer & Bloom (1985) appear to be evidence against the hypothesis that lexical acces is a module, because the speed of lexical acces appears to be modulated by the "predictability" an index of higher-level discause proceses. But, Seidenberg (1984) and Stanovich & West (1983) have argued that context effects, when observed, may be due to "lexical priming" wich they argue is a mecanism working within the lexical module rather than being imposed from without. An advocate of modularity would argue that the speeded processing of parafoveal previewed words in these kind of experiments is due not to its predictability but to automatic "spreading activation" from one lexical node on word detector (e.g. "dogs") to all related lexical nodes (e.g. '-bite"). In fact, this argument could plausibly explain the predictability effect because is hard to create a higly predictable context for a target words without using higly associated prior words.

However we prefer to subscribe to a more reasonable position (Rayner and Sereno, 1994). According to them, context has little or more effect on word recognition with highly skilled and fluent process such as normal reading of text, but may have much more effect when word recognition is unusually difficult.

Experiment 2

Unfortunatelly most measurements of reading span are made only linearly using a single line of text at a time. But the fovea is circular therefore is very possible that in normal reading, information from adjacent lines is also picked up and used (see Reber, 1985).

The aim of the second experiment was to prove that fovea and parafoveal perception occur both horizontal and vertical and that the information obtained during this kind of perception is stored in implicit memory.

Hypothesis: 1. Parafoveal perception occurs both horizontal and vertical; 2. The benefit from parafoveal perception for bellow words (those wich are bellow fixated words) is higher than for above words.

Method

Subjects: 20 undergraduate students from Babeş-Bolyai University and 40 pupils from Gh. Barițiu Second School. All subjects were native Romanian speakers with normal uncorrected vision.

Design: There were two independent variables. The first was the word position — that is if the target word was above, below or on the right of the fixated word; the second was the distance (in mm) between lines of sentences. The dependent variable was reaction time for lexical decision.

Apparatus: The same IBM-PC 486 — personal computer that we used in Experiment 1.

Materials: Fifteen sentences were used in study stages three sentences for each trial with three target words. The word perceptual span was established at the beginning of the second sentence. One of the target words was to the right of perceptual span, and the others two were above and respective below this span. The target words varied in length from 5 to 6 letters and were nouns with average frequency in Romanian language. Additional were used fifteen nonwords for lexical decision task.

Procedure: The subjects were tested individually and procedures were quasisimilar as those in Experiment 1. The difference were two: the number of sentences displayed and the fixation point. In this experiment were exposed three sentences for each trial and the fixation point was at the beginning of the second sentence. After perception stage was a lexical decision task. The subject's responses was collected by the computer in a response file.

Results and Discussions

First of all we calculated the median of response time (RT) for each subject. Than, using these medians like brut scores we calculated the mean and standard deviation for each group. The data are shown in the table 3.

Table 3

W.L/D.B.S.	Above	Below	Right
D1	516	518	561
	100.14	79.6	97.77
D2	541	532	577
	101.00	74.8	106
Baseline	617	612.5	648
	51.7	72.22	85.9

The statistical significance of these results was assessed by analysis of variance. An 3×3 ANOVA two way showed a significant effect of word position, $F = 3.95$, $p < 0.02$ and also for distances between sentences $F = 17.68$, $p < 0.001$. A post hoc procedure -Scheffe- revealed a significant difference between mean RT for "Right" word and both "Above" and "Below" word, in favor of "Right" word.

For more accuracy each column was submitted to a one way ANOVA, and was found a significant effect for each one; $Fa = 6.83$, $p < 0.002$; $Fb = 8.83$, $p < 0.0005$; $Fr = 3.81$, $p < 0.022$; A post hoc comparison, using Scheffe procedure revealed a significant difference between baseline and each experimental groups, except gr IV vs gr VII.

The results prove that parafoveal perception occurs both horizontal and vertical, but there is an asymmetry for horizontal reading span (effectiv field of conscious view) wich ussualy extends about 3 or 4 letters to the left of fixation point and 13—15 letters to the right. This asymmetry presumably occurs because the most information text lies to the right of the fixation point. We think that the form of the asymmetry is learned in ontogenesis because the readers of Hebrew, which is read from the right to the left, show opposite asymmetry (see Pollatsek, Bolozky, Well and Rayner, 1981).

The outcomes also showed that the vertical parafoveal perception depends heavily by the distance from the fixation point (distance between sentence in our case). That is, the effect of vertical parafoveal perception increases when the sentence are closed but in the same time the effect of horizontal parafovea perception decreases. That means that if the sentences are too clased then the total reading span become shorter. Maybe it occurs a kind of foveal and parafoveal saturation which limits the amount of processed information. Therefore we think that is necessary to identify the optimum distance between sentences so that the amount of information gained to be maxim.

We did not find a significant diference between above and below words, that means that vertical parafoveal perception is symmetric, at least for normal readers, instead for "speed readers" we have not the answer.

Conclusions

The results of our experiments proved that parafoveal perception really "works" so that a parafoveal preview of a word decrease the time necessary to identify it. Additionaly in Experiment 2 we showed that the parafoveal perception occurs both orizontal and vertical.

It is very important to point that information gaines from parafoveal region it is not conscious available because it is stored in implicit memory. Therefore the readers use this kind of information in an implicit way. Moreover it seems that the physical reality of the parafoveal words is not preserved from one fixation to the next, only the letters information, in an abstract code, is preserved, and possibly lexical information, as well (see the difference between lexical decision and word stem completion performance in the present study). This is an evidence that in implicit memory are stored different kinds of information, and if we want to acces a specific one we have to use the most appropriate task.

The effect of predictive context on the speed of word identification in reading argues that visual information from predictable words is

extracted more efficiently than from unpredictable words, and thus that the context can affect the lexical acces. However it is not clear at present whether the effect of predictability is because of a (likely unconscious) prediction being made on the basis of prior context or a "lexical priming' mechanism. We should note that these context effects are relatively small, even in the case when the word is completly predictable. In fact most of work on word perception in and out of context suggest that the visual information in text can be processed rapidly even without context, and the predictability (and other context effects) plays a minor role in word identification. In other words the context is not the crucial factor in obtaining visual parafoveal priming. So, although the context effect was proved, it is dificult to disconfirm the Fodor's claims. Perhaps a study in wich the predictability of target words is strongly controled, would be the best test for Fodor's thesis.

The second experiment clearly showed that parafoveal perception occurs both horizontal and vertical but there is an asymmetry in favour of horizontal dimension. Instead we did not find any vertical asymmetry that means that the horizontal parafoveal asymmetry is learned durring ontogenesis, because the most informative text lies to the right of fixation point.

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STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA—PAEDAGOGIA, XLI, 1—2, 1996

SINGLE-SUBJECT APPROACH IN CLINICAL NEUROPSYCHOLOGICAL RESEARCH

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ABSTRACT. The limits of the classic group study method in neuropsychology are assessed alongside with the possibilities of the alternative method of single-case studies to surpass them. The single subject study approach in neuropsychological research is presented step by step and followed by a fair account of its main problems. A perspective of the method ends a rational pleading for judicious use of all the data available in the realm of behavioural sciences.

„Statistics is like the mini: it uncovers a good part of reality but hides the essential"

Grigore Moisil — from a TV interview (narrated by Viorica Moisil, 1979)

The purpose of this material is not — as it may seem at the first sight — to criticise the role of statistics in psychological research but to compel attention on the values of an unfairly dismissed method, that of single case study, in the particular area of neuropsychological research.

The single case study has a long history in neurology as well as in psychology. In fact, it was not until the 1920s and the statistical works of R. A. Fisher that psychology started to shift to larger sample sizes investigations supplemented by statistical processing of the field data: the individual differences became "error variance" and the main concerns of the researcher were to average them out by more and more refined mathematical computations.

With the availability of such an apparently more rigorous methodology, it might appear that the single case approach will progressively fade away, superseded in the general experimental framework. Over the last decades, however, in neuropsychology there has been instead a resurgence of the single subject methodology, particularly in Europe (e.g. Caramazza, Berndt, Basili, 1983; Vallar, Baddeley, 1984; Weiskrantz, 1986; and many, many others). And that because there are several inadequacies of the use of statistics in neuropsychological research.

When statistics fails

The main aim of inferential statistics (Kantowitz, Roediger, Elmes, 1994; Ray, 1993) is to infer, from a given sample of data on some measure, the parameters for a set of all possible scores from which that

sample was drawn; in other words, to help the understanding of a more or less general population from data exhibited by a restricted (by different reasons and using some accepted criteria) group of that population. By this, the statistical inference has been proved to be one of the major tools in social research. But it has also been found by some researches — especially from the clinical areas of the field (for a classic synthesis please see Davidson, Costello, 1969) — that it can make no useful contributions to the understanding of the unique problems depicted by particular individuals. This challenge has already been well admitted in experimental medicine from its onset (Bernard, 1865/1958): "... in physiology, we must never make average descriptions of experiments, because the true relations of phenomena disappear in the average; ... averages ... confine while aiming to unify, and distort while aiming to simplify".

As the strengths and weaknesses of the classical statistics in clinical sciences are extensively discussed elsewhere (Baer, 1977; Baer, Wolf, Risley, 1968; Campbell, Stanley, 1963 — citted in Yule, Hemsley, 1980), here I will just comment on some particular problems which it faces in neuropsychological research.

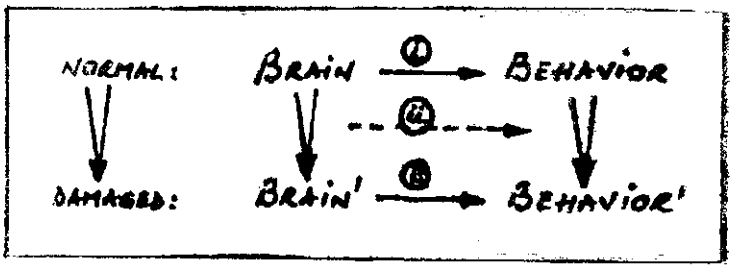
A. *A pragmatic problem* is that of the rarity of some cases encountered in practice. Let me illustrate this by the situation of the amnesiac syndrome: during almost forty years of research all around the world, Parkin and Leng (1993) have found only thirty-three cases of amnesia published in the major speciality journals, with the time interval between their publications varying from almost ten years in the 60's to less than one year in the 90's. In will be enough difficult to develop a classical group study in such conditions. It is also unacceptable to skip such cases simply because we do not know when and where the next will appear; we do not have the right to exploit so bad such "experiments" offered to us by the "Nature". In the extreme situation, a "therapeutical error", as that of bilaterally surgical hyppocampic removal employed in 1953 in the case H. M. (Scoville, Milner, 1957), will never have to be tempted again. It is due to the extensive study over decades of H. M. (for the most recent account of his neuropsychological state please see Corkin, 1984) that the rejection of such surgical procedure is supported. Fifteen years after the operation and more than ten after the neuropsychological data has been published, William Scoville (1968), the neurosurgeon who performed the 1953 operation, argued: "Even at this late date, however scientific publications continue to propose the removal of the hippocampus bilaterally for relief of behavioural disorders, intractable pain, and other reasons; such proposals no longer seem justifiable in view of the profound anterograde amnesia which results".

B. *Methodological problems* are even much more debated. The first reason for employing statistics in the experimental research is to rule out the possibility that the results found in the study are due solely to chance factors *(the null hypothesis)* (for details please see Guilford,

Fruchter, 1973; Radu, 1993). In neuropsychology — from the onset — the "Chance" (but misfortune for the patient) offers to the investigator a situation which has already rejected the null hypothesis, as it provides a subject who undoubtedly is different from his or her age, sex and education related peers due to a specific factor not to chance factors alone. By the presumptions of

i. a clear brain-behaviour relationship both in normal and damaged circumstances and

ii. a direct causal connection between brain disturbances and behaviour changes (Figure 1), the role of statistics in testing the null hypothesis in neuropsychological cases can be reliable surpassed.



The second involvement of statistics in the experimental design is to eliminate sources of uncontrolled variance that operate in a systematic manner *(the confound hypothesis)* (for details please see Kerlinger, 1986). But in the fields where we do not know too much, as is the case with the realm of brain-behaviour relationship[1], we have to pay much caution to any variable which may be of interest. Simply because we do not know very well which are the relevant variables displayed by a patient we can not afford to subtract them by averaging. The history of sciences — especially of their young stages — is scattered with examples of overlooked potential discoveries; fortunately, some of them are re-discovered later or by others (the examples of Sigmund Freud missing the "discovery" of cocaine — the first and, for a long time, the most used anestethic — should suffice to illustrate this point). So, one of the main uses of statistics in research could be potentially dangerous to the progress of knowledge in neuropsychology. Again, we do not have the right to "misuse" the data provided to us by each case.

If my previous argument seemed to you to be a bit moralistic let

[1] It is just realism not only modesty in that assessment if we take into consideration the complexity of the organization of only one component of the diad, the brain (e.g. the estimated number of connections inside it far away exceeds the Eddington's cosmic number 2^{256} which approximates the total number of protons and electrons in the Universe [Arseni, Golu, Dănăilă, 1983]). Miclea (1994) mentions Sanders' comparison of the level of our present knowledge about brain with that of the knowledge about heart in the Middle Age.

us consider a more technical one, derived mainly from the specificity of neurological clinic itself: *the problem of syndrome specification.*

The field of clinical sciences is dominated by the concept of "syndrome", conceived as a collection of symptoms that tend to occur regularly in clusters for either structural or functional reasons (Sue, Sue, Sue, 1990). It is a rough and broad practical definition which leaves opened the possibility of "partial syndromes" — defective of one or more symptoms, and "mixed syndromes" — that could be fractionated into two or more sub-syndromes; the eventuality of the addition of symptoms to a given syndrome, although more rarely, is not excluded. Given that state of affairs in clinical neuropsychology, it is almost impossible to built up a reliable group of patients over which results have to be averaged. The problem raised by the specification of a syndrome to the use of statistics in neuropsychology can be suggestively illustrated by a famous debate in amnesia research during the 70's and 80's (for details please see Baddeley, 1982; Shallice, 1993).

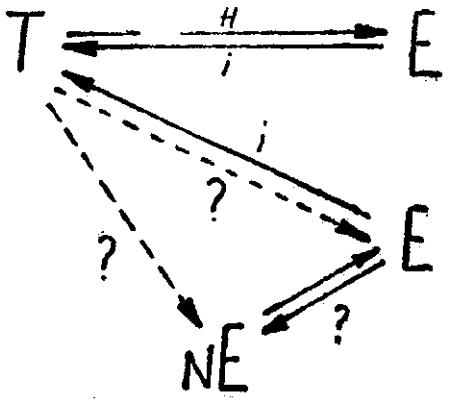
> The problem was generated around the discrepancies between the findings of studies conducted using two different methodologies. In one approach — used by Milner and her colleagues in Montreal (e.g. Milner, Corkin, Teuber, 1968) and later by Warrington and her co-workers in London (e.g. Warrington, Weiskrantz, 1970) — patients were chosen for study according to the selectivity and specificity of their memory problems, giving less prominence to the aetiology of the lesion and the absolute number of patients investigated; in the alternative approach — by Butters, Cermak and their collaborators in Boston (e.g. Cermak, Butters, 1972) — patients were selected according to their aetiology (namely the Korsakoff syndrome caused by chronic alcoholism) and much more attention has been paid to the standard statistical requirements (the groups tended to be larger, the investigators tried to ensure for each group a roughly mean IQ of 100). The results of the two approaches differed on two significant aspects: the involvement of short-term memory in amnesia (in more technical terms, showed amnesiacs normal or abnormal (performaces in the Brown-Peterson procedure [Baddeley, Warrington, 1970 vs. Cermak, Butters, 1972|C) and the role of semantic coding in amnesia (was semantic coding or was not associated and somehow related to memory deficits in amnesia [Butters, Cermak, 1976 vs. Meudell, Mayes, eNary, 1980|C). Several attempts to explain them followed. Considering the former, Butters and Cermak (1974) argued that the filler task used by Baddeley and Warrington (1970) — who claimed that amnesiacs could be normal on this task — was insufficiently demanding and, consequently, amnesiacs could actualy rehearse while undertaking it. This argument was rejected by the study of an amnesiac (Cermak, 1976) who, when tested by the procedures used by the Boston group, showed results similar to those obtained by patients of the London group; this patient was amnesiac due to a viral encephalitis, so it might appear that aetiology was the critical variable. However, Korsakoff patients can also show entirely normal Brown-Peterson curves even when a more demanding filler task is used (Warrington, 1982). In fact, the most plausible explanation for these discrepancies is that they reflect a difference in the population of patients selected for the study by the two types of methodology (Baddeley, 1982). Despite the fact that the Korsakoff's psychosis can be produced by a restricted brain lesion (Mair, Warrington, Weiskrantz, 1979) it frequently occurs in the setting of widespread pathological changes (Victor, Adams, Collins, 1971). It is now very well

documented (Jacobson, 1989; Leng, Parkin, 1989; Squire, 1982) that Korsakoff patients may also have frontal lobe damage, so they can fail on tasks associated with frontal lobe pathology. Thus it is now argued that some of the characteristics of Korsakoff amnesia claimed by the Boston group arise from associated frontal lobe impairments (for details please see Mayes, Meudell, Pickering, 1985; Moscovitch, 1982).

This example clearly illustrate that the group study, meeting the most important statistical criteria, is not an adequate safeguard to the pitfalls of conducting research in clinical neuropsychology; the group study is not a realiable source of neuropsychological facts at least if inferences to normal function are concerned (as is the case in clinical cognitive neuropsychology [Margolin, 1992]).

Furthermore, it shares with the single case study method the problem of the uncertainty of the functional adequacy of a particular syndrome classification; however, in the case study approach the problem passes through a progressive resolution as it can result in the fractionation of syndromes in "pure" syndromes" (Shallice, 1979). With the group study approach, by contrast, the reification of that classification into a methodological tool and the use of very broad categories to allow reasonable group sizes means that this important progressive aspect of the case study method is lost.

C. *A philosophical problem* is that of the circularity of knowledge aquisition in the classical experimental approach. It usually proceeds in tes-



T = THEORY
E = EXPERIMENT
H = HYPOTHESIS
i = INTERPRETATION
NE = "NATURAL EXPERIMENT" (THE PATIENT)

ting hypothesis derived from a theory and interpreting the findings in the light of that theory (please see Figure 2) and it seems it is no way to conduct it otherwise (Newton-Smith, 1990/1994). Reversely, the (single subject) clinical neuropsychological experiment can be data-driven; the design of the experiment may be constructed in response to the data as they are collected and analysed with no initial referrence to any theory. The reliability of such an approach is well above the philosophical complaint on the circularity of the scientific approach.

The single case investigation process in neuropsychology

There are two types of single subject approach in clinical psychology: *the case study* and *the single subject experiment* (Sue, Sue, Sue, 1990).

The former has been made popular in neuropsychology by Luria (1968, 1972) and more recently by Sacks (1985). It consists by almost merely enchanting descriptions of strikingly unusual deficits, accompanied by neat speculations on their underlying potentially disturbed mechanisms. It serves as important source of data, especially in the case of novel patterns of neuropsychological impairments, and supports the development of new hypothesis as the basis for further investigations. Lacking simple requirements of the experimental approach (mainly, it is difficult to replicate and compare) its contribution to the advancement of knowledge is limited and will not be considered further here.

The later meets many of the experimental requirements and is more widely used in neuropsychology. It normally pass through four distinct stages (Shallice, 1979); (Canavan, 1995):

1. *The selection of the patient* is conducted on the basis of the pattern of disturbed and preserved abilities which is considered to be potentially of research interest. As, in practice, it is often done by a neurologist or neurosurgeon acquainted with the research topics in the field in minimises the possibility of the examiner's biases (Rosenthal, 1979) in assigning or refusing a patient for a study.

2. *The baseline assessment of the patient* is maybe the crucial step in investigation as it provides the foundation for rejecting the null hypothesis (please see B. above). It has to be exhaustive and based on appropriate norms (Lezak, 1995) as the delineation of a particular deficit may be achieved only by ruling out all other possible deficits. In practice this relays on either a fixed (formal) or flexible (informal) battery (Kolb, Whishaw, 1990) of relatively well-normed standardised tests. It provides a psychometric view of the patient's condition which permits the comparisons with a) results of normals and similar or different brain-damaged patients in concurrent experimental procedures as well as b) the findings of later examinations of the same subject in longitudinal studies. In addition to the clinical symptoms, the background assessment has to cover the patient's educational and occupational history, family

evolution, special interests and disinterests[2], socio-economic level and so forth. The medical history as well as the results of all present physical investigations (both clinical and laboratory) are of a major importance in defining the patient's status against which comparisons can be made. It can not be too strongly emphasised the significance of medical recordings in neuropsychology as, by the progress of the spatial and temporal resolution of *in vivo* neurotechniques (Gur, Gur, 1991; Ober, Reed, Jagust, 1992; Sejnowski, Churchland, 1993), it has recently becoming obvious that such data will support more credibility for (single case) neuropsychological research, getting the field more closed to the credibility of such widely respected physics and chemistry.

3. The detailed experimental study of the patient is the younger kin of the more general experimental method used in group approach. At this point the neuropsychological investigation can be viewed as a series of experiments that generate explanatory hypothesis just in the course of testing them (Lezak, 1995) as much as the regular research proceeds.

The start hypothesis may be derived (Canavan, 1995) i) from the tests results themselves (most frequently); ii) from investigator's considerations concerning a variety of possible connections underlining the patient situation (effects of the location, size, aetiology of brain lesion; functions underlying test performances etc.); iii) from literature both on clinical findings and on theoretical models explaining normal and disturbed behaviour (including data from cognitive psychology, physiological psychology, psycholinguistics, animal behaviour studies etc.). The experiments meet all standard research requirements including the investigation of control subjects every time when no appropriate norms are available or new tasks are developed or borrowed from related fields. The size of the age, sex and education level matched comparison group does not usually need to be very large, especially when common tasks where normals perform at ceiling levels are employed. The possibilities of the experimental designs used in this stage are far too diverse to be even listed; it is this place in the investigation course where the researcher's creativity can be largely expressed.

4. *The ascertainment of the patient's findings to a theory* (an old or a new one) is the crown moment of any research; it integrates the results into a general framework of knowledge and offers significance to the entire inquiry. What is particular to neuropsychological research is that

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[2] A good ilustration of the role of a painstaking background information is the case described by Canavan (1995) of a young female patient (JR) presenting with extremely poor spelling, almost complete alexia and impaired drawing abilities following a closed head injury; however, she was able to read certain single words including "horse", "saddle", "stirrup" and to draw horses. These "preserved special abilities" would remain a mystery to any investigator who failed to take note of the patient's long-standing fascination for horses.

A less striking observation is that of one of my patients, a catholic priest, who was severly motor aphasic due to an ischaemic cerebral accident but showed a significant degree of preservation of the pronunciation of such words as "God", "sermon" and few others currently used in the church.

it permits to draw almost completely data-driven interpretations, as no theory is involved in providing the "natural experiment" represented by each brain-lesioned patient to the investigator (please see C and Figure 2 above); and by this mean it is a very reliable source of refutation arguments for several hypothesis and theories conceived in kindred sciences.

Some problems of the neuropsychological case study

A fair account of the issue has to display the weaknesses of the single subject approach too. Unfortunately, they are almost as many as its strengths.

Problems of the patioent selection

a. *Statistical artefacts* are due to the possibility that the start presumption that the patient behavioural picture is due to a specific factor — namely the brain lesion — and not to some other factors which may appear even in the normal subjects is wrong. As the usual start finding in neuropsychology is a sort of dissociation, let us suppose — as an illustration of this point — that we encounter a patient who show a low performance on the Block Design Subtest of the Wechsler Adult Intelligence Scale (W.A.I.S.) while performing at normal rates on all the others. On the other hand, if we examine the results of normal subjects on W.A.I.S. we can find such differences between a normal subject's subtests performances too; in fact, Field (1960) has published tables of the "Abnormality of a Discrepancy" probabilities for pairs of W.A.I.S. subtests. So, we can not simply reject the null hypothesis all the time when we face a behaviour pattern a bit more "unusual" in a brain-lesioned patient. It is the clinical experience and level of knowledge of the investigator which usually rule out potentially unrelevant dissociations. No researcher should be interested in dissociation between tasks if they do not correlate highly in the normal population; and for these tasks the standard deviation of the expected discrepancy[3] [$\sigma \times 2(1-\rho)$] (Shallice, 1979) is small compared with σ, hence the rate of such discrepancies occurring amongst normals is low. Moreover, many dissociations are so extreme that one would never observe them except in clinical populations. Finally, if some replications are reported a clear distinction between artefacts and relevant clinical pictures can be drawn.

Problems of the baseline assessment of the patient

b. *The problem of the premorbid abilities* threatens the validity of any diagnosis in neuropsychology (Lezak, 1995). A relatively low Memory Quotient (on Wechsler Memory Scale) in comparison with other cognitive performances, for example, can not be ascribed entirely to

[3] The usual notation has been used.

the brain damage unless the memory performance of the subject before the injury is unknown. But the estimate of the premorbid abilities can be inferred upon the person's education, occupation, and socio-economic background (Kolb, Whishaw, 1990); there also exist some formal statistical procedures for estimating some premorbid cognitive performances, especially for intelligence (Nelson, O, Connell, 1978; Thorp, Mahrer, 1959, cited by Lezak, 1995; Wilson, Rosenbaum, Brown, 1979).

c. A related problem is that of *the possibility of an atypical organization of the patient's brain-mind system,* which would question the generalizability of results found in her or his case. But, with the exception of handedness and laterality the problem is, by now, totally hypothetical. Nevertheless, as for any particular syndrome the amount of atipicality present in patients being studied as single cases is likely to be different from the average, this apparent artefact would in fact become a virtue of the single subject approach and a supplementary reason against the simple use of statistical methodology in neuropsychology. Just in the individual cases of "atypical" patients would the functional architecture declare itself in the relevant symptoms (Shallice, 1979).

d. *The neuro(psycho)logical reorganisation after brain damage* may be an important confound variable. However, it can only be dealt within the clinical as opposed to experimental-statistical framework. Some methodological principles help to surpass this difficulty (Shallice, 1979): i) checks, using basic tests, have to be done repeatedly to estimate the "stability" of the syndrome; ii) if qualitative changes occur, the results from different phases of recovery should not be used for theoretical inferences; iii) if quantitative changes occur, allowance must be made for this in comparing results obtained at different times during the investigation; iv) whenever a contrast between specific tests relevant for a dissociation is suspected, they should be performed in the same session using a counter-balanced design. The key tests should also be repeated on different sessions, well separated in time, to rule out the other confound variables as fatigue or day-specific factors.

Problems of the experimental study

e. *The use of the same particular individuals in series of experiments* may be associated with the pitfall of patients coming to rely on the previous investigations. It is the creativity of the experimenter in developing new tasks and conceiving appropiate experimental designs which can rule out this possibility.

f. *The high fatigability of neurologic patients* may drastically limit the length of experimental sessions and require, again, the talent of the investigator.

g. *The development of strategic adaptations by each patient* facing a limited cognitive condition has also to be kept in the experimenter's mind and minimised by specific procedures.

Problems of the ascertainment of the patient's findings to a theory are of the main concern of the proponents and critics of the use of single case approach in neuropsychology. As they largely depend on the theoretical framework of any particular research and are not directly related to the empirical (clinical experimental) approach in the field, they are above the aim of the present material and will not be considered further[4].

Some general problems

Two additional limits, specific to the realm of neuropsychology, are largely expressed by the single case approach: it is chronophagic and requires long-drawn and continuously trained professionals. And it seems is no way to avoid them.

Perspectives of single case approach in neuropsychological research

One of the major reason of maintaining psychology (and social sciences, in general) in a secondary position in comparison with the natural sciences is that its object of study can be affected by myriad factors which would be almost impossible to control. Even in a robust area of a general cognitive function as memory the progress of knowledge is slow and scattered by many uncertainties; Neisser (1981) — one of the parents of cognitive psychology — considered; "The results of a hundred years of the psychological study of memory are somewhat discouraging. We have established firm empirical generalizations, but most of them are so obvious that every ten-years-old knows them anyway. We have made discoveries, but they are only marginally about memory; in many cases we don't know what to do with them, and wear them out with endless experimental variations. We have an intellectually impressive group of theories, but history offers little confidence that they will provide any meaningful insight into natural behaviour". Consequently, his attitude was to call for the study of memory in more natural contexts not limited to the researcher's set of concepts (Neisser, 1978, 1981)[5]. And for this context neuropsychology is a relevant nomination.

The first advantage of neuropsychological evidences is that they can be both important and counterintuitive. The entire list of possible factors that can affect a normal subject's performance in experimental psychology fades away when compared with the magnitude and specificity of a neuropsychological deficit; it appears like a privileged view into the structure of the information-processing system (Shallice, 1993).

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[4] The interested reader is refered to Badecker, Caramazza, 1985; Caramazza, 1986; Sartori, 1988; Shallice, 1993.

[5] It may be worthy to remark that somehow ironically Neisser should have failed to mention amnesia research which offered a more natural and theoretical challenging view on the memory.

The second priority of neuropsychology is that it covers all potential areas of the mind. Some mechanism — as, for example, writing or drawing — may not have been investigated by the experimental psychologists because the difficulty of conceiving reliable quantifications for the use with the normal subjects. But a disturbance of such functions — as in the case of agraphia or constructional apraxia, in the examples used earlier — can be well documented by detailed clinical and experimental accounts of brain-damaged patients (please see, in the line of previous examples, Roeltgen, 1985 and Heilman, Gonzales Rothi, 1985, respectively). By "inverting" the set of disorders that might appear it will finally be possible to map all subcomponents of the mind (Shallice, 1993).

And it is in this context that single case approach is crucial. Almost all its problems can be avoided or surpassed by caution and cleverness. The remaining statistical ones, can be reduced by the recent development of particular statistical procedures, specially designed for single subjects (for details please see Behrmann, Byng, 1992; Guyatt et al., 1986; Wilson, 1987). For the same reasons it has been conceived a borderline approach, *the group case study* (Caramazza, Martin, 1983) in which patients are matched both for the behavioural abnormality (e.g. agraphia) and the putative causative information-processing deficits (such as dysfunctions of the linguistic and motor components of writing), distinguishing it from group studies where patients are grouped based on a common syndrome diagnosis as we have seen in the previous sections. In fact, as Marshall and Newcombe (1984) stated, "there are no useful groups in neuropsychology; there are only groupings of individuals. And in order to be grouped in a rational, theoretically revealing fashion, the members must first be investigated in highly detailed single-case studies". Any additional problem which may face the single case approach in neuropsychology could be dealt by the development of data banks in which researchers from various facilities pool their patient populations (Hannay, 1986). And indeed such a tool has recently been provided by the new Oxford University Press' journal *Neurocase: Case studies in neuropsychology, neuropsychiatry, and behavioural neurology* whose aim — as discussed in its Editorial — is to "produce on an annual basis a cumulative electronic database in which single case investigations published in Neurocase as well as additional selected investigations published elsewhere will be summarised with respect to variables such as nature of the symptoms, lesion location and diagnostic category. Using this database, investigators will be able to search a large number of single case investigations to define cohorts of patients on the basis of potentially relevant parameters such as lesion location, behavioural syndrome, and gender. Relational databases of this type have proven to be of great utility in disciplines ranging from behavioural genetics to neuroanatomy and may be expected to be equally beneficial in the fields of behavioural neurology, neuropsychology and neuropsychiatry" (Neurocase Editorial Board, 1995).

It is my strong belief that by a judicious use of any patient we encounter we will be able, step by step, to add new reliable evidences to the edifice of knowledge in the realm of brain and mind.

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STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA–PAEDAGOGIA, XLI, 1–2, 1996

DONNÉES CONCERNANT CERTAINES ATTITUDES D'ÉDUCATION PARENTALES

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ABSTRACT. Data Concerning Several Attitudes of Parentelar Guidance. The educational action of the family constitutes a complex pedagogical influence, which regards all the aspects of the child's development: physical, psychic, affective, volitive, socio-moral.

The goals of the study are to investigate the situations in which parents reward or punish the child. The results outlined several general conclusions concerning the attitudes of parenteral guidance.

1. La problematique

Comme l'on sait, la famille constitue l'un des facteurs primordiaux de la formation, de l'éducation et de la socialisation de l'enfant. La famille représente en même temps le cadre fondamental dans lequel les besoins et les nécessités de l'enfant sont satisfaits, les étapes du processus de développement sont accomplies et les premières qualités morales et trait de caractère sont constitués. L'action éducational de la famille représente une influence pédagogique complexe, profonde et solide, qui vise et antraîne toutes les directions du développement de l'enfant: phisique, psychique, affective, volitive, socio-morale. Les relations interpersonalles interfamiliales par leur complexité jouent un rôle decisif autant dans la formation et la consolidation des habiletés et des habitudes quotidiennes de comportament, qu'en assurant certaines conditions d'éducation adéquates. Le processus extremement complexe de l'éducation en famille doit se déployer de nos jours, conformément aux lois, aux nomes et aux principes psychopédagogiques generaux qui favorisent la possibilité de l'apparition de certaines conduites désirées, des traits positifs de caractère et de volonté. Il est nécessaire qu'en famille les parents offrent des modèles de conduite correspondants, acceptés du point de vue social et moral qu'ils tiennont compte du fait que les attitudes, les qualités, les conduites morales, les conviction finalement toutes leurs manifestations exercent une influence formative et souvent décisive sur l'enfant.

L'éducation de l'enfant dépend donc dans une large mesure des attitudes d'éducation, das besoins, des exigences, des procédés et des méthodes au caractère socialisant utilisés par les parents dans les situations differentes. „La réalisation en bonnes conditions des fonctions de la famille est — selon Banciu, Rădulescu et Voicu (1987, p. 60) — la réalisation adéquate du processus de socialisation". La famille essait

de déterminer le developpement de la personalité de l'enfant a laide de moyens, des techniques et des procédés variés, par toutes sortes de formes et de méthodes, en cultivant les habitudes, les habilités, les capacités et les aptitudes, en transmettant un système de valeurs, normes, principes, lois et règles de conduite. De même, elle assure, par un méthodologie specifique de l'éducation opportune, leur intériorisation sous l'aspect de certaines convictions, intérêts, attitudes et motivations. Dans cette perspective éducationelle la communication verbale directe, le comportament éducatif des parents, les exemples personnels qu'ils offrent à leurs enfants, les modalités et les formes de renforcement, de punitioon et de récompense, toute la prestation éducative des parents exercite une influence formative aux effets profonds et durables sur la structuration de la pérsonnalite de l'enfant. En cette direction Bagdy (1994, p. 11—18) parle primordiellement de l'importance des méthodes éducationelles de la famille concernant le processus de socialisation de l'enfant.

Dans les dernières années on peut constater une amplification des études concernant l'éducation en famille de l'enfant et „la plupart de ces préoccupations s'axant surtout sur les problèmes de pédagogie, de psychologie et de santé" (Banciu, Rădulescu, Voicu, 1987, p. 13). On est de plus en plus d'accord sur l'idée que les différences que l'ont peut observer dans le comportement des enfants de même âge s'expliquent d'une facon fondamentale par la différences enregistrées dans les pratiques d'éducation des parents.

Tenant compte de cette perspective, dans cette étude nous nous sommes proposé l'investigation de quelques aspects de certaines modalités et formes d'éducation des enfants employées par les parents pour déterminer et diriger le développement des habilités et des habitudes de conduite socio-morales, pour la transmission de l'exprérince, des normes et des valeurs sociales, pour faciliter l'acquisition des modèles de comportement. Nous avons reporté l'attention, on premiere lieu, sur le mode d'emploi par les parents de différentes formes de désapprobation et de récompense, aspect qui nous indique au fond le niveau de qualification éducative des parents. L'emploi inadéquat ou le renoncement à l'utilisation de ces instruments signifie ne pas favoriser le développement des prédispositions, des traits de caractère positifs et de ne pas prevenir au reprimer les inclinations négatives, de renoncer, au fond, à l'idée de la posibilité de la formation de la personnalité des enfants, parceque toute les méthodes de punition et de récompensation sont (selon Borbély, 1969, p. 63) en dernière analyse importantes instrumentes d'évaluation. Notre désir a été donc de relever certaines attitudes que les parents prennent dans le cas où ils sont ou ne sont pas contents de leur enfants, tout comme les situation ou les parents accordent des récompenses diverses ou des punitions différentes. La plupart des auteurs accorde une importance particulière aux évaluations et aux renforcements utilisés par les parents dans le processus de l'éducation en famille. „L'enfant ne peut devenir conscient de la gravité de son délit — dit Rose Vincent

—, qu'en fonction de la facon par laquelle celui-ci est jugé par son milieu, soit familiale soit scolaire" (Vincent, 1972, p. 71). En continuant l'idée on peut affirmer que les enfants ne se rendent compt du caractère mauvais ou bon de leurs faits du conduite que dans la mesure où ceux-ci sont renforcés par les parents. Donc en manoeuvrant avec adresse des formes et des techniques diverses d'éducation les parents reglent au fond la conduite de leur enfant. „La famille — affirme Osterrieth — y apparait plutot comme une sorte de mécanisme de réglage" (1973, p. 46). Mais l'enfant aussi a pleinement besoin „de se sentir accepté, écouté, approuvé, considéré, protégé, aidé, de ceux qui l'entourent" (Dimitriu, 1973, p. 192).

Ayant comme point de départ les considérations mentionnées ci-dessus, les objectifs de notre recherche se concrétisent dans l'investigation des situations dans lesquelles les parents accordent des récompenses a leur enfants, la mise en évidence des punitions utilisées surtout dans le processus d'éducation en famille, la mise en relief des formes de récompense utilisées par les parents dans les situations diverses.

2. La methode de recherche

Afin de réaliser les objectifs proposés nous avons utilisé un questionnaire centré sur les trois aspects visés, considérés par la plupart des auteurs comme étant primordiaux dans le processus de l'éducation des enfant. Les sujets avaient 7—9 réponses indiguées à chacune des trois questions et ils devaient, en encerclant le numéro de la réponse, indiquer les réponses qui correspondaient a leur conception et attitude éducatives et qu'ils utilisaient chaquie jour dans le processus de l'éducation de leur propres enfants. De même le questionnaire a offert la possibilité de l'indication des autres réponses qui ne ,figuraient pas parmi les réponses toutes faites. C'est un tel questionnaire que nous avons annexé a notre épreuve.

Nous avons employé cet instrument de travail dans un groupe de 160 sujets, parents (mères et pères) de certains enfants d'âge scolaire mineur, de l' école primaire d'Odorheiu-Secuiesc et de Cluj-Napoca.

3. Les resultats généraus et l'interprétation des résultats

Après l'enregistrement et la mise en oeuvre des donnees recueillis a l'aide du notre questionnaire concernant les situations où les parents récompensent leurs enfants, nous avons obtenu les résultats suivants, indiqués dans tableau no. 1.

Le tableau no. 1 nous indique que plus de la moitié du nombre des parents (55%) récompensent la sincérité de leurs enfants. Sans doute le pourcentage indique-t-il l'importance majeur accordée par les parents à ce trait de caractère moral. De même, on peut remarquer une importance relativement accentuée du nombre des parents qui récompensent surtout ceux qui effectuent promptement certaines tâches désignées . L'aide en famille est la situation le moins récom-

Tableau no. 1

Situations de récompense	N	Les choix des parents No.	%
Obtenir de bonnes notes	160	56	35
Aider dans le ménage	160	44	27.5
La discipline en famille	160	56	35
Faire les lecons	160	54	33.7
Le comportement civilisé	160	68	42.5
La sincérité	160	88	55
Accomplir les tâches désignées	160	82	51.2
Autres situations	160	22	13.7

pensee (27,5%). D'ailleurs l'ordre des situations que l'on récompense est le suivant:

1. la sincérite;
2. l'accomplissement des tâches designée;
3. le comportement civilisé;
4. la discipline en famille;
5. la réalisation des leçons;
6. l'aide dans le ménage;
7. l'obtention de bonnes notes a l'école.

Ça vaut la peine de remarquer la proportion relativement diminnuée des nombre des parents qui récompensent la réalisations des leçons et l'obtention des bonnes notes a l'école. Cela peut être interprété de deux facons: ou bien il s'agit d'une manque d'intérêt vis-à-vis de l'activité scolaire de l'enfant, ou d'une certaine attitude éducative bien raisonnée au sens que l'on considère ses aspects comme quelque chose de normal ou de naturel, et non pas comme hors du commun, digne d'être récompense. A part les sept situations indiquées d'avanse à la première question, 13,7% des parents ont présenté d'autres cas aussi où ils accordent des récompenses, par exemple: l'anniversaire de l'enfant, pour un bienfait, lorsque, l'enfant est diligent et sage etc.

Les données obtenues concernant les punitions appliquées par les parents des petits écoliers en cas de certaines contraventions sont présentées au tableau no. 2.

On peut surtout remarquer la proportion accrue du nombre des parents qui emploient de préférence la remontrance-reprimade-reproches comme formes de punition dans les situations de déviations des normes de discipline. On peut encore constater que 30% des parents emploient les interdictions (des filmes, de la télé, du sport etc.) comme modalites de sanction des déviations. L'application d'une peine corporelle est constatée en proportion de 21,2% des parents, proportion assez élevée, d'autant plus qu'il s'agit d'une forme d'éducation inefficace ayant des effets nuisibles sur le développement habituel, équilibré et sain de la personnalité de l'enfant. Le nombre des parents qui bafouent, obligent à rester a genoux, imposent des travaux supple-

Tableau no. 2

Formes de punition	N	Indications de parents No.	%
Remontrance-réprimade-reproches	160	116	72,5
Obliger à rester à genoux	160	18	11,2
Interdictions	160	48	30
Application d'une volée (peine corporelle)	160	34	21,2
Bafouer	160	6	3,7
Priver d'affection	160	12	7,5
Imposer des travaux supplémentaires dans le ménage	160	18	11,2
Ne pas respecter certaines promesses	160	24	15
Lecons à apprendre en plus	160	34	21,2
Autres punitions	160	6	3,7

mentaires dans le ménage, ne respectent pas certaines promesses, a visiblement baissé. Mais il faut remarquer en même temps la proportion de 21,2% des parents qui comettent une erreur d'éducation inadmissible, en obligeant l'enfant à faire des leçons supplementaires. A la base des indications données par les parents l'hierarchie des formes de sanction est la suivante:

1. remontrance-reprimade-reproches;
2. interdictions;
3. peine corporelle;
4. leçons à apprendre en plus;

5—6. obliger à rester à genoux;

5—6. imposer des travaux supplémentaires;

7. priver d'amour (d'affection);
8. bafouer.

Les autres formes de punitions n'étaient mentionnées qu'en proportion de 3,7% des parents intérrogés.

Quant aux formes de recompense employées dans la pratique d'éducation en famille, les données obtenues sont présentées par le tableau no. 3.

Tableau no. 3

Formes de récompense	N	Mentions des parents No.	%
La louange	160	100	62,5
Les friandises	160	30	18,7
L'argent	160	14	8,7
Jouets	160	20	12,5
Vêtements	160	34	21,2
Caresses-embrassandes	160	100	62,5
Livres	160	64	40
Temps libre supplémentaire	160	24	15
Dispenser des charges	160	6	3,7
Autres formes	160	10	6,2

L'analyse du tableau met en évidence surtout la proportion élevée (62,5%) des parents qui emploient comme formes de récompense pour les enfants le louange et les caresses-embrassades. Donc ces parents connaissent ou ils ont l'intuition des effets éducationale positifs de ces formes, sur une période plus longue. Sans tenir compte de la forme de réalisation (un regard, un geste, un mot, un sourire, etc.) la louange par exemple est indispensable aux structures de certaines caractéristiques comme: l'appréciation positive de soil-même, la confiance en soi-mem, le niveau adéquat d'aspiration, le sentiment de la sureté, la stabilité emotionelle, etc.

Une autre aspect intéressant qui vaut la peine d'être mentionné est la proportion de 40% des parents qui récompensent leurs enfants avec de divers livres. C'est une situation réjouissante car le rôle inégalable des livres dans l'évolution psychointelectuelle et socio-morale des enfants est bien connu. Il n'y a que 3,7% des parents qui dispensent leurs enfants des charges, et 8,7% qui accordent la récompense sous forme d'argent. Par la mise en ordre des pourcentages, le rang de différentes formes de récompense est la suivante:

1—2. la louange;
1—2. caresses-embrassades;
3. livres;
4. vetements;
5. friandises;
6. temps libre supplémentaire;
7. jouets;
8. argent;
9. dispenser des charges.

Il n'y a que 6,2% des 160 parents interrogés qui ont indique encore d'autre formes de récompense parmi lesquelles: la projection des diafilms, des activités aux choix, donner plus facilement la permission pour regarder certains spectacles etc.

Le nombre moyen des situations et des formes indiquées dans les trois domaines prin en ensemble est présenté par le tableau no. 4.

Tableau no. 4

Le domaine	N	Nombre moyen des situations et des formes indiquees
I.	160	2,93
II.	160	1,97
III.	160	2,51

Nous observons qu'autant dans les situations de récompense qu'aux formes de punition la variété ou l'eventail des mentions est assez réduit. Donc, en général, les parents emploient des formes et des modalités correspondantes, mais l'arsenal méthodique en est réduit.

4. Conclusions

Notre étude a rendu possible d'en tirer quelques conclusions générales concernant les attitudes d'éducation parentales visées:

a) C'est la sincérité le trait de caractère de l'enfant qui est récompensé par la majorité des parents;

b) En cas de punition la majorité des parents se servent de la forme complexe de remontrance-réprimade-reproches;

c) Les récompenses utilisées avec priorité par les parents sont la louange et les caresses-embrassades, ce qui démontre des attitudes d'éducation positives;

d) L'aide dans le ménage est la situation où les enfants reçoivent le moins de récompenses;

e) Bafouer, priver d'affection et les travaux supplémentaires dans le ménage constituent des formes de punitions utilisées par un nombre très reduit de parents.

f) En ce qui concerne les formes matérielles de récompenses, on peut mettre en évidence le fait que le plus grand nombre de parents accordent des livres (40%), et le nombre le plus réduit de parents accordent de l'argent (8,7%).

g) On a constaté une variété relativement réduite autant aux formes de récompense et de punition, qu'aux situations dans lesquelles les enfants sont récompenses.

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ANEXE

Chers parents,

En vut de la réalisation de certaines recherches pédagogiques, nous vous invitons de donner la réponse aux questions ci-dessous. Nous vous remercions d'avance de votre sincérité dans les réponses.

I. Des situations énumerées, dans laquelle récompensez-vous votre enfant? (encerclez les chiffres de devant les situations que vous trouvez justes).

1. Obtenir de bonnes notes
2. Aider dans le ménage
3. La discipline en famille

4. La réalisation des leçons
5. Le comportement civilisé
6. La sincérité
7. L'accomplissement des tâches désignées
8. Autres situations (lesquelles?)

II. Quelles punitions employez vous de préférence en cas de certaines déviations? (encerclez les chiffres de devant les situations que vous trouvez justes).

1. Remontrance-réprimade-reproches
2. Obliger à rester à genoux
3. Interdictions
4. Applications d'une volée (peine corporelle-coups a l'aide de la maine ou avec différents objects etc.).
5. Bafouer
6. Priver d'affection
7. Imposer des travaux supplémentaires dans le ménage
8. Ne pas respecter certaines promesses
9. Leçons à apprendre en plus
10. Autres punition (lesquelles?)

III. Quelles formes de récompense employez-vous? (encerclez les chiffres de devant les situations que vous trouvez justes)

1. Louange
2. Friandises
3. Argent
4. Jouets
5. Vêtements
6. Caresses-embrassades
7. Livres
8. Temps libre supplémentaire
9. Leçon à apprendre en plus
10. Autres formes (lesquelles?)

STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA—PAEDAGOGIA, XLI, 1—2, 1996

PROBLÉMATISATION ET DÉCOUVERTE — INTERFÉRENCES ET DIFFÉRENCES

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ABSTRACT. Problematisation and Discovery — Interference and Differences. The purpose of this study is to emphasise that learning by problematisation and learning by discovery suppose essentially the conscious and active assimilation, through the student s personal effort, of the new knowledge.

Considering the fact that both problematisation and discovery have a problem as the starting point, the connection between them and the elements aspects which dicriminate between them are presented.

La terminologie pédagogique concernant la problématisation et la découverte n'est pas unitaire dans la littérature spécialisée. Pour toutes ces deux notions, les opinions des spécialistes oscillent entre les considérer comme des méthodes d'enseignement (ou procédés méthodiques) ou bien les considerer comme des principes méthodologiques et orientations didactiques. On doit dire aussi que la problématisation est parfois levée même au rang de théorie de l'enseignement ou au rang de type d'enseignement.

En allant au-delà de cette terminologie, l'élément qui a une importance vraiment exceptionnelle dans la problématisation et dans la découverte est la création systématique des situations — dénommées „situation-problème" — qui doivent stimuler l'élève se poser des questions et puis d'y chercher les solutions. Stimultanément avec la mobilisation de la pensée des élèves, la problématisation et la découverte créent pour le professeur la possibilité d'éviter les éléments communs et répétitifs de l'activité d'enseignement-apprentissage, ainsi que la possibilité d'éviter la monotonie, en introduisant dans l'acte d'enseignement les éléments d'investigation personnelle des élèves.

L'essentiel pour l'enseignement par problématisation et pour l'enseignement par découverte c'est l'idée que l'enfant doit assimiler les nouvelles connaissaince d'une manière créative et consciente, en déposant un effort et en s'appropriant simultanément des procédés d'opération avec les informations. On peut dire que l'activité d'exploration et de recherche déployée par les élèves se base sur un problème et que les lois de résolution des problèmes et celles du développement de la pensée coincident dans une grande mesure; d'ici est issue la conclusion que le progrès de la pensée est conditionné de cette activité mentale (qui implique aussi une activité manuelle) authentique. Autrement dit, la problématisation et la découverte représentent des for-

mes/solutions pédagogiques par lesquelles on motive et on stimule l'élève de participer consciemment et intensivement à son propre développement.

En les considérant, dans une première analyse, des „simples" méthodes d'enseignement, on peut affirmer que le processus d'enseignement est de type actif et que ce processus est compris comme une action d'investigation et de résolution de problèmes, action finalisée dans un acte de découverte de nouvelles connaissances. Le point de départ suppose, en problématisation autant qu'en découverte, le lancement d'un problème ou d'une question qui a le rôle de stimuler l'élève à dépasser la difficulté impliquée par un effort individuel de recherche, par une démarche cognitive et de découverte. Dans ce qui concerne la spécifité des questions utilisées en problématisation et en découverte, on met l'accent sur la valorisation de leur fonction productive, dans le sens qu'elles doivent, graduellement, déterminer l'élève de se poser lui-même une série de questions. On peut donc tirer la conclusion que, contrairement aux types „classiques" d'enseignement, l'enseignement par problématisation et par découverte n'impliquent guère la répétition du nouveau contenu, mais une activité intellectuelle intense et originale.

On pourrait distinguer, en fonction des relations qui existent entre le professeur et l'élève et de degré dont le professeur dirige l'activité des élèves, plusieurs niveaux d'enseignement.

1. *Le niveau d'enseignement par receptivité* — dans lequel le professeur transmet des informations déjà élaborées, informations qui seront puis mémorisées et reproduites par les élèves; ces derniers ont donc un rôle passif dans l'assimilation de nouvelles connaissainces.

2. *Le niveau de la découverte dirigée* — où le professeur est celui qui a le rôle d'orienter et de diriger les mécanismes d'enseignement des élèves, en guidant leur processus de découverte vers une solution unique (en utilisant des question supplémentaires, suggestions et précisions).

3. *Le niveau de la découverte par problématisation* — qui se caractérise par le fait que l'apport direct du professeur à la réalisation de la découverte est diminué rélatif au cas précédent; ici sur le premier plan se trouve l'empreinte personnelle du chaque élève. Pour la résolution du problème qui fait l'objet de sa investigation, l'élève est obligé d'émettre une série d'hypothèses qu'il doit les vérifier expérimentalement ou logiquement en utilisant son propre répertoire d'acquisitions. Au fur et au mesure que les élèves se familiarisent avec l'énonciation et la résolution de problèmes, la problématisation soutiendra l'enseignement par découverte en augmentant le volume du travail indépendant des élèves.

4. *Le niveau d'enseignement par une recherche authentique* — où l'élève détient une liberté totale d'investigation. Toutefois, l'enseignement par recherche et implicitement „la recherche pure" sont rencontrés très rarement dans l'école, parce qu'ils supposent que l'élève fait

lui-même une découverte, sans aucune indication (bien entendu, cette probabilité est extrêmement réduite).

Dans le processus d'enseignement, le contrôle extérieur (exercité par le professeur) du processus de découverte (réalisé par les élèves) est necessaire au moins à cause des motifs suivants:

a. Les découvertes scolaires ont comme but des connaissances qui appartiennent à plusieurs sciences et qui ne pourraient pas être trouvées seules que par les spécialistes dans le domaines impliqués, chercheurs ou personnes très intelligentes et créatives.

b. En général, dans les découvertes de type didactique on ne suit pas l'entier chemin d'élaboration des connaissances (décrit dans l'hisitoire de la science), mais on fait un appel à principales étapes de la découverte (qui peuvent être, à leur tour, modifiées et adaptées en fonction de ce qui est spécifique à l'activité didactique respective).

c. L'assistance offerte par le professeur réduit beaucoup le temps necessaire pour faire la découverte: par l-impulsion donnée aux élèves qui sont „sur le bon chemin" (encouragements, mettre en évidence les liaisons/connexions entre connaissances, soulinger les éléments essentiels) ou par l'aide donné aux élèves qui sont encore ésitants et qui n'ont pas trouvé le chemin vers la découverte (encouragements, revenir aux divers aspects théoriques/pratiques, suggestions, précisations).

d. En même temps que le professeur aide l'élève qui découvre, le premier insufle aussi, la passion et le respect pour la science. Pour enseigner la science on doit: dépasser la limite de la stricte assimilation des connaissance, dévoiler, l'utilité des connaissances et créer aux élèves les conditions pour découvrir vraiment l'essence et aussi la beauté de la science et pour vivre intensément la joie de la découverte.

Les considérations ci-dessus nous conduisent à la conclusion que le processus de connaissance avance seulement dans un cadre problématique, c'est-à-dire par une confrontation permanente entre le connu et l'inconnu, réalisée afin de déchiffrer les nouveaux contenus d'idées. Autrement dit, la liaison entre la problématisation et la découverte est très étroite, même indestructible. D'une part, la découverte se déroule dans un cadre problématisé (Ionescu, Chiş, 1992, p. 87), engendré simultanément avec la formulation d'un problème que les élèves vont le résoudre en découvrant de nouvelles vérités. D'autre part, selor Robert Gagné, „par définition la résolution de la problème implique une découverte" (Gagné, 1973, p. 128), et „la résolution de problèmes comme méthode d'enseignement demande aux élèves à découvrir la règle d'ordre supérieur sans un aide spécial" (Gagné, 1975, p. 197).

On peut donc conclure que la problématisation et aussi la découverte ont comme point de départ un problème, mais pendant que la problématisation pose un accent sur l'entier processus de résolution du problème (qui suppose l'execution d'activités d'investigation-expérimentation pour chercher la solution, tatonements, tentatives, formulation et vérifications d'hypothèses), le processus proprement-dit de découvertes est plus court. Dans le processus de résolution du pro-

blème, la découvere peut être considérée une continuation de la problématisation, étant le moment final de cette dernière, en temps que l'utilisation systématique de la problématisation assure un enseignement-apprentissage par découvertes succésives, en créant continûment des situations de découverte. La problématisation suppose un ensemble de procédés et de relations opérationnels qui aide la connaissance humaine, tandis que la découverte suppose une analyse scientifique de l'objet soumis à la connaissance afin de trouver une réponse prouvée par arguments scientifiques au problème proposée.

Jerôme Bruner a montré que l'enseignement par découverte est sujet de rearrangement ou de transformation des données, de sorte que l'élève arrive à une nouvelle vision sur l'objet de la connaissance et aussi que la vraie problématisation suppose la modification de l'ancien système de représentations et la formation (avec les données restructurées de ce système) d'une structure tout neuve, qui correspond à un autre niveau d'explication scientifique. Ceux qui s'instruisent par découverte ont en même temps la possibilité d'apprendre la manière de pensée (qui représente l'ensence de la discipline respéctive) et de se former „le sens des connexions" (qui, selon Bruner, constitue „le cœur du problème') (Bruner, 1970, p. 115, 117).

La situation-problème est construite sur une base formée de système de connaissances acquises déjà par les élèves et sa résolution conduira à l'enrichissement avec des éléments nouveaux du répertoire d'acquisitions des élèves, enrichissement dû à la participation entière (intellectuelle, affective et physique) de l'élève à la résolution du problème. En même temps avec les nouvelles acquisitions, l'élève sera équipé avec les techniques de la recherche scientifique et sera aussi stimulé pour aborder le nouveau, pour se poser des problèmes, pour questionner et se questionner. La problématisation et la découverte représentent des modalités de formation d'une attitude ouverte vers la connaissance de la réalité, à un degré tout proche de celui de la recherche scientifique.

Ainsi, dans ce contexte J. Bruner attribue au enseignement par découverte les particularités de la problématisation et de la recherche scientifique, en argumentant que dans le processus d'enseignement on ne travaille jamais avec les méthodes pures, mais avec des complexes de méthodes dans lesquells les éléments communs des méthodes s'interpénètrent et se complètent. Le même auteur soutient aussi qu'il est très difficile de distinguer la différence entre la problématisation et la découverte, étant donnée l'essence de ces notions. Quand se réfère à la problématisation, Bruner montre que: „elle favorise le développement des capacités de connaissance des élèves, l'intérêt, la curiosité, la passion pour la science, l'aspiration vers competence; elle les enseigne les stratégies heuristiques de la découverte, assure une acquisition durable des connaissance et le développement de la personnalité de l'élève". Les élèves apprennent donc, par l'entremise de la problématisation, les stratégies heuristiques qui représentent justement l'essence de l'enseignement par découverte. D'autre part, „dans une grande me-

sure, ce qu'on appelle découverte consiste en savoir comment certains formes efficientes de travail s'appliquent aux differents types de difficulté"; l'ennonce, ci-dessus est d'ailleurs un des objectifs de la problématisation.

Robert Gagné, en attribuant à la problématisation une valeur de procédé méthodique heuristique, a montré que cette problématisation précède l'enseignement par découverte: „L'élève est confronté avec une situation problématique, réelle ou simulée, dont il n'a été jamais en contact. Les suggestions verbales sont minimisées ou peuvent même manquer totalement. L'élève s'engage dans «l'enseignement par découverte»; il invente une solution". (Gagné, Briggs, 1977, p. 59).

Regardés comme des composants d'un complexe de méthodes, l'enseignement par problématisation et l'enseignement par découverte peuvent accomplir soit le rôle de méthode didactique, soit le rôle de procédé et par conséquence n'est pas possible (et d'ailleurs ce ne serait guère désirable, en raison d'efficience) leur utilisation exhaustive, surtout qu'elle se combinent aisément pas seulement entre elles, mais aussi avec d'autres méthodes — la conversation, la modélisation, les exercices et les résolutions de problèmes, l'expériment, la démonstration, l'activité indépendante et de groupe, etc. L'enseignement par problématisation et l'enseignement par découverte peuvent contribuer à l'augmentation du rendement de l'enseignement et du apprentissage seulement dans la mesure où on les utilise avec discernement et créativité, aux côtes de autres éléments composants du système méthodologique adéquat au contexte circumstantial concret.

En somme, les avantages méthodologiques de la problématisation et de la découverte en qualité de méthodes d'enseignement et d'apprentissage sont:

— on peut les utiliser dans tous les niveaux du processus d'enseignement et dans toutes les disciplines scolaires, en respectant bien sûr spécifique.

— elles forment, en combinaison avec autres méthodes, des complexes méthodiques de type heuristique qui ont le rôle d'assurer la réalisation d'un enseignement actif et formatif authentique.

— on peut les utiliser dans toutes les étapes du processus instructif-éducatif et peuvent viser l'accomplissement de suivantes fins didactiques: appropriation de nouvelles connaissances; formation de notions; fixation et consolidation des connaissances; application théorique ou pratique des connaissances; vérification et évaluation de l'appropriation des connaissances.

En considérant leurs valences formatives, la problématisation et la découverte représentent des modalités pour déclencher et diriger la pensée des élèves dans la direction de la flexibilité, créativité et inventivité, en constituant aussi une variante moderne et efficace d'application du principe de l'appropriation active et consciente des connaissances.

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STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA–PAEDAGOGIA, XLI, 1–2, 1996

IMPLICATIONS OF POSTMODERNISM IN EDUCATION

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ABSTRACT. The way towards postmodernism of the contemporary society raises multiple and complex challenges for education. The global restructuration of the education systems belonging to modernity, restructuration required with an ever greater need in our days, will be achieved through the adjustment of the educational theory and practice to the parameters of the postmodern age. This action must take as a basis, though, a very good knowledge of the implications that postmodernism will bring over the educational phenomenon. For the reason the present study addresses the main aspects that define and character the postmodern education.

Making its debut right after the second World War, postmodernism is essentially represented by a set of theories which criticise, in a more or less pertinent manner, the programme of the Enlightenment.

The Enlightenmen, which considered the human history as a progressive process of emancipation, as an ever more perfectioned achievement of the ideal man, conceived the education as the main way to promote energically the social modernisation. The modernisation of the society was understood as simultaneous and linked with the reform of the educational systems and theory. Thus, Lessing in his 'Education of the human nation or Kant, in his pedagogical writings, asserted that man can only become man by education, and only through education can the human species attain its destiny.

Taking into accont the fact that one of the ‚key' elements of the Enlightenment programme was education, the belief in the social efficiency of the educational action and even in its aplicability as a universal solution for the problems of manking, it is worth trying to outline the main aspects that define the postmodern view over the educational phenomenon.

Postmodernism, as a challenge to the Enlightenment, empirism and positivism, is characterised by a certain fragmentation of the perspectives of the world, offered by science, by the re-contruction and re-description of the theoretical trends which, at some point in time, pretended to be dominant, by an ambiguity of senses, or, more exactly, by a 'stylistic promiscuity' that gives way and favours the eclectic developments (Griffiths, 1995).

The postmodern discourse formation implies a renunciation to well-defined theoretical structures and their replacement with epistemological and conceptual means. The rapid deterioration of the not long ago accepted scientific standards, the more and more frecquent

appeal to theoretical disunification and desimplification and the prevalence of what specialists call 'coherent eclecticism', lead us to believe that the stage of 'great stories' as means of explanation is overcome, both in the realm of social sciences in general and sciences of education in particular (Călinescu, 1995).

Thus, if the modernity aimed, in what corcerns the educational phenomenon, to establish a set of norms, principles and well defined rules, meant to transform pedagogy in a science enjoying, a status as close as possible to the positive sciences, in the present days more and more specialists talk about the colapse of the educational theory that we witness.

The main cause of this fact seems to be the insufficient correlation of the present-day educational system coordinates (still strongly rooted in the modernity paradigm) with the parameters of the postmodern era. Starting with this observation, we will consequently try to capture the most important incongruencies between modern and postmodern in the educational realm, and to identify the requirements of the postmodern schooling.

During the modern times, the role of the state regarding the educational realm was a monopolist one: the educational system was almost entirely created and led by the state: the state conducted both the economic division of work and education's adjustment to it; a special task dealed with the civic formation of the citizens and with the building of their political loyalty. Postmodernism reserves the state role of facilitating decentralisation, of diversifying the educational offer and to certify, through its qualified control structures, the quality of this offer. It is aimed the achievement of flexibile and easily adaptable to society needs educational networks, able to satisfy the free option of all the ones who wish to study.

There will also be substantial changes at the level of the content of the education. Taking into account the fact that the social actors in postmodernism become more and more aware that the acquisition of new and high quality knowledge influences decisively the acquire of high social statuses and that the roles opened to act are in a continuous redefinition and restructuration, due to the acceleration of the technic-scientific progress, there is a need of a consequent diversification of the content of education.

This diversification is also asked by the magnitude of the phenomenon of mercnatilisation of the information offer. This process of mercantilisation is particulary generated by the more and more spread pragmatic perspective. At the level of the individual who gets a profession, the main question is no longer asked in terms of: 'How true this information is?', but 'To what does this information serve?', 'How effective is the practical use of this information?'.

In its generic sense, school becomes a market of informational consumption for the ones who want to get an education, an arena where the educational offers compete. This happens mostly for the higher education institutions. The principle of equality of education

chances suffers thus a reformulation: all subjects are equal as consumers on the education market and have the liberty to choose the informational offer that seems most convenient (Cowen, 1996).

Under the pressure of education market, it becomes a primary requirement the diversification of the educational contents and the provision of a high quality for the informational offer. Based on an ever stronger link between education and research and development in all the economic sectors, the information which would be transmitted through the didactic act is structured in compact modules, including specific sets of knowledge that are offered on the education market. The true value of the present-day education systems comprises thus in the interest showed by the national or world economic market for the graduates of the institutions which belong to these systems.

We can notice that the concern for the discovery of rules and principles that would make possible the building of a national level homogeneous curriculum and of unitary systems of assessment, a concern that belongs by definition to the modern era, becomes obsolete in the context of legitimation and free of diversity, specific to postmodernism.

The criterion of pertinence of the postmodern education systems is the level of performance. If one of the main educational goals of the education systems belonging to modernity was the creation and consolidation of the cultural and national identity, the socialisation of the individuals in the well-determined environment of a socio-spiritual area, in the present days the criteria of efficiency of the education institutions and the economic scope of education become more important than their civic dimension. Naturally, we do not speak about a relation of opposition between these two types of goals, but of an inversion between their weights as desiderates.

The present day education must form functional competences and not ideals. The mission of education does not limit to formation and spread of a general way of life, legitimated by submission to a certain social system: the almost exclusive aim of the didactic process becomes now the provision of social acotrs able to fulfill in a convenient manner the roles of the oragmatic positions required by institutions (Lyotard, 1993).

The increased role of the function of professionalisation of education and the close perspective of an education market of the operational competences requires a double task to the postmodern education systems: on one side, to provide that type of competences required by the competition of the world education market (experts, high and medium personnel for top sectors), and on the other side, to insure the necessary competences to the own social system, in order to keep its efficiency and internal cohesion.

In this respect there are needed radical changes in the managerial system of the schools, in what concerns a more flexible and efficient response to the present-day socio-economic chalenges; in the same

time, teachers from all levis must be encouraged to take a greater responsability for the educational progress of their students, to avoid a teacher-student relation that is void of its genuine content.

Essential changes in the education realm come up also at the level to the parameters that define and guide the organisation and action of the managerial system of the school. Thus, taling into account the economic difficulties and the reality of the self-finance principle for most of the education systems, we can notice a double trend: on one side, an increase of the requirement in what concerns the selection of the teaching staff; on the other side, a greater concern for the recruitement criteria for the candidates, so that their education should be as little as posible expensive and their consequent performance to be likely to improve the image of the institution, fact that would determine allocation of new funds (Corbett, Lesley, 1994).

The main sense of the concept of 'postmodern' is linked, in Gianni Vattimo's opinion, with the fact that the society in which we live is ore of generalised communication (Vattimo, 1995). The world of postmodern knowledge can thus be represented as a 'game with full information'. If the context of modernity dealed mostly with incomplete information games, where the level of performance of the learner was a priori limited to the capacity of acquisition, memorisation and actualisation of the information, the conditions of generalised communication impose the rules of the game with full information (Lyotard, 1993). The possibilities offered by the huge memory of the electronic computers and data bases presently permit the equal and free acess to information. But the education does not only have the goal to insure a simple reproduction of competences, it also have to insure their progress. In these circumstances, the addition of performance in the production of knowledge, for equal competences, is given by the capacity to articulate and connect information sets considered until then independent. Thus, education should not limit to transmission of information, but should involve all procedures capable to improve the capacity of all the students to connect and link information fields which were clearly delimitated by the traditional organisation of the science.

Not all the students, thoughm will attain the expert level in particular fields of knowledge or, more exactly, not all the ones who prepare for the practice of a profession will acquire high enough operational competences to successfully endeavour the roles of the respective profession. The achievement of this goal requires the elaboration of several coherent measures dealing with the development of the permanent education and the improvement of the capacity of self-education.

The restructure of the education systems in order to meet the requirements of the postmodern world needs to pay attention to another aspect, that is the fact that we witness a process of multiplication of the images of the world through mass media, process that makes us lose the sense of reality (Vattimo, 1995).

Thus, at the level of institutions of education belonging to modernity, we can notice an increase of the discrepancy between books and reality, between theoretical and empirical, between theory and practice, related more in a metaphorical way, even more, the existence of a certain reductionism in the process of conversion of reality in ideas, concepts or theories determined the generation of some serious difficulties for the students, in the identification and understanding of the objective world (Lenzen, 1988).

The lack of effective significance of the circulated knowledge, the incongruence that exists between the nature of the transmitted information and their effective use, the excessive theorising and conceptualisation represent elements that lead to the overshadow of the intimate details of reality; in this sense there is neded a reconsideration of the relation symbols-reality, sign-significant, a closer relation education-reality.

We believe that the settlement of these problems, on which depends, in a great degree, the efficiency of the present-day education systems, becomes possible once the postmodern challenge is accepted, but, in out opinion, the efforts of the experts in this field should not be oriented towards the elimination of the ideas of the modern pedagogy, but mostly towards their reactualisation and their transformed aplication.

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STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA - PAEDAGOGIA, XLI, 1-2, 1996

DIDACTIC STYLE — DIMENSION OF TEACHING ACTIVITY

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ABSTRACT. The present notes appeared as a need of placing the concept of „didactic style" in the sphere of teacher activity, there where he interreacts whith the students. Even trough now it is chary defined in the pedagogical literature, the taxonomy of the internal variables is not exhaustive. An efficient operation asks necessarily the specification of the classification's criteria of the teacher's didactic style.

H. Overstreet, specialist in education, was asked about the most precious quality of a man who teaches another, especially of a teacher, and he answered: „He has to be himself a person who learn". (1981, pag. 338).

We can ask ourselves about what should redefine unmediated and distinct the activity of the teacher? The expression „didactic style" covers this respect of instruction and education. If it's so, we'll see in the end of this work which claims to be a lucid, rational and sensitive openness to this problem, concerning constructively — if it's possible —, the problems of any teacher.

„To teach another person" can be translated, at the teacher's level, by the noun "methodology teaching". This concerns the students subjects and the object of instructive process too, because the teacher and students are permanent factors of an interactive activity.

There are three terms with distinct meaning in the activity of a teacher: instruction-education, both of them being assimilated with teaching and learning. L. Wittgenstein demonstrated us that instruction doesn't mean only teaching. (*Caietul albastru*, 1993, pag. 42). He says that "teaching means instruction", he defines instruction as the operant action which makes us associate an image to a thing. Because of this, learning through instruction leads to the construction of the psychological mechanisms, to the creation of associations of ideas.

Generally speaking, learning reflects, step by step, the act of gaining experiences, that have as general aim the knowledge with its values derivations: knowledge assimilation skill's forming.

We can see, from L. Vlăsceanu's references (1981, pag. 27) that instruction and learning have a participative nature. The teacher is situated in front of the management and the perfection of three complex activities in order to report to this nature;

a) the knowledge of instruction theories required by the realisation of educational objectives;

b) recognition of procesuality of instruction beginning with the stage of activity planning;

c) identification and description of the educational situations, and of the means which allow or stop the instruction.

As a teacher, we have in mind the necessities, interests, values, aspirations, expectancies, motivations and ideals of an age, of a generation. In this context, it's necessary to have a set of didactic virtues, which are broadly treated in literature.

The relationship between teachers and students, which exist in the context of the organisation of instruction activity, is hazed on the fact that teacher and student are the main factors of the instructional system. This thing can be represented like this (such as):

T ——————— E
communication

T — teacher
E — students

In this situation, the contribution of both personalities is very important, and the didactic style of the instructional manager creates the adequate psycho-pedagogic climate to education. The teacher has a position of major importance in the structure of model. His very personality can be represented as a subsystem with many components, as a function of with there are different processes of influence about the students. The didactic style, regardless of its nature — democratic, autocratic or formal, informal-gains perfect shop defined as the relationship between teacher-students and based on the interpersonal communication.

I. Jinga (1989, pag. 74) declared that five mutations appeared in the conception of the new status of the teacher with profound implications on the quality of formation and perfection of the didactic staff:

1) the essential change of the teacher's social role in the school's perimeter and outside, through:

— knowledge transmission function:

— influencing on human consciences function;

2) the increase of the teacher's role in the multidimensional development of the student's personality through the change of the instructive-educative relationships, through the fundamentation of the instruction process on scientific research;

3) changes in social-professional structure and in the content of the exactingness of professional formation;

4) the multiplication of the relationships between school, teachers and society. The last aspect refers in a way to the political situation.

So, the new teacher's roles need a clear framework. The cannot be situated outside or simple near the traditional-acceptable roles; it is necessary to exist some integrity or fundamental structure of the teacher's functions. To the question: "Which would be then his pro-

fessional, essential, or proximal roles?" answered three theorists, their positions being different:

I. After Raths:
1. Explanation, information, demonstration
2. The beginning and directing of the student's activity
3. Unification the student's group
4. Creating of socio-emotional security
5. The classification of attitudes and problems
6. Diagnosis of learning problem
7. Elaboration of teaching aids
8. Evaluation, recording and reporting of results
9. Participating at the enrichment of activity
10. Arranging and organising of classroom's space
11. Participating to the professional and civic life;

II. After Amidon:
1. Student's motivation
2. Planification
3. Information
4. Discussion management
5. Disciplination
6. Counselling;

III. After Gagne:
1. Attraction and control of attention
2. Results communication
3. Stimulation of previous capacities actualisation
4. Exposure of the learning situation stimulus
5. Guiding for learning
6. Providing feed-back
7. Appreciation of performances
8. Providing transfer
9. Facilitation of storing in memory.

The concept of educational style imposed recently in the pedagogical literature, its theoretical and practical connotations being constituted in the aria of recent research, concerning the didactic behaviour of the teacher, the teacher-student relationship and formation or perfection teachers. The term "style" has a lot of meanings. Ausubel was talking about teaching style which mean the teacher's particular dimension of behaviour, the general features of this behaviour. Schelter defines the educational style as a form of typical expression of educational reality, and Geisller identifies the styles with the assembly of ways of behaviour.

These particular meanings set of "constants" which could be assembled into a united characterisation. The style is associated to

behaviour manifesting in the form of some structure — so not in the form of separate elements — of influence and action, presents some internal consistency, relative stability and appears as a product of the "personalization" of the principles and norms that define the instructive-educative activity.

Reported to the student, the teacher is an exponent of the values of culture and science, the initiator of an "operative program". This consists of the vivid, practical and mental organisation activity of delivering knowledge and relating to students. Information is situated near by the reception channel — the student — giving life to the instruction-learning activity.

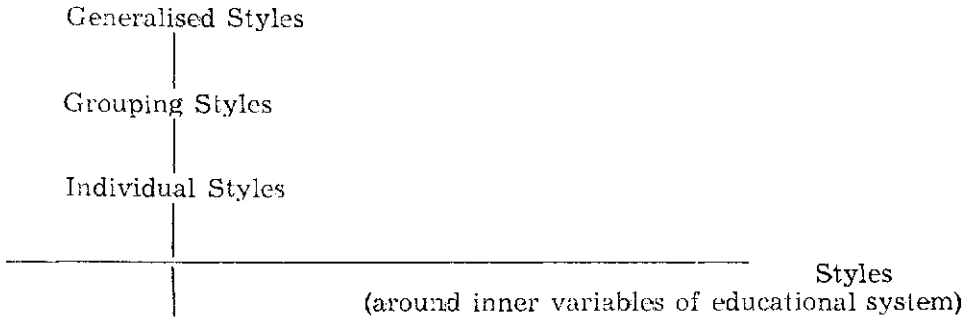
The modern techniques of instruction determine modifications in the relationship teacher-students, concerning the following aspects:

— instruction planning;
— knowledge assimilation;
— valuing knowledge;
— elaborating the individualisation strategy of education;
— establishing control, appreciation and correcting procedures of educational performances.

Except the first aspect all the other are pedagogical situations which each one offer to the students the possibility of auto instruction. The direct and unexpected contacts produce to the students "shoch-effects; they employ all the resources to solve the new tasks.

The fact that one of the dimensions of teacher's activities constitutes the didactic style is proved by the relationship between teacher and students. Instructive would be an analogy with the practised or known styles from the theory of management. The most of these have the meaning of structurized features generalised by action and not so much of some individualised and particulized applied.

There is the possibility to place different the didactic styles on two axes of coordinates:



In vertical plan, the organisation is from simple to complex. The first styles offer identity to any teacher, and the others express unity in attitudes, thoughts and actions of a group of teachers/methodological assemblies, and the last styles represent some general modalities of management of instruction having didactical value based on the stra-

tegies which are used. In horizontal plan, the styles are formed taking into account the changes used by any teacher around the inner variables of the educational processaims, objects, methods.

A stylistic profile varies after these indicators: cognitiv-epistemological accents, particularities of the communication process, level of management of the learning activity for the students, the nature of socio-affective behaviours and the organizational-methodological dimension of the action.

The students often label their teacher as lenient or exacting and they seldom sustain, that the teacher is a well balanced person who knows to complete mutually all behaviour manifestations with all the limits they impose. It's very difficult to harmonise perfectly these aspects: that is another reason for the students to notice during the instruction with many teachers that didactical styles used in their presence seem often to be exclusive:

Directive style (authoritative) ——————— *Permissive style*

Informal style (democratic) ——————— *Formal style* (traditional)

Can it be a proof of pedagogical tact or of its lack, which should be for the teacher not only a deontological obligation, but a ethical-humanitarian vow? It seems to be so, as Doring, Vorwickel and Caselmann, prove us in their classifications (Stefanovic, 1979, pag. 281—283):

I. After Doring:
1. Dominating
2. Economical
3. Theoretical
4. Sociable
5. Esthetical
6. Cerebral

II. After Vorwickel:
— concrete
1. strictly-concrete
2. spiritual-concrete
— personal-subjective
3. naive-personal
4. conscions-personal

III. After Caselmann:
— logotrop
1. phylosophycally directed logotrop
2. methodically-scientifically directed logotrop
— pedotrop
3. individually psychologically directed pedotrop
4. generally psychologically directed pedotrop

The taxonomy of didactic styles is still an open list, waiting the specialist's completations in the education field. Meaning full remains the fact tha. they need to report frecvently to students. In the teacher-

student relationship the first proves his interpersonal competence by the way he managed to humanise the relations he creates or to which he directly participates. The teacher must posses pedagogical tact in order to conscientiously fulfil the humanitary obligations, written in the code of his own profession, because only in this way he could get the full satisfaction and content of pedagogical activity.

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STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA-PAEDAGOGIA, XLI, 1-2, 1996

ROLUL ANXIETĂŢII ÎN PERCEPŢIA SOCIALĂ

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ABSTRACT, The Role of Anxiety in Social Perception. This study looked at the effect of anxiety as trait on impression formation. Person descriptions containing an equal number of positive and negative sentences were presented to two samples of subjects experiencing anxiety/nonanxiety as trait.

Impression formation judgments were obtained and subjects' recall of details were assessed. The time taken to read each sentence and to make each judgment was recorded. Results showed important effects of anxiety as trait on encoding of negative details, end elaboration of negative judgments but failed to demonstrate an anxiety-linked recall advantage for negative sentences. Implications of these findings for everyday person perception judgments are discussed in terms of anxiety influence.

1. Problema studiată

Cercetările de psihologie cognitivă ale ultimului deceniu au determinat o schimbare paradigmatică în studiul emoţiei, prin reconsiderarea mecanismelor cognitive responsabile de apariţia şi menţinerea tulburărilor emoţionale. (Izard, 1993, Mathews & Mac Leod, 1994). Perfecţionarea tehnicilor experimentale utilizate în examinarea diferenţelor între subiecţi cu tulburări emoţionale şi loturi de control, (Williams, 1988), precum şi dezvoltarea teoriilor cognitive asupra procesărilor automate (Johnson & Hasher, 1987), au permis demonstrarea implicării acestor procesări în apariţia emoţiilor şi rolul cauzal al diferenţelor individuale de procesare a informaţiei în anxietate şi depresie. (Mathews & Mac Leod, 1994).

Pornind de la aceste premise, studiul de faţă şi-a propus determinarea efectelor anxietăţii ca trăsătură, deci a procesărilor cognitive subiacente acestei etichetări, într-o sarcină complexă, cu implicaţii extrem de importante, anume formarea impresiei.

În scopul elaborării unor predicţii testabile experimental, se impune prezentarea sintetică a cunoştinţelor actuale privind influenţa anxietăţii asupra encodării/interpretării şi reactualizării informaţiilor şi extrapolarea acestor influenţe asupra structurării impresiei pe baza informaţiilor rezultate din interacţiunea socială.

1.1 *Rolul anxietăţii în encodarea, elaborarea şi reactualizarea informaţiilor*

Anxietatea şi encodarea. Studiul encodării stimulilor în condiţii de anxietate se bazează pe două paradigme experimentale: paradigma interferenţei — reprezentată prin proba Stroop şi cea a identificării care utilizează probe atenţionale.

În cadrul paradigmei interferenței, subiecților li se prezintă stimuli emoționali distractori pe care trebuie să îi ignore în timpul efectuării unei sarcini centrale. Utilizând o variantă a probei Stroop, psihologii Mathews & Mac Leod (1985) și Mc Nally (1990), au demonstrat că subiecții cu un grad ridicat de anxietate prezintă o latență mare în denumirea culorii cuvintelor cu conotații anxiogene, sugerând faptul că la aceștia apar dificultăți în ignorarea conținutului emoțional al stimulilor. Pe baza studiilor amintite, se poate considera că subiecții neanxioși, la care nu se observă această interferență, posedă o serie de mecanisme inhibitorii ce împiedică alocarea de resurse cognitive pentru procesarea stimulilor anxiogeni.

Paradigma identificării, utilizează sarcini atenționale în care subiecților li se expun pentru scurt timp (500 ms) cuvinte cu conotație emoțională negativă și cuvinte neutre în diferite localizări pe un monitor. Imediat după expunere, subiectul trebuie să identifice puncte care pot apare în locul unui cuvânt neutru sau al unui cuvânt negativ. În acord cu ipoteza alocării prioritare a resurselor atenționale spre stimuli emoționali negativi la subiecții anxioși, experimentele efectuate (Broadbent, 1988, Matlews & Mac Leod, 1994), arată în cazul acestora, o latență redusă a identificării punctelor. Datele experimentale, sugerează deci, faptul că anxietatea se asociază cu tendința de encodare prioritară a informației emoționale negative, această encodare realizându-se prin implicarea unor mecanisme automate.

Anxietatea și interpretarea. Pe baza studiilor s-au obținut dovezi în favoarea ipotezei că un grad ridicat al anxietății se asociază cu tendința crescută de a impune selectiv interpretări negative asupra informațiilor ambigui, aceste procesări realizându-se conștient.

Astfel, în cazul evaluării probabilității de apariție a evenimentelor negative respectiv pozitive, subiecții anxioși acordă o mai mare probabilitate evenimentelor negative (Butler & Mathews, 1987). Aceeași eroare se înregistrează în evaluarea propriei performanțe pe baza înregistrărilor video (Cane & Gotlieb, 1985).

Pentru evaluarea activării sensului unor cuvinte polisemantice, s-a utilizat paradigma amorsajului lexical. În prima fază, subiecților li s-au expus scurt timp cuvinte polisemantice cu diferite conotații emoționale, apoi au fost supuși unei probe de decizie lexicală pentru rădăcini de cuvinte.

Atunci când intervalul între amorsă și sarcina de decizie lexicală a fost de 750 ms, sau 1250 ms, subiecții anxioși au înregistrat un puternic efect de amorsaj al cuvintelor cu conotații negative. Când acest interval s-a redus la 500 ms, efectul a dispărut, ceea ce demonstrează faptul că procesarea amorsei este mediată de procese conștiente. Pe baza studiului, se poate concluziona că la subiecții anxioși se înregistrează o activare superioară a conotației negative a stimulilor ambigui.

Într-un alt experiment, Mac Leod & Cohen (1993), au prezentat subiecților scurte pasaje conținând o propoziție ambiguă cu o posibilă interpretare negativă sau neutră, urmată de o propoziție consistentă cu

una dintre interpretări. Subiecții anxioși au înregistrat un timp de latență al comprehensiunii ce arată impunerea interpretării negative a propoziției ambigui. Subiecții neanxioși au demonstrat impunerea sensului neutru.

Anxietatea și reactualizarea. În cazul influenței anxietății asupra reactualizării rezultatele obținute sunt inconcludente. Astfel, studiile care dovedesc acest efect, se bazează pe metoda autobiografică. O limită a acestei metode, constă în imposibilitatea de a verifica dacă diferențele observate reflectă o tendință de a reactualiza informația negativă, sau variații ale experienței anterioare, deci nu este posibil controlul expunerii anterioare la stimuli negativi (Mathews & Mac Leod, 1994).

Într-un studiu în care s-au utilizat subiecți cu diagnosticul atac de panică, s-a înregistrat tendința de reactualizare prioritară a stimulilor cu conotație anxiogenă (Mc Nally, 1989). Este posibil însă, ca această tendință să reprezinte o trăsătură clinică specifică atacului de panică, și nu o caracteristică generală a anxietății.

1.2 *Formarea impresiei*

În procesul de formare a impresiei, are loc o integrare a sensului informațiilor referitoare la o persoană țintă, pe baza cunoștințelor anterioare, reprezentate de categorii (stereotipuri), trăsături și comportamente. Problema modului de structurare a informației în elaborarea impresiei, este mult dezbătută în domeniul cogniției sociale, un rol important fiind atribuit relației între cele trei tipuri de informație menționate.

Kunda & Thagard (1996), propun un model conexionist al formării impresiei având următoarele caracteristici:

— Cele trei tipuri de informații: stereotipurile, comportamentele respectiv trăsăturile sunt reprezentate prin unități cognitive (noduri), în cadrul rețelelor conexioniste.

— Asociațiile pozitive dintre două caracteristici sunt reprezentate printr-o legătură excitativă între unitățile care le reprezintă, iar asociațiile negative printr-o legătură inhibitivă.

— Pentru o caracteristică observată, se stabilește o legătură excitativă, între unitatea reprezentând acea caracteristică și o unitate specială „OBSERVAT", întotdeauna activă. În acest mod informația observată se distinge de informația rezultată prin inferență, având față de aceasta o stare de activare superioară. Informația observată este considerată întotdeauna adevărată (figura 1).

— După activare, unitățile își adaptează valorile de activare, în funcție de legăturile excitative/inhibitive pe care le au cu alte unități. Ciclurile de activare se repetă până când unitățile ating niveluri stabile de activare (variațiile nivelului de activare de la un ciclu la altul sunt minime), situație în care rețeaua este stabilizată. După atingerea stabilității, nivelul de activare al unei unități reprezintă gradul în care unei

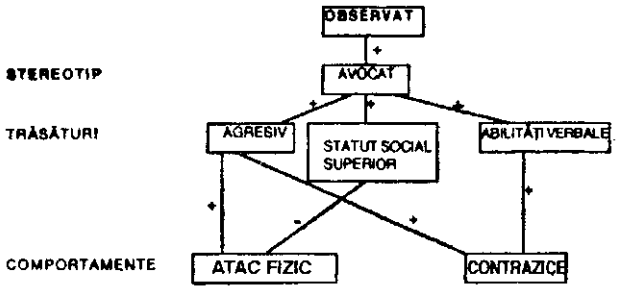

Fig. 1. Modul de integrare al stereotipurilor, trăsăturilor și comportamentelor în cadrul rețelei neuromimetice (după Kunda Thagard).

persoane îi este atribuită caracteristica respectivă. Impresia finală rezultă din combinarea celor mai active caracteristici.

Procesul de formare a impresiei urmează următoarelor patru etape:

a) Activarea informației observate

b) Extinderea activării de la observații la asociațiile lor imediate. Aceasta determină o creștere sau scădere a nivelului de activare al asociațiilor, în funcție de natura legăturii cu observațiile inițiale (excitative/inhibitive). Tăria și tipul conexiunilor dintre constructul observat și asociatele sale, este determinat de cunoștințele anterioare, (expunerea anterioară).

c) Integrarea informației și realizarea de inferențe, prin activări succesive, în cadrul rețelei stabilizate.

Aceste procese permit dezambiguizarea automată a sensului informației oferite. Consecutiv, în cazul în care observatorul nu ajunge la o înțelegere coerentă a informației, dacă informația este nefamiliară, sau în cazul unor motivații de interpretare particulară a țintei, se realizează inferențe suplimentare controlate.

d) Elaborarea impresiei finale, prin integrarea constructelor activate proces controlat de asemenea conștient.

1.3. *Ipotezele cercetării*

Pe baza studiilor existente se pot formula următoarele predicții:

— la subiecții anxioși, timpul alocat encodării informațiilor negative este mai mare decât cel alocat encodării celor pozitive;

— la subiecții anxioși, judecățile negative sunt elaborate mai rapid decât cele pozitive;

— la subiecții anxioși, numărul judecăților negative elaborate este mai mare decât numărul judecăților pozitive;

— în procesul reactualizării nu apar diferențe între subiecții anxioși respectiv neanxioși.

2. Metodologia cercetării

Design-ul experimental. S-a utilizat un design mixt, în care anxietatea ca trăsătură (variabilă etichetă), cu două modalități: anxioși/neanxioși, reprezintă factorul intersubiecți, iar factorul intrasubiecți, în funcție de procesul studiat (encodare, elaborare, reactualizare) este: tipul detaliului (pozitiv/negativ), pentru encodare, tipul judecății (pozitivă/negativă) în cazul elaborării, respectiv tipul detaliului (pozitiv/negativ) pentru reactualizare.

Eșantioanele au fost selecționate pe baza chestionarului STAI X2, utilizându-se ca scoruri prag, valori mai mici de 35 pentru grupul: neanxioși și mai mari de 48 pentru grupul: anxioși (Spielberger, Gorsuch, 1970). Volumul eșantionului este 60 subiecți, repartizați în mod egal (30 subiecți) în cele două grupuri.

Variabilele dependente utilizate au fost: timpii de reacție necesari encodării detaliilor (pozitive/negative), respectiv elaborării judecăților (pozitive/negative), numărul de judecăți elaborate și numărul detaliilor reactualizate (pozitive/negative).

Materialele stimul. S-au alcătuit caracterizări pentru două personaje: unul feminin și unul masculin, cuprinzând fiecare câte 12 descrieri, sub forma unor scurte propoziții explicitând diferite comportamente. Propozițile s-au înregistrat separat pe câte o fișă. În cadrul celor 12 descriptori, primul și ultimul aveau o conotație neutră, 5 o conotație pozitivă și 5 conotație negativă.

Procedură. După selectarea subiecților în cele două eșantioane, fiecare a primit următoarele instrucțiuni: „*Vi se vor prezenta, sub forma unor scurte propoziții, informații referitoare la un personaj feminin și unul masculin. Trebuie să citiți cu atenție fiecare propoziție, încercând să vă formați o impresie cât mai clară asupra personajului respectiv. Când ați terminat de citit o propoziție veți acționa cheia de reacție (se arată), și veți primi o nouă fișă descriptivă. După fiecare prezentare a unui personaj vi se vor adresa o serie de întrebări.*" După familiarizarea subiecților, s-a trecut la desfășurarea propriuzisă a experimentului. În faza de encodare, subiecților li se oferă randomizat informațiile (atât pentru fiecare personaj, cât și în ordinea de prezentare a personajelor masculin/feminin). Următoarea etapă a vizat evaluarea impresiei, pe baza a opt scale tip diferențiator semantic în 7 trepte, cuprinzând dimensiunile: incompetent/competent; neinteligent/inteligent; cu insucces/succes în muncă; antipatic/simpatic; timid/îndrăzneț; nefericit/fericit; cu mariaj nereușit/reușit, necooperant/cooperant în muncă. Categoriile utilizate s-au bazat pe studiile anterioare (Forgas, 1987, 1995), ce evidențiază ca dimensiuni majore în procesul de evaluare, competența în sarcină respectiv integrarea socială. În elaborarea descriptorilor, s-a ținut cont de dimensiunile utilizate în evaluare. Judecățile elaborate, s-au considerat

negative, dacă se încadrau în primele trei trepte ale scalei, respectiv pozitive în cazul încadrării în ultimele trei trepte.

Consecutiv prezentării și evaluării personajelor s-a acordat o pauză de 5 minute, în care subiecților li s-a distras atenția de la proba experimentală. Apoi au fost solicitați să noteze toate detaliile pe care și le reamintesc, referitoare la cele două personaje.

3. Rezultate

Rezultatele obținute sunt sistematizate, pe baza celor patru variabile dependente luate în studiu.

A. Timpul de latență al encodării

Pentru fiecare subiect s-au calculat mediancle timpilor de latență ai encodării detaliilor pozitive respectiv negative. Aceste date au fost prelucrate ulterior utilizând ANOVA bifactorială, anxietatea ca trăsătură (anxioși/neanxioși), și tipul detaliului encodat (pozitiv/negativ), fiind factorii implicați (tabelul 1).

Tabelul 1

Timpul de latență al encodării în funcție de tipul detaliului și anxietatea ca trăsătură (s)

TIP DETALIU / ANXIETATE	Detalii +	Detalii −	Medii (Anx.)
Anxioși	1,914	2,648	2,281
Neanxioși	1,607	1,502	1,554
Medii (det.)	1,760	2,075	

Apare un efect principal al anxietății ca trăsătură în encodarea detaliilor $F(1,58) = 10.59$, $p < 0,01$. Astfel, timpul de latență al encodării la subiecții anxioși este mai mare (M =2.281s), decât la cei neanxioși (M = 1,554s).

De asemenea tipul detaliului are un efect semnificativ, $F(1,58) = 8.69$, $p < 0,005$, detaliile pozitive fiind encodate mai rapid (M = 1,760s), decât cele negative (M = 2,075s).

În plus, se evidențiază un efect de interacțiune între anxietate și tipul detaliului $F(1,58) = 15.504$, $p < 0.005$. Această interacțiune este semnificativă, numai în cazul subiecților anxioși, $F(1,29) = 19.49$, $p < 0,0001$, la aceștia, timpul de encodare al detaliilor negative, fiind mai mare, (Mdn. = 2,648s), decât cel al detaliilor pozitive (Mdn = 1.914s). (figura 2). Deci se confirmă ipoteza alocării prioritare a resurselor atenționale pentru informația negativă, efect accentuat de către anxietate.

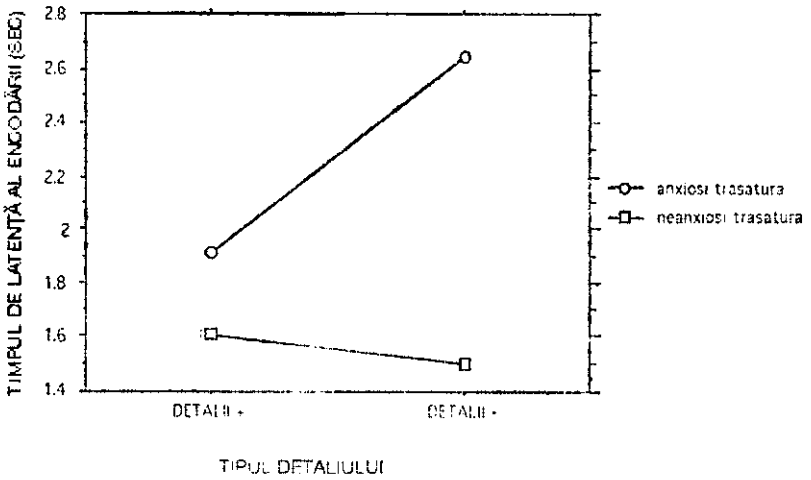

Fig. 2. Influența anxietății asupra timpului de latență al encodării.

B. Timpul de latență al elaborării judecăților

Pe baza medianelor timpilor de latență ai judecăților (pozitive/negative), s-a realizat ANOVA bifactorială, variabilele independente luate în studiu fiind: anxietatea ca trăsătură (anxioși/neanxioși), și tipul judecății elaborate (pozitivă/negativă) (tabelul 2).

Tabelul 2

Timpul de latență al elaborării judecăților în funcție de tipul judecății și anxietatea ca trăsătură (s)

TIP JUDECATA / ANXIETATE	Judecăți +	Judecăți -	Medii (anx.)
Anxioși	3,493	2,655	3,074
Neanxioși	1,500	2,251	1,875
Medii (jud.)	2,496	2,453	

Se obține un efect semnificativ al anxietății ca trăsătură, $F(1,58) = 79.14$, $p < 0.0001$, subiecții anxioși înregistrând un timp de latență al judecăților mai mare ($M = 3.074$s) decât cei neanxioși ($M = 1,875$s).

Apare un efect de interacțiune semnificativ între anxietate și tipul judecății, $F(1,58) = 24,67$, $p < 0,0001$, la subiecții anxioși latența elaborării judecăților negative fiind mai redusă (Mdn = 2,655s), decât a judecăților pozitive (Mdn = 3,493s), $F(1,29) = 17,05$, $p < 0,0005$. (fig. 3). În cazul subiecților neanxioși, latența judecăților pozitive este mai redusă (Mdn = 1,5s), decât a celor negative (Mdn = 2,251s), $F(1,29) = 9.22$, $p < 0.005$. În consecință, se confirmă și a doua ipoteză, referitoare la elaborarea mai rapidă a judecăților negative la subiecții anxioși.

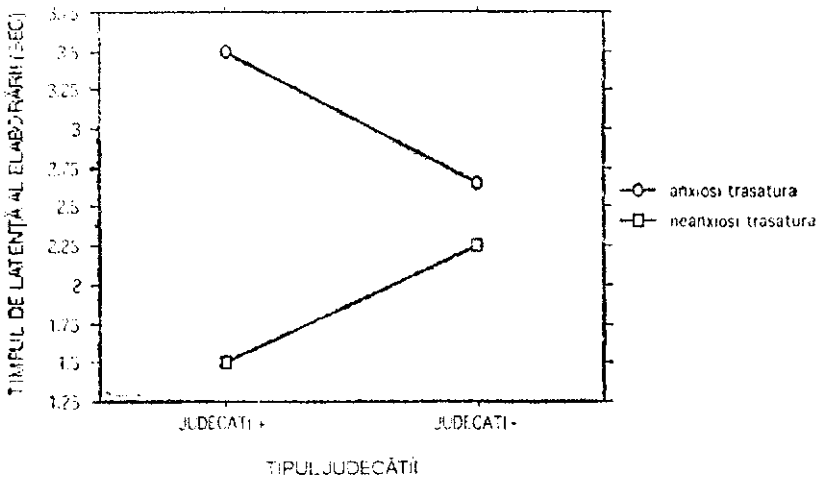

Fig. 3. Influența anxietății asupra timpului de latență al elaborării judecăților

C. *Numărul judecăților elaborate*

Pentru fiecare subiect, s-au înregistrat numărul de judecăți pozitive respectiv negative, elaborate. Rezultatele au fost prelucrate statistic, utilizând ANOVA bifactorială, anxietatea ca trăsătură (anxioși/neanxioși) și tipul judecății elaborate (pozitivă/negativă) fiind variabilele independente (tabelul 3).

Tabelul 3

Numărul judecăților elaborate în funcție de tipul judecății și anxietatea ca trăsătură

TIP JUDECATĂ / ANXIETATE	Judecăți +	Judecăți −	Medii (anx.)
Anxioși	4,23	5,8	5,01
Neanxioși	7,66	4,8	6,23
Medii (jud.)	5,95	5,3	

Anxietatea are un efect semnificativ în elaborarea judecăților $F(1,58) = 6,704$, $p < 0,05$, numărul judecăților (pozitive/negative) elaborate de subiecții anxioși fiind mai redus ($M = 5$), față de subiecții neanxioși ($M = 6,23$).

Se înregistrează un efect semnificativ de interacțiune, $F(1,58) = 29,95$, $p < 0,0001$, între anxietatea ca trăsătură și tipul judecății elaborate (figura 4). La subiecții anxioși, apar mai multe judecăți negative ($M = 5,8$) decât pozitive ($M = 4,23$), $F(1,29) = 9,31$, $p < 0,005$, iar la

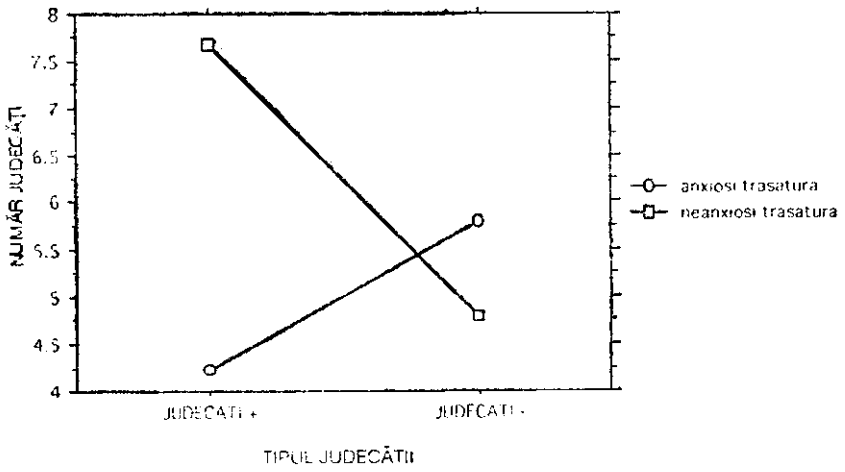

Fig. 4. Influența anxietății asupra numărului judecăților elaborate.

cei neanxioși, mai multe judecăți pozitive ($M = 7,66$) decât negative ($M = 4,8$), $F(1,29) = 20,93$, $p < 0,0001$. Deci, a treia ipoteză este confirmată, subiecții anxioși înregistrând un număr mai mare de judecăți negative decât pozitive.

D. *Numărul detaliilor reactualizate*

În prelucrarea statistică a numărului detaliilor reactualizate s-a utilizat ANOVA bifactorială, anxietatea ca trăsătură (anxioși/neanxioși) și tipul detaliului reactualizat (pozitiv/negativ) fiind variabilele implicate (tabelul 4).

Tabelul 4

Numărul detaliilor reactualizate în funcție de tipul detaliului și anxietatea ca trăsătură

TIP DETALIU / ANXIETATE	Detalii +	Detalii −	Medii (anx.)
Anxioși	4,6	4,46	4,53
Neanxioși	4,26	4,66	4,46
Medii (det.)	4,43	4,56	

Analiza datelor nu relevă influențe semnificative ale anxietății ca trăsătură sau ale tipului detaliului asupra numărului detaliilor reactualizate. Deci a patra ipoteză a cercetării este de asemenea confirmată (figura 5).

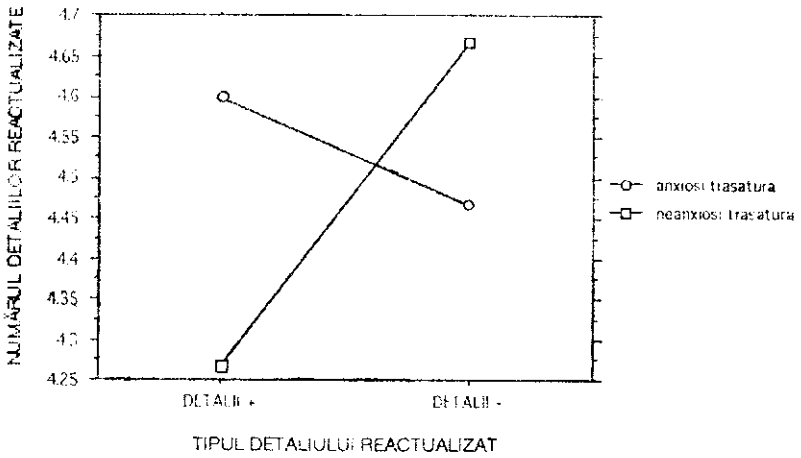

Fig. 5. Influența anxietății asupra numărului detaliilor reactualizate.

4. Interpretarea rezultatelor

Modelele cognitive ale anxietății (Beck, 1985; Williams, 1988), subliniază rolul pe care prelucrările preatenționale ale stimulilor emoționali îl au în declanșarea și menținerea tulburărilor anxioase. Din perspectiva paradigmei conexioniste (Cohen, 1990), atenția este echivalentă cu gradul de activare al unităților cognitive, deci alocarea resurselor atenționale spre un anumit stimul semnifică activarea unităților ce codifică stimulul respectiv.

Rezultatele obținute, arată o legătură între rapiditatea encodării și anxietate, subiecții neanxioși encodând mai rapid decât cei anxioși. Acest fapt este în acord cu rezultatele unor studii ce dovedesc o accelerare a procesării în cazul unei stări afective pozitive (Isen, Means, 1983; Wegener, Petty, 1995). Latența mai ridicată a encodării apărută la subiecții anxioși, pentru detalii negative, se poate explica pe baza modelului rețetelor cognitiv-afective (Bower, 1981; Forgas, 1987), ce postulează o procesare prioritară a informațiilor congruente cu o anumită dispoziție afectivă.

În cazul elaborării judecăților, timpul de latență mai redus al judecăților negative la subiecții anxioși, respectiv pozitive la cei neanxioși, se poate explica pe baza unui rest de activare al unităților cognitive ce codifică cele două tipuri de informație. Acest rest de activare superior al unităților ce codifică stimulii negativi la subiecții anxioși, provine din activitatea repetată la aceștia a unor asociații amenințătoare. În termenii modelului conexionist al formării impresiei, prezentat, observarea unei anumite caracteristici va activa preponderent, pe baza conexiunilor existente, unitățile care posedă deja un rest de activare ridicat. Acest fapt va determina structurarea unei imagini negative, pe baza informațiilor activate.

Rezultatele obținute în cazul reactualizării informațiilor sunt în

acord cu modelele ce susțin o asociere între anxietate și procesările preatenționale, respectiv depresie și procesările strategice (Williams, 1988). O explicație particulară a rezultatelor se bazează pe ipoteza unei prelucrări semantice insuficiente a stimulilor, fapt ce va trebui însă verificat într-un studiu viitor.

Procesele emoționale reprezintă deci, un factor extrem de important, ce modulează structurarea informațiilor în cadrul percepției sociale. În plus, având în vedere ponderea pe care formarea impresiei o deține în diverse domenii (juridic, politic, selecția și evaluarea personalului, etc.), decelarea și controlul factorilor perturbatori va constitui o temă de mare interes pentru cercetarea psihologică a secolului XXI.

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STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA - PAEDAGOGIA, XLI, 1-2, 1996

MEMORIA IMPLICITĂ — CARIFICARI TEORETICO-METODOLOGICE ŞI IMPLICAŢII PRACTICE

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ABSTRACT. Implicit Memory — Conceptual and Methodological Explanations and Practical, Implications. Implicit / explicit memory distinction is most vigorously explored topic in current memory research. There are two main paradigms concerning this distinction: 1. Retrieval Intentionality Criterion (RIC); 2. Process Dissociation Procedure (PDP). According to RIC, implicit explicit memory distinction is a distinction between unintentional / intentional memory. There are two kinds of implicit memory (Graf & Komatsu, 1964; Komatsu, Graf 1995): 1). unintentional with awareness of targets prior study list occurrence; 2) unintentional without awareness of targets prior study list occurrence. Explicit memory in intentional with awareness of targets prior study list occurrence. According to PDP, implicit / explicit memory is a distinction between non awareness / awareness memory. PDP placed implicit and explicit forms of memory in opposition so, as to mathematically separate the two components within a taks (Toth, Reingold & Jacoby 1994, 1995). The problem is the relation between non awareness / awareness distinction and unintentional / intentional distinction. In other words, what does awareness in implicit memory test mean? Graf considers that awareness of targets prior study list occurence in implicit memory test is another kind of implicit memory that is unintentional with awareness of targets prior study list occurrence. Jacob, considers that awareness of targets prior study list occurrence in implicit memory test is an explicit (controlled or intentional) contamination. Jacoby doesn't belive in existence of unintentional memory with awareness seeing it to be a phenomenology of remembering rather than an underlying process of memory retrieval. In our experiment we try to: 1 — to demonstrate that unintentional memory with awareness exists and PDP can not measure it; 2 — to study the LOP effect on unintentional memory with awareness; 3 — to discuss some conceptual and methodological problems concerning implicit memory concept.

Moto: „Precizaţi-vă termenii când discutaţi cu mine"

Voltaire

1. Introducere

Orice cercetare ştiinţifică se realizează în cadrul unei paradigme. O paradigmă constă într-un set de cunoştinţe şi modele de cercetare care ghidează activitatea ştiinţifică în cadrul unei discipline. Acest set de cunoştinţe şi modele de cercetare nu poate fi testat experimental, astfel că el nu este corect sau incorect, ci doar util sau inutil. Paradigma are

atât influenţe pozitive cât şi negative asupra activităţii de cercetare (Kuhn, 1976). Influenţele pozitive sunt exprimate de faptul că aceasta evaluează riguros noile prestaţii ştiinţifice, elimină idiosincraziile inutile în căutarea problemelor şi a metodelor de cercetare, educă noii cercetători în spiritul unei paradigme care a dus la succes, etc. Influenţele negative apar ca o consecinţă a faptului că paradigma, prin constrângerile pe care le impune, duce la neglijarea sistematică a unor fenomene semnificative pentru domeniul studiat, primeşte cu reticenţă descoperirea, favorizează stereotipuri teoretico-metodologice, etc. (Kuhn, 1976; Miclea, 1994).

Aceste consideraţii sunt valabile şi în cazul cercetărilor asupra memoriei sistemului cognitiv uman. Tradiţia de cercetare ca urmare a succeselor obţinute de Ebinghaus în cercetarea memoriei are ca nucleu tare următoarele asumpţii teoretico-metodologice: 1) itemii care se utilizează în probele de memorie sunt predominant de natură verbală sau imagistică (silabe fără sens, litere, cuvinte, fotografii, etc.); 2) evaluarea acurateţei memoriei se realizează prin teste de recunoaştere şi reproducere. Această opţiune teoretico-metodologică şi-a adus un aport serios la îmbogăţirea cunoştinţelor noastre despre memorie dar nu acoperă întreaga complexitate a acesteia. Spre exemplu este foarte greu să verbalizăm, să recunoaştem sau să reproducem, regulile gramaticale pe care le-am utilizat în generarea unei expresii lingvistice. Aceste cunoştinţe sunt implicite, nonconştiente, greu verbalizabile; ele se evidenţiază indirect prin modul în care influenţează comportamentul (David, 1995).

Pornind de la aceste considerente Graf & Schacter (1985) propun distincţia între memoria explicită şi memoria implicită. Memoria explicită presupune reactualizarea intenţionată sau conştientă în faza de test a informaţiei pe care un subiect a achiziţionat-o în faza de studiu. Ea este evaluată cu teste explicite de memorie (recunoaştere sau reproducere) şi înglobează tradiţia începută de Ebinghaus în studiul memoriei. Memoria implicită se referă la acele situaţii în care informaţia achiziţionată în faza de studiu influenţează performanţa în faza de test fără o reactualizare intenţionată sau conştientă a acestei. Evaluarea memoriei implicite se realizează indirect prin efectul pe care acesta îl are asupra comportamentului.

Termenul de memorie implicită în accepţiunea de mai sus acoperă un domeniu heterogen incluzând mai multe tradiţii de cercetare: 1) percepţie implicită; 2) învăţare implicită; 3) amorsajul. Nucleul tare îl constituie însă amorsajul, în literatura de specialitate termenul de memorie implicită desemnând în special acest fenomen. Pentru a înţelege fenomenul de amorsaj prezentăm mai jos aparatul conceptual utilizat. Orice stimul care este prezentat mai întâi pentru a influenţa anumite procese de prelucrare informaţională ulterioare se numeşte amorsă. Stimulul ce urmează amorsei şi a cărui procesare este influenţată de aceasta se numeşte ţintă. Influenţa amorsei asupra ţintei poate fi pozitivă adică facilitează procesarea acesteia sau negativă, inhibă procesarea ţintei. Distanţa temporală dintre amorsă şi ţintă poartă numele de SOA (stimulus oneset

asyncrony). Dacă amorsa şi stimulul ţintă sunt stimuli identici vorbim de amorsaj repetitiv (repetition priming). Dacă amorsa şi ţinta sunt stimuli diferiţi vorbim de amorsaj semantic (semantic priming). Amorsajul repetitiv este obiectul preferat de studiu al cercetărilor ce investighează memoria sistemului cognitiv uman. Termenul de amorsaj repetitiv se foloseşte pentru a descrie fenomenul de facilitare a prelucrării unui stimul ca urmare a experienţei noastre anterioare cu stimulul respectiv. Uriaşe resurse financiare şi de timp sunt alocate studierii acestui domeniu, miza constituind-o aplicaţiile posibile în psihodiagnostic, psihologie clinică, psihoterapie şi psihologie juridică (vezi discuţii 5).

Studiul de faţă aduce câteva clarificări teoretico-metodologice vizând memoria implicită (amorsajul repetitiv) printr-o abordare la nivel teoretic şi experimental.

2. Paradigme de studiu ale memoriei implicite

Există două paradigme de studiu a memoriei implicite 1) paradigma criteriului reactualizării intenţionale (retrieval intentionality criterion — RIC); 2) paradigma de disociere a proceselor (process dissociation paradigm — PDP).

2.1. Paradigma criteriului reactualizării intenţionate (reprezentanţi Schacter, Graf, Roediger, etc.)

2.1.1. Nucleul tare

RIC a pus bazele, a asistat şi a orientat dezvoltarea cercetărilor asupra memoriei implicite. Distincţia memorie implicită/memorie explicită este în fapt o distincţie memorie neintenţionată/memorie intenţionată (Graf & Komatsu, 1994).

Memoria implicită este un termen ce semnifică faptul că experienţa anterioară (informaţia achiziţionată în faza de studiu) influenţează performanţa într-o sarcină (faza test) care nu cere o reactualizare intenţionată a acelei experienţe. Avem două tipuri de memorie implicită: 1) neintenţionată cu conştientizare; 2) neintenţionată fără conştientizare (Graf & Komatsu, 1994; Komatsu, Graf & Uttl, 1995). În cazul memoriei *implicite cu conştientizare* subiectul conştientizează[1] faptul că unele informaţii pe care le-a utilizat neintenţionat, nedeliberat pentru rezolvarea fazei test au fost prezentate în faza de studiu. În cazul *memoriei implicite fără conştientizare* subiectul, deşi utilizează neintenţionat informaţia din faza de studiu pentru rezolvarea fazei test, nu conştientizează acest lucru.

Memoria explicită este un termen ce semnifică faptul că experienţa anterioară influenţează performanţa într-o sarcină care cere o reactualizare intenţională a acelei experienţe.

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[1] Înţelegem prin „conştientizare" că subiectul poate declara verbal atât conţinutul informaţional cât şi faptul că acest conţinut aparţine fazei de studiu.

Operațional distincția memorie implicită memorie explicită se realizează prin instrucția de reactualizare. În probele de memorie implicită se cere subiecților să rezolve sarcina din faza test fără ca experimentatorul să facă referire la faza de studiu; se scontează pe o influență neintenționată a informației din faza de studiu în faza de test. În probele de memorie explicită se cere subiecților să rezolve faza test utilizând informația din faza de studiu.

2.1.2. Probe de evaluare a memoriei implicite

Probele de evaluare a memoriei implicite se clasifică după natura amorsei în două mari categorii: 1) probe implicite perceptuale: 2) probe implicite conceptuale (Graf, Ryan, 1990; Roediger, 1990; Tulving, Schacter 1990).

Probele implicite perceptuale se adresează sistemului perceptiv. Stimulii care au apărut în faza de studiu, sau părți ale acestora (ex. rădăcini de cuvinte) apar identic, cu aceleași caracteristici fizice în faza test. Trei sunt cele mai utilizate probe a) completarea rădăcinilor de cuvinte; b) completarea fragmentelor de cuvinte; c) identificarea perceptivă.

Completarea rădăcinilor de cuvinte — proba presupune două faze: faza de studiu și faza de test. În faza de studiu subiecților li se prezintă o listă de cuvinte pe care aceștia o pot prelucra la diferite nivele: fizic, fonologic și semantic. În faza de test subiectul primește rădăcini ale unor cuvinte (unele prezentate în faza de studiu, altele noi — în proporție egală) ex. — „CAR"; „MA"; având sarcina de a completa cu primul cuvânt cu sens ce le vine în minte. S-a observat că subiecții au tendința de a completa rădăcinile de cuvinte astfel încât să rezulte cuvinte prezentate în faza de studiu, deși nu fac intenționat acest lucru.

Completarea fragmentelor de cuvinte — proba se aseamănă cu „completarea rădăcinilor de cuvinte" dar în faza test nu se prezintă rădăcini de cuvinte, ci cuvinte fragmentare ex. — „C R"" pentru carte; „M A" pentru masă, etc.

Identificare perceptivă — proba a fost propusă ca test implicit de Jacoby & Dallas (1981). Subiecților li se prezintă cu timp de expunere foarte scurt (25—30 ms) cuvinte pe care aveau sarcina să le identifice (faza test). Proporția răspunsurilor corecte este mai mare pentru cuvintele care au fost prezentate în faza de studiu în comparație cu cuvintele care nu au fost prezentate în această fază.

Probele implicite conceptuale fac apel la cunoștințe conceptuale legate de itemii din faza studiu fără a implica sistemul perceptiv (Gellatly, Parker, Blurton, Woods, 1994). Trei sunt cele mai frecvent utilizate: a) target word generations (generarea de cuvinte țintă); b) sarcina cuvintelor omofone; c) completare de propoziți.

Generarea de cuvinte țintă. În literatura se utilizează următoarea probă: în faza de studiu subiecții examinează o listă de cuvinte care con-

ține alături de alți stimuli verbali exemplare ale unor categorii țintă. Aceste exemplare au o frecvență mică de utilizare în limbaj. În faza test, când subiecților li se cere să genereze exemplare ale categoriilor tinta, probabilitatea de a utiliza itemii din faza de studiu este mai mare pentru lotul experimental care a studiat lista în comparație cu subiecții care nu au examinat lista din faza de studiu (lot de control).

Sarcina cuvintelor omofone — Jacoby & Witherspoon (1982) elaborează o probă ce utilizează cuvinte omofone (se pronunță la fel dar se scriu diferit). Ele au o frecvență de utilizare diferită în limbaj. În faza de studiu subiecților li se solicită să răspundă la întrebări ce conțin cuvântul din perechea omofonă cu frecvența de utilizare cea mai mică. În faza test subiecții au sarcina de a alege forma grafică pentru cuvintele omofone prezentate auditiv. Amorsajul se manifestă prin faptul că subiecții aleg forma grafică a cuvântului cu frecvența cea mai mică din cadrul perechii omofone, dar prezentată anterior în faza de studiu.

Completarea de propoziții — Unii autori utilizează ca test implicit conceptual următoarea probă: în faza de studiu subiecții examinează o listă de cuvinte, iar în faza test sunt rugați să completeze propoziții lacunare. Deși propoziția permite mai multe variante de completare, subiecții preferă cuvintele din faza de studiu deși acestea au frecvență de utilizare mică în limbaj.

Studiile experimentale care au utilizat aceste probe s-au concretizat într-o mulțime de regularități ce guvernează rezultatele obținute prin utilizarea lor. Unele din aceste regularități sunt bine verificate, în timp ce altele sunt susținute de date teoretico-experimentale relativ puține. Vom prezenta în continuare acele regularități care au primit o confirmare experimentală sistematică.

2.1.3. *Regularități*[2] *ale amorsajului repetitiv*

Testele implicite perceptuale sunt afectate de caracteristicile de suprafață ale stimulilor utilizați, mai precis de corespondența între caracteristicile fizice ale stimulilor din faza de studiu și ale stimulilor din faza test (Schacter & Graf, 1986; Roediger & Blaxton 1987; etc.). Amorsajul evaluat din probe implicite perceptuale este mai redus când modalitatea senzorială de prezentare a stimulului în cele două faze (studiu și test) este diferită (ex. vizual/auditiv etc.; Graf, Shimamura & Squire, 1985; Jacoby & Dallas, 1981; Kirstner, Milech & Standen, 1983, Kristner & Smith 1974);). În cazul sarcinii de identificare perceptiv-vizuală amorsajul nu se manifestă absolut deloc în condițiile schimbării modalității senzoriale, a stimulilor din faza de studiu și faza test (Jacoby & Dallas 1981). Pentru probele de completare a rădăcinilor de cuvinte și comple-

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[2] În literatura de specialitate nu apar sub această titulatură, ci sub formă de „date teoretico-experimentale". Acest tip de „clasificare" servește însă scopului acestei lucrări.

țare a fragmentelor de cuvinte amorsajul, deși mai redus, este totuși prezent și în aceste condiții.

În cadrul aceleiași modalități senzoriale, amorsajul este mai redus când se schimbă caracteristicile de suprafață ale stimulilor — litere de tipar în faza de studiu — litere de mână în faza test etc. — (Roediger & Blaxton, 1987). Dacă în faza de studiu stimulii sunt prezentați verbal, iar în faza test sub formă de imagini, nu apare amorsajul (Weldon & Roediger, 1987). Amorsajul nu se realizează de la un limbaj la altul — limba engleză în faza de studiu — limba română în faza test — (Watkins & Peynisciogiu, 1983).

Testele implicite perceptuale nu sunt afectate de nivelul de procesare (LOP — level of processing) al informației din faza de studiu (Graf & Mandler, 1984; Jacoby, 1983; Schacter, 1987; etc.).

Sarcina identificării perceptive a stimulilor vizuali (visual perceptual identification) nu este influențată absolut deloc de nivelul procesării informației (LOP). Proba de completare a rădăcinilor de cuvinte și proba de completare a fragmentelor de cuvinte sunt într-o măsură mică afectate de LOP (Challs & Brodbech, 1992; Squire, Shimamura & Graf, 1987)

Amorsajul persistă și după un SOA mare — ore, zile — (Jacoby & Dallas, 1981; Tulving, Schachter & Stark, 1982; etc.)

În testele implicite perceptuale nu se manifestă interferența proactivă și retroactivă (Graf & Schacter, 1987; Sloman, Hayman, Ohta & Tulving 1988; etc.).

Performanța în testele implicite perceptuale nu corelează cu rezultatele în testele explicite de recunoaștere și reproducere (Eich, 1984; Graf & Schacter, 1985; Jacoby & Witherspoon, 1982). Testele implicite conceptuale și testele explicite violează toate regulile stabilite și amintite anterior în cazul testelor implicite perceptuale (Roediger 1990; Gellatly, Parker, Blurton & Woods, 1994; etc.)

2.1.4. Teorii explicative ale amorsajului repetitiv

Pentru a explica performanțele în probele de memorie implicită s-au propus mai multe teorii. Trei au reușit să se impună, supraviețuind examenului experimental: 1) teoria activării; 2) teoria procesării; 3) teoria sistemelor.

Teoria activării. Conform acestei teorii, prezentarea unor stimuli în faza de studiu duce la o activare automată a reprezentărilor acelor stimuli în sistemul nostru cognitiv (Graf & Mandler, 1984). Această activare, care durează de la câteva secunde la câteva minute, susține performanța în probele de memorie implicită; probele de memorie explicită reclamă procesări mai laborioase, dincolo de simpla activare automată a unor reprezentări preexistente. Nucleul tare al teoriei generează trei predicții testabile: a) independența probelor de memorie implicită de nivelul de procesare a stimulilor din faza de studiu; b) durata scurtă a amorsajului; c) amorsajul este constrâns de reprezentările preexistente în sistemul cognitiv. Aceste predicții au primit doar o confirmare parțială: unele probe de memorie implicită, atât conceptuale cât și perceptuale, sunt afectate de

LOP (Brown & Mitchel, 1994); amorsajul poate dura o perioadă lungă (săptămâni/luni — Jacoby & Dallas, 1981); amorsajul apare și în cazul unor stimuli pentru care nu avem reprezentări preexistente (Graf & Schacter, 1985).

Teoria transferului de proceduri similare (TPS). Se face distincție între analiza ascendentă și analiza descendentă (Miclea, 1994). Analiza ascendentă este inițiată de stimulii din mediu și nu este influențată de LOP, iar analiza descendentă este inițiată de baza de cunoștințe a subiectului și este influențată de LOP. Principalele asumpții ale teoriei sunt: 1) testele de memorie depind de gradul în care prelucrările informaționale din faza de test se suprapun peste prelucrările informaționale din faza de studiu, în sensul că, cu cât această suprapunere este mai mare, cu atât performanța în probă este mai mare; 2) probele de memorie implicită perceptuală sunt susținute de analiza ascendentă, iar cele de memorie explicită și memorie implicită conceptuală de analiza descendentă în faza test. Deși mai elaborată ca teoria activării, nici TPS nu poate justifica experimental independența memoriei implicite perceptuale de LOP, predicție ce derivă din nucleul ei tare. De asemenea nu se explică de ce reactualizarea bazată pe analiză ascendentă este nonintenționată și/sau nonconsistentă, iar reactualizarea bazată pe analiză descendentă ar fi în principal conștientă și sau intenționată.

Teoria sistemelor. Memoria implicită și memoria explicită sunt sisteme mnezice diferite. Vorbim de sisteme mnezice diferite atunci când: 1) susțin comportamente și prelucrări informaționale diferite; 2) funcționează după legi diferite; 3) au substrat neurofiziologic diferit; 4) din punct de vedere filogenetic și ontogenetic apar în perioade de timp diferite; 5) modul cum este reprezentată informația diferă. Altfel spus, un sistem mnezic este definit prin substratul său neurofiziologic, tipul de procesări informaționale pe care le realizează și legile după care funcționează. Comparând memoria implicită și memoria explicită prin prisma acestor criterii (vezi tabelul 1), se poate susține teza că ele sunt sisteme mnezice diferite.

Tabel 1

Comparație între memoria implicită și memoria explicită în funcție de criteriile ce definesc un sistem mnezic

Criterii	Memorie implicită	Memorie explicită
1. Tip de prelucrări informaționale	Predominant perceptuale	Predominant conceptuale
2. Legi de funcționare	vezi 2.1.3.	vezi 2.1.3.
3. Substratul neuronal	Neocortexul posterior	Structurile limbic-diencefalice în special hipocampusul (recunoaștere), cortexul cingulat și lobii frontali în zona dorso laterală, ventro-medială (reproducere)
4. Filogenetic și ontogenetic	Mai veche	Mai recentă
5. Reprezentarea informației	Se exprimă indirect în comportament	Se exprimă direct în comportament

Cunoștințele pe care le avem în momentul actual despre memoria implicită sunt extrem de heterogene, provenind din sarcini tot atât de heterogene. În consecință, este extrem de puțin probabil ca o teorie dintre cele descrise mai sus să poată justifica în mod exhaustiv imensul bagaj de rezultate experimentale. Dar și a rămâne la teza că fiecare teorie explică doar o parte din datele experimentale și în consecință este necesară o abordare „globală și integraționistă" este un truc ieftin și comod, dar dăunător științei. Știința trebuie să fie cumulativă, dură, fără compromisuri și concesii; singurul ei scop trebuie să fie progresul teoretic și metodologic cu implicații practice de anvergură. În consecință, în acord cu orientarea principală din literatura de specialitate, considerăm că teoria sistemelor este cea mai bine articulată fiind fundamentată și de date riguroase de neuropsihologie. În fapt ea înglobează TPS (vezi primul criteriu pentru definirea unui sistem mnezic — orice sistem operează prin intermediul unor prelucrări informaționale) nefiind în contradicție cu acesta. Mai mult, teoria sistemelor poate face față criticilor aduse TPS. Astfel, influența LOP asupra unor probe implicite perceptuale este explicată de faptul că sistemul mnezic implicit are predominant și nu exclusiv prelucrări perceptuale. La a doua obiecție adusă TPS se răspunde că reactualizarea bazată pe analiză ascendentă este nonintenționată și/sau nonconștientă, iar reactualizarea bazată pe analiză descendentă este intenționată și/sau conștientă, datorită faptului că sisteme diferite susțin tipuri de reprezentări diferite, iar reprezentările diferite determină caracteristici diferite ale informației reactualizate. Diferența între cele două teorii majore (teoria sistemelor TPS) rezidă, la o examinare atentă, în nivelul de analiză pe care-l favorizează. TPS, pe linia psihologiei cognitive, aprofundează mai ales tipul de procesări informaționale ce diferențiază memoria implicită de memoria explicită și legile după care acestea se realizează. Teoria sistemelor aprofundează substratul neuronal și modul în care disfuncții la acest nivel justifică performanța în probele de memorie implicită/memorie explicită. Pentru a se impune definitiv, teoria sistemelor va trebui în viitorul apropiat să abordeze și să clarifice problema memoriei implicite conceptuale. Sistemul de memorie implicită postulat de teoria sistemelor se referă în special la memoria implicită perceptuală. Este memoria implicită conceptuală un sistem mnezic distinct de memoria implicită perceptuală și de sistemul explicit, sau este doar o formă specială de reprezentare a informației în sistemul mnezic explicit? (vezi tabelul 1). Deși datele din literatura de specialitate sugerează viabilitatea ultimei ipoteze, ea încă nu are o confirmare experimentală certă și de aceea orientarea cercetărilor în această direcție este fundamentală, implicațiile teoretice și practice fiind evidente pentru neuropsihologie și intervențiile de neurochirurgie. În ceea ce privește teoria activării, aceasta este într-un regres evident, datele teoretico-experimentale violând sistematic nucleul ei tare. În consecință, nu mai merită investit timp și bani în această direcție.

2.1.5. Evaluare

Paradigma RIC a pus bazele studiului memoriei implicite, orientând cercetările spre acest domeniu. Cu toate acestea, în ultima perioadă s-au adunat o serie de critici la adresa asumpțiilor fundamentale și a metodologiei paradigmei RIC. Cele mai viabile obiecții sunt următoarele: 1) probele de memorie implicită în paradigma RIC evaluează de fapt efectul cumulat a două tipuri de memorie implicită, cu conștientizare și fără conștientizare; deoarece cele două tipuri de memorie implicită ar putea răspunde diferit la manipulările experimentale, cunoștințele pe care le-am dobândit prin utilizarea acestor probe reprezintă doar o tendință generală a unui amestec nefericit de efecte experimentale; 2) probele de memorie implicită în paradigma RIC pot fi ușor contaminate explicit deoarece efectul memoriei implicite și al memoriei explicite acționează în aceeași direcție, iar subiectului nu i se interzice explicit prin instrucția de reactualizare utilizarea intenționată a experienței anterioare în sarcinile implicite. Luând în considerare aceste critici se simte nevoia unei schimbări de paradigmă în abordarea memoriei implicite. Jacoby (1991) propune o nouă abordare „paradigma de disociere a proceselor" care dorește să depășească criticile aduse paradigmei RIC.

2.2.2 Paradigma de disociere a proceselor (Process Dissociation Paradigm — PDP — reprezentanți: Jacoby, Toth, Reingold)

2.2.1. Nucleul tare

În cadrul acestei paradigme distincția memorie implicită memorie explicită este o distincție între memoria nonconștientă memoria conștientă. Memoria implicită este un termen ce semnifică faptul că experiența anterioară influențează performanța într-o sarcină fără ca noi să conștientizăm acest lucru. Memoria explicită este un termen ce semnifică faptul că atunci când experiența anterioară este utilizată pentru a rezolva o sarcină din faza de test, noi conștientizăm acest lucru. Operațional, distincția între memoria implicită / memoria explicită se face prin procedura de disociere a proceselor (PDP*). Dacă în RIC efectul memoriei implicite și al memoriei explicite acționau în același sens, în PDP ele sunt puse în opoziție și separate matematic. Prin această procedură se evită contaminarea explicită a probelor implicite și invers.

2.2.2. Probe de evaluare a memoriei implicite

Vom exemplifica PDP pentru proba de completare a rădăcinilor de cuvinte. Menționăm că ea poate fi generalizată la toate probele de memorie implicită utilizate în RIC. PDP* are două faze: 1) faza de studiu; 2) faza test. Faza de studiu se identifică cu cea utilizată în RIC și poate

consta într-o prelucrare la nivele diferite a unei liste de cuvinte. Faza de test este însă diferită. Ea constă în două condiții:
a) excludere; b) includere. În condiția excludere se cere subiecților să completeze rădăcinile unui cuvânt astfel încât să nu rezulte cuvinte din faza de studiu. Formal un subiect va completa rădăcina de cuvânt cu un cuvânt din faza de studiu dacă acesta îi vine neintenționat în minte (A) și nu conștientizează (C) că a fost prezent în faza de studiu: A (1-C). În condiția includere se cere subiectului să completeze rădăcinile de cuvinte prezentate astfel încât să rezulte cuvinte din faza de studiu; dacă nu poate realiza acest lucru subiectului i se cere să spună primul cuvânt care îi vine în minte. Formal o rădăcină de cuvânt va fi completată cu un cuvânt din faza de studiu fie deoarece subiectul și-l reamintește conștient (C) fie îi vine neintenționat în minte: C+A (1-C). Combinând rezultatele obținute în cele două condiții se poate evalua efectul memoriei implicite (A) și al memoriei explicite (C).

C = includere-excludere A = excludere / 1-C

(A) reflectă atât amorsajul determinat de faza de studiu (M) cât și amorsajul determinat de experiența cu stimulul respectiv în afara experimentului (B). Jacoby (1991) consideră că efectul lor este aditiv $A = M + B$.

2.2.3. Teorii explicative ale performanței în PDP. Pentru a explica performanța în PDP* s-au produs două teorii 1) independența proceselor implicite și explicite; 2) interdependența proceselor implicite și explicite. Teoria ce susține independența proceselor consideră că memoria implicită și memoria explicită au contribuții independente în PDP*. Teoria ce susține interdependența proceselor este fundamentată de modelul „generat / recunoscut", (generate / recognize model). Conform acestui model, un item este generat automat, implicit, iar apoi încercăm să recunoaștem explicit dacă itemul a fost prezentat sau nu în faza de studiu. Procedura formală a PDP* se bazează pe independența proceselor. Cum se poate verifica experimental viabilitatea acestei teorii raportată la modelul generat / recunoscut? Dacă memoria implicită și memoria explicită au contribuții independente la performanță în PDP* atunci modificând efectul uneia nu trebuie să afectăm efectul celeilalte. Într-o serie de experimente (Jacoby, 1991), în care s-au manipulat variabile ca: atenția, lungimea listei de cuvinte în faza de studiu, timpul scurs între faza de studiu și faza test, vârsta, LOP — variabile ce afectează memoria explicită — efectul memoriei implicite a rămas constant. Teoria independentă proceselor a fost astfel confirmată experimental.

2.2.4. Evaluare. PDP a fost prezentată de susținătorii acesteia ca o schimbare de paradigmă în studiul memoriei implicite. Paradigmele însă mor greu iar lupta între paradigme antrenează pe lângă efort intelectual orgolii și ambiții personale. Criticile care s-au adus PDP reflectă această stare de fapt. *Prima obiecție* este că PDP nu evaluează procesele evaluate de RIC; răspunsul este că nici nu își propune acest lucru. *A doua*

obiecție se referă la faptul că PDP este extrem de complexă, ceea ce restrânge domeniul ei de aplicare (ex. amnezicii înțeleg greu instrucția PDP); implementarea experimentală contrazice această obiecție. *A treia obiecție* critică faptul că PDP consideră că (C) și (A) au valoare constantă în cele două condiții; răspunsul este că PDP se aplică doar atunci când această condiție se respectă. *A patra obiecție* se adresează faptului că PDP se bazează pe teoria independenței proceselor și nu pe modelul general recunoscut; rezultatele experimentale susțin însă teoria independenței proceselor.

În concluzie putem afirma că PDP se impune ca o alternativă viabilă la RIC în studiul memoriei implicite, tot mai mulți cercetători preferând PDP în studiile lor experimentale deși există încă semne de întrebare față de unele asumpții pe care aceasta se fundamentează; ele vor fi probabil clarificate în viitorul apropiat.

3. Controverse teoretico-metodologice vizând memoria implicită

Deși este un domeniu de cercetare relativ nou, problematica memoriei implicite nu este lipsită de controverse și confuzii. Aceste controverse sunt orientate pe două mari direcții: 1) circumscrierea conceptuală a termenului de memorie implicită cu implicații directe asupra metodologiei utilizate în evaluarea acesteia; 2) efectul unor manipulări experimentale (ex. efectul LOP) asupra memoriei implicite.

3.1. Circumscriere conceptual metodologică. În ceea ce privește circumscriere conceptuală a termenului „memorie implicită", există în literatura de specialitate două accepțiuni ale acestui termen, accepțiuni ce corespund celor două paradigme de studiu ale memoriei implicite. Prima accepțiune a memoriei implicite este memoria neintenționată (RIC) Metodologic ea se operaționalizează prin tipul de instrucție ce se dă subiectului în faza test: implicită sau implicită clasică. În *instrucția implicită* subiecților li se cere să rezolve itemii probei fără să se facă referire absolut deloc la faza de studiu (vezi anexa). Bower & Schacter (1990) arată că utilizarea acestui tip de instrucție duce la o masivă contaminare explicită. Aceasta deoarece pe parcursul rezolvării sarcinii din faza test subiecții realizează că aceasta poate fi rezolvată făcând apel la faza de studiu. Neinterzicându-le explicit apelul la informația din faza de studiu pentru a rezolva sarcina din faza test, unii subiecți recurg la acest procedeu. În *instrucția implicită clasică* subiecților li se cere să rezolve sarcina din faza test spunându-li-se că informația din faza de studiu ar putea să-i influențeze pozitiv însă să nu încerce să utilizeze intenționat această informație (vezi anexa). A doua accepțiune a memoriei implicite este cea de memorie nonconștientă. Metodologic ea se operaționalizează prin PDP, RIC evaluează efectul cumulat al memoriei implicite conștientizate și al memoriei implicite neconștientizate, plus în cazul instrucției implicite efectul contaminării explicite. PDP evaluează efectul memoriei implicite neconștientizate; această

deoarece angajamentul teoretic al autorilor PDP (Jacoby, 1991) nu recunoaște existența memoriei implicite cu conștientizare considerând-o doar o fenomenologie a reactualizării, nu un proces real. Pentru autorii PDP orice conștientizare a informației din faza de studiu în faza test a probelor de memorie implicită este doar o contaminare explicită. La o analiză atentă se poate afirma că PDP și RC se află în opoziție datorită modului în care este interpretată relația între intenționat și conștient. Ambele paradigme consideră că *tot ce este intenționat este și conștient* iar tot ce este nonconștient este de asemenea nonintenționat. Divergența apare când PDP argumentează că și relația inversă *tot ce este conștient este și intenționat* este adevărat. RIC consideră că aceasta afirmație este falsă; există o formă de reactualizare neintenționată a informației în memorie care este însă însoțită de conștientizarea sursei informației respective. Această idee negată de PDP și care suscită controverse serioase în literatura de specialitate va fi verificată experimental pe parcursul acestui articol.

3.2. Influența LOP asupra memoriei implicite: o metaanaliză calitativă.

Conceptul de LOP a fost introdus de Craik & Lockhart (1972), referindu-se la faptul că procesarea unui stimul este cu atât mai adâncă cu cât se trece de caracteristicile sale fizice spre cele semantice. Craik & Lockhart au propus existența a trei nivele de procesare: 1) perceptiv; 2) verbal; 3) semantic. Se consideră însă că numărul de nivele de procesare este mult mai mare, dar identificarea lor exactă este îngreunată datorită ambiguității termenului. Cercetările vizând memoria explicită și LOP arată că, cu cât LOP este mai mare cu atât performanța în probele de memorie explicită este mai mare (Craik & Lockhart, 1972; Craik & Tulving, 1975; Lockhart & Craik, 1990). O adâncire a LOP însă nu afectează performanța în probele de memorie implicită (Craik & Tulving, 1975; Jacoby & Dallas, 1981). Cercetări ulterioare au dus la nuanțarea acestor concluzii. Mai precis probele implicite perceptuale nu sunt afectate de LOP (adâncirea LOP duce la creșterea performanței). Lucrurile au mers și mai departe, ajungându-se la concluzia că unele probe implicite perceptuale nu sunt afectate de LOP (ex. identificarea perceptivă) în timp ce altele pot fi afectate de LOP (ex. completarea rădăcinilor de cuvinte). Confuzia să fie totală, există controverse vizând efectul LOP chiar asupra aceleiași probe de memorie implicită pedceptuală (ex. completarea rădăcinilor de cuvinte). O metaanaliză calitativă a studiilor ce au evaluat efectul LOP asupra probei implicite perceptuale — completarea de rădăcini de cuvinte — susține ideea de mai sus. (vezi tabelul 2).

Într-o metaanaliză cantitativă vizând efectul LOP asupra probelor de memorie implicită Brown & Mitchell (1994) confirmă tabloul prezentat de noi. Prelucrând 166 de rezultate experimentale provenite din 38 de studii, în 21% din cazuri manipularea LOP nu a afectat performanța în probele implicite perceptuale iar în restul cazurilor da.

Tabel 2

Tabel 2. O metaanaliză calitativă vizând efectul LOP în proba implicită perceptuală — completarea rădăcinilor de cuvinte.

Nr. crt.	Nume autori	Anul cercetării	Influența LOP asupra probei implicite perceptive Afectează LOP performanța?
1.	Graf & Mandler	1984	Nu
2.	Graf & Schacter	1985	Nu
3.	Squire & Shinamura	1987	Da (crește LOP, crește performanța)
4.	Chairello & Hoyer	1988	Da (crește LOP, crește performanța)
5.	Roediger & Weldon	1992	Nu
6.	Reingald & Merikle	1991	Da (crește LOP, crește performanța)
7.	Challis & Broadbeck	1992	Da (crește LOP, crește performanța)
8.	Fergus, Craik & Moskowitch	1994	

4. Studiu experimental al memoriei implicite

Studiul experimental al memoriei implicite va fi orientat pe cele două direcții în care există controverse teoretico-metodologice serioase: 1) clarificări conceptual-metodologice; 2) influența LOP asupra memoriei implicite perceptuale.

4.1. *Clarificări conceptual-metodologice.* Problema pe care o punem este următoarea: ce semnificație are conștientizarea informației din faza de studiu, de test în probele de memorie implicită din paradigma RIC. Graf & Komatsu (1994), Komatsu et. al (1995), susțin că acest lucru se datorează unui tip de memorie implicită care este neintenționată dar însoțită de conștientizare. Jacoby (1991), Toth, Reingold & Jacoby (1994, 1995), susțin că această conștientizare este în fapt o contaminare explicită, prin care subiecții utilizează intenționat informația din faza de studiu pentru rezolvarea sarcinii din faza de test.

Logica experimentelor. Pentru a testa experimental predicțiile care derivă din cele două poziții ne bazăm pe paradigma timpului de reacție în studiul proceselor automate versus conștiente (Shiffrin & Schneider, 1987). Shiffrin & Schneider (1978) arată că procesările automate sunt mai rapide decât procesările conștiente; în cazul nostru reactualizarea implicită ar trebui să fie mai rapidă decât reactualizarea explicită (în experimentul 1 argumentăm experimental acest lucru pentru proba de completare a rădăcinilor de cuvinte).

Dacă poziția lui Graf. et. al este corectă, atunci putem face următoarea predicție: timpul de reacție pentru o completare însoțită de conștientizare a rădăcinilor de cuvinte în proba de completare a rădăcinilor de cuvinte nu trebuie să fie semnificativ diferit de timpul de reacție pentru o completare neînsoțită de conștientizare a rădăcinilor de cuvinte în aceeași probă; aceasta deoarece ambele procese sunt automate (neintenționate).

Dacă poziția lui Jacoby et. al este corectă, atunci derivă logic următoarea predicție: timpul de reacție pentru o completare însoțită de con-

ştientizare trebuie să fie mai mare decât timpul de reacţie pentru o completare a rădăcinilor de cuvinte neînsoţită de conştientizare; aceasta deoarecere primul proces este un proces de reactualizare intenţionată, controlat conştient, iar al doilea proces este un proces de reactualizare automată.

EXPERIMENTUL 1

Obiectivul acestui experiment este de a argumenta experimental că reactualizarea implicită este mai rapidă decât reactualizarea explicită în proba de completare a rădăcinilor de cuvinte. Rezultatele obţinute în acest experiment vor sta la baza celorlalte experimente (exp. 2 şi 3) prin care încercăm să testăm predicţiile ce derivă din poziţia lui Graf, respectiv Jacoby.

Metoda, subiecţi şi design. La experiment au participat 30 de subiecţi, studenţi ai Universităţii „Babeş-Bolyai", Cluj-Napoca din anii 1, 2 şi 3 ai secţiei Psihologie; designul experimental este 3 (prelucrare semantică, prelucrare nonsemantică, control) × 2 (reactualizare explicită, reactualizare implicită). Subiecţii au fost distribuiţi aleator în două grupe. Primul grup a completat rădăcinile de cuvinte cu instrucţie implicită clasică (vezi anexa) iar al doilea grup cu instrucţie explicită (vezi anexa). Subiecţii au fost testaţi individual.

Materiale. În faza de studiu am utilizat o listă de 90 de cuvinte (4—5 litere fiecare) cu aproximativ aceeaşi frecvenţă de utilizare în limbaj. Cuvintele au fost împărţite în 3 grupe: 1) pentru prelucrare semantică; 2) pentru prelucrare nonsemantică; 3) de control. În faza de test s-au utilizat rădăcinile acestor 90 de cuvinte (primele 2—3 litere); fiecare rădăcină avea mai multe posibilităţi de completare pentru a rezulta cuvinte de 4—5 litere, cu sens. Atât cuvintele din faza de studiu, cât şi rădăcinile din faza test au fost prezentate auditiv.

Procedura. Experimentul a avut două faze: de studiu şi test. Faza de studiu a fost identică pentru toţi subiecţii şi incidentală în raport cu memoria. Subiecţilor li s-au prezentat două blocuri de cuvinte (fiecare bloc de 30 cuvinte). Primul bloc a fost prelucrat semantic în sensul că subiecţii evaluau pe o scală de la 1 la 7 (1 — foarte plăcut 7 — foarte neplăcut) preferinţa pentru fiecare cuvânt din bloc. Al doilea bloc a fost prelucrat nonsemantic, adică subiecţii trebuiau să spună cât mai repede numărul de vocale pe care îl are fiecare cuvânt din bloc. În faza test s-au prezentat cele 90 rădăcini de cuvinte.

Un grup de subiecţi le-a completat cu instrucţie implicită clasică iar celălalt grup cu instrucţie explicită.

Proporţia şi timpul de reacţie pentru completare rădăcinilor de cuvinte cu cuvinte din faza de studiu sunt prezentate în tabelul 3 pentru fiecare condiţie experimentală. În cazul reactualizării explicite, proporţia de rădăcini de cuvinte completate cu cuvinte din faza de studiu a fost mai mare în condiţia cuvintelor prelucrate semantic decât în condiţia

Tabelul 3

Design experimental al experimentului 1: proporția și timpul de reacție pentru completarea rădăcinilor de cuvinte din faza de studiu

Tipul instrucției de reactualizare	Prelucrare semantică	Prelucrare nonsemantică	Control
Explicită	60% 1,98 sec	50% 2,07 sec	31%
Implicită clasică	53% 0,86 sec	48% 0,79 sec	29%

cuvintelor prelucrate nonsemantic sau de control (ANOVA, F (2,28) = 33,40 iar analiza posthoc arată că toate diferențele între medii sunt semnificative la $p < .01$). În cazul reactualizării implicite, din nou proporția de rădăcini de cuvinte completate cu cuvinte din faza de studiu a fost mai mare în condiția cuvintelor prelucrate semantic decât în condiția cuvintelor prelucrate nonsemantic sau de control (ANOVA unifactorial, $F(2,28) = 31,20$, iar analiza posthoc arată că toate diferențele între medii sunt semnificative la $p < .01$).

Proporția de rădăcini de cuvinte completate cu cuvinte din faza de studiu este mai mare în cazul reactualizării explicite decât în cazul reactualizării implicite pentru cuvintele prelucrate semantic (t (28) =2,28; $p < .01$.) și nu pentru cuvintele prelucrate nonsemantic (t (28) =1,10; $p < 0,1$). Aceste rezultate nu fac decât să confirme încă o dată rezultate experimentale obținute de alți cercetători (Challis & Broadbeck, 1992; Toth et. al, 1994). Ce interesează mai mult în studiul de față este efectul manipulărilor experimentale asupra celei de a doua variabile — timpul de reacție —. Se poate observa în tabelul 3 că timpul de reacție pentru a completa rădăcinile de cuvinte cu cuvinte din faza de studiu în cazul reactualizării explicite este mai mare decât timpul de reacție pentru a completa rădăcinile de cuvinte cu cuvinte din faza de studiu în cazul reactualizării implicite atât în condiția cuvintelor prelucrate nonsemantic (t (28) = 2,70; p < 02)) cât și în condiția cuvintelor prelucrate semantic (t (28) = 2,88; $p < .01$)). Din aceste rezultate experimentale putem trage concluzia că reactualizarea implicită este mai rapidă decât reactualizarea explicită în cazul probei de completare a rădăcinilor de cuvinte.

EXPERIMENTUL 2

Obiectivele acestui experiment sunt: 1) să argumentăm experimental că predicția generată de pe poziția teoretică a lui Graf este adevărată și în consecință memoria neintenționată cu conștientizare este o realitate nu o simplă fenomenologie a reactualizării cum susține Jacoby; 2) să studiezo efectul LOP asupra memoriei neintenționate cu conștientizare. Pentru a realiza obiectivele propuse am introdus o instrucție implicită modificată (vezi anexa) prin care separăm completarea de rădăcini de cuvinte însoțită de conștientizare de completarea de rădăcini de cuvinte neîn-

soţită de conştientizare. Această instrucţie ar putea aduce o contaminare explicită. Pentru a fi siguri că acest lucru nu se întâmplă sau că această contaminare nu este mai mare decât în cazul cercetărilor clasice asupra memoriei implicite performanţa evaluată cu instrucţia implicită modificată trebuie să fie comparabilă cu performanţa evaluată cu instrucţia implicită clasică.

Metoda

Subiecţi şi design. La experiment au participat 30 de subiecţi ai Universităţii „Babeş-Bolyai", Cluj-Napoca (alţii decât cei din experimentul 1). Designul experimental este 3 (prelucrare semantică, prelucrare nonsemantică, control) × 2 (reactualizare implicită, clasică; reactualizare implicită modificată). Pentru detalii vezi experimentul 1.

Materiale. Am utilizat materialele din experimentul 1.

Procedura. Am utilizat procedura din experimentul 1 exceptând instrucţiile de reactualizare; ele pot fi găsite la anexe.

Rezultate şi discuţii.

Tabel 4

Design experimental al experimentului 2; proporţia şi timpul de reacţie pentru completarea rădăcinilor de cuvinte din faza de studiu

Tipul instrucţiei de reactualizare	Prelucrare semantică				Prelucrare nonsemantică				Control
	TR		%		TR		%		
	CC	CFC	CC	CFC	CC	CFC	CC	CFC	
Instrucţie implicită modificată	0,8s	0,78s	11%	41%	79s	0,81s	3%	38%	29%
Instrucţie implicită clasică	0,77s		49%		0,76s		40%		32%

EXPLICAŢII:
TR = timp de reacţie; % = procente; CC = completare cu conştientizare; CFC = completare fără conştientizare

Proporţia şi timpul de reacţie pentru a completa rădăcinile de cuvinte din faza de studiu sunt prezentate în tabelul 4. În cazul instrucţiei implicite modificate, proporţia de rădăcini de cuvinte completate cu cuvinte din faza de studiu a fost mai mare în condiţia cuvintelor prelucrate semantic decât în condiţia cuvintelor prelucrate nonsemantic şi a celor de control (ANOVA unifactorial, F (2,28) = 30, analiza post hoc confirmă faptul că toate diferenţele între medii sunt semnificative la $p < .01$). Deci efectul LOP afectează reactualizarea prin instrucţia implicită modificată. În cazul instrucţiei implicite clasice lucrurile stau la fel ca în cazul instrucţiei implicite modificate (ANOVA unifactorial, F (2,28 = 29,05, analiza post hoc arată că toate diferenţele între medii sunt semnificative la $p < .01$). Deci efectul LOP afectează şi reactualizarea prin instrucţie implicită clasică.

Proporția rădăcinilor de cuvinte completate cu cuvinte din faza de studiu nu este mai mare în cazul instrucției implicite modificate decât în cazul instrucției implicite clasice nici pentru condiția cuvintelor prelucrate semantic (t (28) = 1,60; $p < 0.1$), nici pentru condiția cuvintelor prelucrate nonsemantic (t (28) = 1,52; $p > 0.1$); aceasta înseamnă că instrucția implicită modificată nu aduce o contaminare explicită.

Timpul de reacție pentru a completa rădăcinile de cuvinte cu cuvinte din faza de studiu nu este semnificativ diferit în cazul completării însoțite de conștientizare față de completarea neînsoțită de conștientizare nici în condiția cuvintelor prelucrate semantic (t (14) = 1,20; $p > 0.3$., nici în condiția cuvintelor prelucrate nonsemantic (t (14) = 1,22; $p > 0.30$); aceasta înseamnă că predicția generată de poziția teoretică a lui Graf se confirmă experimental, adică conștientizarea informației din faza de studiu în faza test a probelor de memorie implicită este rezultatul unei reactualizări neintenționate, nefiind vorba despre o contaminare explicită, intenționată cum susține Jacoby.

Proporția de rădăcini de cuvinte completate cu cuvinte din faza de studiu cu conștientizare este mai mare în condiția cuvintelor prelucrate semantic față de condiția cuvintelor prelucrate nonsemantic (t (14) = 2,g0; $p <$. 02); aceasta înseamnă că memoria neintenționată cu conștientizare este afectată de LOP.

Proporția de rădăcini de cuvinte completate cu cuvinte din faza de studiu fără conștientizare nu este semnificativ diferită în condiția cuvintelor prelucrate semantic față de condiția cuvintelor prelucrate nonsemantic (t (14) = 1,10; $p > 0.30$); aceasta înseamnă că memoria neintenționată fără conștientizare nu este afectată de LOP.

EXPERIMENTUL 3

Bowers & Schacter (1990) arată că utilizarea unei instrucții implicite (vezi anexa) în locul unei instrucții implicite clasice duce la o masivă contaminare explicită. Aceasta deoarece subiecții realizează că sarcina din faza test poate fi rezolvată făcând apel la informația din faza de studiu. Instrucția implicită neinterzicându-le acest lucru, subiecții utilizează intenționat informația din faza de studiu pentru a rezolva sarcina din faza test. Dacă logica experimentelor prezentate este corectă și anume reactualizarea implicită este mai rapidă decât reactualizarea explicită atunci timpul de reacție pentru a completa rădăcinile de cuvinte cu cuvinte din faza de studiu în cadrul instrucției implicite trebuie să fie mai mare decât în cazul instrucției implicite clasice; aceasta din cauza contaminării explicite pe care o aduce instrucția implicită.

Metoda

Subiecți și design. La experiment au participat 30 de subiecți ai Universității „Babeș-Bolyai", Cluj-Napoca; designul este 3 (prelucrare semantică, prelucrare nonsemantică, control) × 2 (instrucție implicită, instrucție implicită clasică). Pentru detalii vezi experimentul 1.

Materiale. Am utilizat materialele din experimentul 1.

Procedura. Am utilizat procedura din experimentul 1 exceptând tipul de instrucție; ele pot fi găsite la anexe.

Tabel 5

Design experimental al experimentului 3; proporția și timpul de reacție pentru completarea rădăcinilor de cuvinte cu cuvinte din faza de studiu

Tipul instrucției de reactualizare	Prelucrare semantică	Prelucrare nonsemantică	Control
Instrucție implicită	57% 1,15s	42% 1,20s	26%
Instrucție implicită clasică	47% 0,83s	39% 0,79s	27%

Proporția rădăcinilor de cuvinte completate cu cuvinte din faza de studiu este mai mare în cazul instrucției implicite decât în cazul instrucției implicite clasice doar în condiția cuvintelor prelucrate semantic (t (28)= 3, $p < .01$) și nu în condiția cuvintelor prelucrate nonsemantic ($t(28) = 1.10$, $p > 0.1$).

Timpul de reacție pentru a completa rădăcinile de cuvinte cu cuvinte din faza de studiu este mai mare în cazul instrucției implicite decât în cazul instrucției implicite clasice atât în condiția cuvintelor prelucrate semantic ($t(28) = 2,45$, $p < .05$) cât și în condiția cuvintelor prelucrate nonsemantic ($t(28) = 2,50$, $p < 02$). Ipoteza experimentului este astfel confirmată ceea ce indirect justifică din nou logica experimentelor prezentate și anume că reactualizarea explicită este mai puțin rapidă decât reactualizarea implicită.

4.2. Discuții generale cu referire la clarificările conceptual-metodologice.

Conștientizarea în probele de memorie implicită a informației din faza de studiu în faza test nu înseamnă o contaminare explicită, intenționată în cazul instrucției implicite clasice cum susține Jacoby, ci un alt tip de memorie implicită care este neintenționată dar cu conștientizare (vezi experimentele 1, 2, 3). Această concluzie nu favorizează însă demersul metodologic al paradigmei RIC. Ea evaluează, cum am mai arătat efectul cumulat al memoriei implicite cu conștientizare și al memoriei implicite fără conștientizare; or este posibil ca cele două tipuri de memorie implicită să reacționeze diferit la manipulări experimentale (ex. LOP), ceea ce complică interpretarea rezultatelor. Spre exemplu în experimentul 2 am arătat că memoria implicită cu conștientizare este afectată de LOP, iar memoria implicită fără conștientizare nu este afectată de LOP. În măsura în care manipularea experimentală este LOP iar evaluarea memoriei implicite se face în RIC, interpretarea rezultatelor este extrem de

dificilă, depinzând de efectul dominant al uneia din cele două tipuri de memorie implicită la momentul evaluării. PDP rămâne cea mai indicată metodă pentru a evalua memoria implicită fără conştientizare deoarece separă clar efectul acesteia de efectul cumulat al memoriei implicite cu conştientizare şi al memoriei explicite. Paradigma RIC poate evalua memoria implicită neconştientizată atunci când în faza de studiu avem o procesare nonsemantică sau o prezentare subliminală a stimulilor; în acest caz performanţa evaluată cu RIC şi PDP este aceeaşi (Toth et al. 1994) deoarece valoarea memoriei implicite conştientizate este apropiată de zero. Problema rămâne evaluarea memoriei implicite cu conştientizare. RIC evaluează efectul acesteia cumulat cu efectul memoriei implicite fără conştientizare, iar PDP evaluează efectul acesteia cumulat cu efectul memoriei explicite. O posibilă metodă de evaluare a memoriei implicite cu conştientizare ar fi utilizarea unei instrucţii implicite modificate pentru reactualizare. Pentru a putea fi utilizată, ea trebuie să îndeplinească două constrângeri: 1) proporţia rădăcinilor de cuvinte completate cu cuvinte din faza de studiu trebuie să fie aceeaşi în cazul instrucţiei implicite modificate şi a instrucţiei implicite clasice; 2) timpul de reacţie pentru o completare însoţită de conştientizare a rădăcinilor de cuvinte cu cuvinte din faza de studiu nu trebuie să fie diferit faţă de timpul de reacţie pentru o completare neînsoţită de conştientizare a rădăcinilor de cuvinte cu cuvinte din faza de studiu. Elaborarea unei metode mai simple pentru evaluarea memoriei implicite cu conştientizare este o provocare pentru viitor. Oricum memoria implicită cu conştientizare este extrem de puţin cunoscută, astfel că cercetările viitoare ar trebui să se orienteze preponderent spre această problemă, succesul şi ieşirea din anonimat pentru un cercetător fiind asigurată.

4.3. LOP şi memoria implicită perceptuală; studiu experimental.

Pornim de la ideea că multe controverse vizând efectul LOP asupra memoriei implicite perceptuale se datorează faptului că memoria implicită are o definiţie operaţională diferită la autori diferiţi. Altfel spus, metode de cercetare diferite asupra unui fenomen duc la cunoştinţe diferite şi uneori chiar contradictorii despre acel fenomen.

EXPERIMENT 4

Avansăm ipoteza că LOP va avea efecte diferite asupra memoriei implicite perceptuale evaluată cu proba — completare a rădăcinilor de cuvinte — în funcţie de tipul de instrucţie prin care operaţionalizăm memoria implicită: 1) instrucţie implicită; 2) instrucţie implicită clasică; 3) instrucţie PDP. Pentru a testa această ipoteză propunem un design experimental 3 (instrucţie implicită, instrucţie implicită clasică, instrucţie PDP) × 3 (prelucrare semantică, prelucrare nonsemantică, control).

Metoda

Subiecţi şi materiale. La experiment au participat 60 de subiecţi, studenţi ai Universităţii „Babeş-Bolyai", Cluj-Napoca din anii 1, 2 şi 3 ai secţiei Psihologie. Subiecţii au fost distribuiţi aleator în trei grupe a câte 20 de studenţi fiecare, corespunzând celor trei tipuri de instrucţie. Am folosit ca material o listă de 90 de cuvinte (aceeaşi din exp. 1): 30 pentru LOP nonsemantic, 30 pentru LOP semantic, 30 pentru control (baseline). Cuvintele au aproximativ aceeaşi frecvenţă de utilizare în limba română şi sunt alcătuite din 4 sau 5 litere; ele au fost prezentate auditiv.

Procedura. Experimentul a avut două faze: de studiu şi test. Faza de studiu a fost identică pentru toţi subiecţii şi incidentală în raport cu memoria. Subiecţilor li s-au prezentat două blocuri de cuvinte (fiecare bloc de 30 cuvinte). Pentru LOP nonsemantic (un bloc de 30 de cuvinte) li s-a cerut să precizeze numărul de vocale din fiecare cuvânt; aprecierea s-a făcut contra cronometru pentru a se evita o prelucrare semantică. Pentru LOP semantic (un bloc de 30 de cuvinte) li s-a cerut să aprecieze pe o scală de la 1 la 7 nivelul de preferinţă afectivă pentru fiecare cuvânt (7 — nu îl prefer absolut deloc; 1 — îmi place extrem de mult). Faza test a constat în prezentarea auditivă a 90 de rădăcini de cuvinte (60 din faza test, 30 noi).

Cele trei loturi de subiecţi au primit instrucţii diferite pentru a completa rădăcinile de cuvinte: 1) instrucţie implicită; 2) instrucţie implicită clasică; 3) instrucţie specifică PDP (vezi anexa). Pentru subiecţii cu instrucţia specifică PDP, 15 rădăcini de cuvinte din fiecare bloc au primit instrucţia fazei de excludere iar celelalte 15 instrucţia fazei de includere.

Rezultate. Tabelul 6 prezintă proporţia de rădăcini de cuvinte, completate cu cuvintele critice în fiecare condiţie experimentală; pentru instrucţia specifică PDP s-au utilizat formulele de calcul din 2.2.3.

Tabelul 6

Proporţia de rădăcini de cuvinte completate cu cuvinte critice

Tipuri de instrucţie/ nivel de procesare	Instrucţie implicită	Instrucţie explicită clasică	Instrucţie specifică PDP
Nonsemantic	0.42	0.4	0.43
Semantic	0.58	0.49	0.44
Control	0,26	0.27	0.3

Pentru instrucţia implicită ANOVA unifactorial este semnificativă: F (2,38) = 34,05; analiza post hoc arată că toate mediile sunt semnificative la $p < .01$, adică efectul LOP afectează performanţa în cazul reactualizării implicite.

Pentru instrucția implicită clasică ANOVA unifactorial este semnificativă: F (2,38) = 30,22; analiza post hoc arată că toate mediile sunt semnificativ diferite la $p < .01$, excepând diferența între condiția semantică și nonsemantică care este semnificativă la $p < .05$; aceasta înseamnă că efectul LOP afectează performanța și în cazul reactualizării prin instrucție implicită clasică.

Pentru instrucția specifică PDP, ANOVA unifactorial este semnificativă: F (2,38) = 22,20; analiza post hoc arată că toate mediile sunt semnificative la $p < .01$, exceptând diferența între condiția semantică și condiția nonsemantică care nu este semnificativă ($p > 0.1$); deci efectul LOP nu afectează performanța în cazul reactualizării prin PDP.

Pentru condiția nonsemantică ANOVA unifactorial este nesemnificativă: F (2,58) = 1,20; pentru condiția semantică ANOVA unifactorial este semnificativă; F (2,58) = 28,59; toate mediile sunt semnificative la $p < .01$, exceptând diferența între instrucția implicită clasică și instrucția specifică PDP care este semnificativă la $p < .05$. Pentru condiția de control ANOVA unifactorial este nesemnificativă; F (2,58) = 1,10. Aceasta înseamnă că în cazul în care în faza de studiu avem o prelucrare nonsemantică a informației pentru evaluarea memoriei implicite putem utiliza oricare din cele trei tipuri de instrucție de reactualizare (implicită, clasic implicită, PDP) rezultatele obținute fiind aceleași. Când în faza de studiu avem o procesare semantică a informației, evaluarea memoriei implicite prin cele trei tipuri de instrucție de reactualizare duce la valori diferite; este deci indicat să optăm explicit pentru o definiție operațională a memoriei implicite exprimată prin una din cele trei instrucții de reactualizare (de dorit instrucția implicită clasică sau PDP — vezi discuții).

Discuții. În cazul instrucției implicite o creștere a LOP duce la o creștere a performanțelor în sarcina implicită perceptuală „completare a rădăcinilor de cuvinte". Acest lucru se datorează după Bower & Schacter (1990) unei masive contaminări explicite a probei ca urmare a tipului de instrucție folosit.

În cazul instrucției implicite clasice o creștere a LOP duce la o creștere a performanțelor în sarcina implicită perceptuală „completare a rădăcinilor de cuvinte". Creșterea performanței este totuși mai mică decât în cazul instrucției implicite, această concluzie, deși negată la debutul cercetărilor asupra memoriei implicite (Graf & Schacter, 1985), este astăzi tot mai mult acceptată (Jacoby, 1991). Cum poate fi ea explicată?

Jacoby (1991) o explică tot printr-o contaminare explicită ca în cazul instrucției implicite; această idee nu poate justifica însă performanța diferită în cazul instrucției implicite și a instrucției implicite clasice.

Graf & Komatsu (1994) și Graf (1995) fac distincția între memoria implicită neintenționată cu conștientizare și memoria implicită neintenționată fără conștientizare. Prin instrucția implicită clasică se evaluează efectul cumulat al celor două tipuri de memorie. Experimentele prezentate în 4.1 sugerează ideea că memoria implicită neintenționată cu conștientizare este afectată de LOP. Astfel se poate explica și efectul LOP în cazul instrucției implicite clasice; el este mai scăzut decât în cazul

instrucției implicite deoarece în acest ultim caz se adaugă efectul LOP în performanță mediat de contaminarea explicită.

În cazul instrucției specifice PDP o creștere a LOP nu afectează performanța în cazul sarcinii implicite perceptuale „completare a rădăcinilor de cuvinte".

Coroborând concluziile de mai sus putem afirma că influența LOP asupra sarcinii implicite perceptuale „completare a rădăcinilor de cuvinte" este mediată de tipul de instrucție — operaționalizarea conceptului de memorie implicită perceptuală. Dacă un cercetător operaționalizează memoria implicită perceptuală prin instrucție implicită, el va concluziona că o creștere a LOP duce la creșterea performanței în sarcina implicită. Un alt cercetător care operaționalizează memoria implicită perceptuală prin instrucție implicită clasică va ajunge la aceeași concluzie cu deosebirea că va specifica că efectul este mai scăzut decât la primul cercetător. Un al treilea cercetător care operaționalizează memoria implicită perceptuală prin instrucție specifică PDP va concluziona că LOP nu afectează absolut deloc performanța în sarcina implicită; el va explica rezultatele primilor doi cercetători printr-o posibilă contaminare explicită.

Putem încerca o analogie cu disputa din fizică dintre Einstein și Bohr. Primul susținea că noi cunoaștem o realitate fizică obiectivă în timp ce al doilea susținea că ceea ce noi cunoaștem poartă amprenta interacțiunii dintre metoda folosită și realitatea fizică. Evident timpul a dat dreptate celui de-al doilea.

Și în cazul nostru, ceea ce cunoaștem (influența LOP asupra memoriei implicite perceptuale) poartă amprenta interacțiunii dintre metoda folosită (tipul de instrucție pentru operaționalizarea memoriei implicite) și realitatea psihologică (caracteristicile memoriei implicite). Altfel spus, metode diferite duc la concluzii diferite în studiul unui fenomen. Dacă avem întotdeauna în minte acest lucru, atunci multe din controversele vizând influența LOP asupra memoriei implicite perceptuale se clarifică.

4.4. Concluzii vizând demersul experimental

Demersul experimental în patru pași prezentat în acest studiu aduce date teoretico-experimentale valoroase contribuind la cristalizarea și sistematizarea nucleului tare al memoriei implicite. Acest nucleu teoretic bine sistematizat și susținut experimental este premisa fundamentală pentru o aplicație practică de anvergură.

Aspectele teoretice noi pe care experimentele prezentate în acest studiu le-au adus sunt: 1) faptul că avem două tipuri de memorie implicită din punct de vedere al neintenționalității a) memorie neintenționată cu conștientizare; b) memorie neintenționată fără conștientizare (vezi experimentele 1, 2, 3); 2) aceste tipuri de memorie implicită pot reacționa diferit la aceeași manipulare experimentală (ex. efectul LOP) și în concluzie ele trebuie separate metodologic și studiate separat (experimentul 2); 3) am propus o metodă pentru evaluarea memoriei neintenționate

cu conștientizare, de altfel singura existentă în literatura de specialitate după cunoștințele noastre (exp. 2); 4) pentru a se evita confuziile teoretico-metodologice, în orice cercetare vizând memoria implicită trebuie să avem o definiție explicită a acesteia (exp. 4).

5. Discuții și concluzii generale

După ce am trecut în revistă principalele orientări în cercetarea memoriei implicite, controversele teoretico-metodologice în cadrul acestui domeniu și am încercat printr-un demers experimental în patru pași să aducem unele clarificări teoretico-metodologice cu valență euristică pentru cercetare și practică, în această ultimă parte a lucrării ne propunem să evidențiem implicațiile practice ale studiului memorie implicite și să rezumăm cu titlu de concluzii nucleul tare al memoriei implicite așa cum este cunoscut el astăzi. În măsura în care concluziile prezentate se bazează și pe demersul experimental al studiului de față, demers experimental care are ca puncte vulnerabile un număr redus de subiecți în fiecare lot (15 subiecți), lipsa confirmării prin repetarea experimentelor a rezultatelor obținute, ne putem întreba în ce măsură aceste concluzii sunt valide. Răspundem astfel: 1) deși numărul de subiecți din fiecare lot este mai mic ca 30, relevanța statistică a rezultatelor obținute la praguri de semnificație extrem de mici ($p < .01$) ne îndreptățește să sperăm în validitatea lor; 2) rezultatele obținute se încadrează în poziții teoretice recunoscute în literatura memoriei implicite; 3) rezultatele obținute se susțin reciproc, nefiind în contradicție; 4) datele experimentale vor face obiectul unui studiu de validitate prin repetarea demersului experimental pe loturi lărgite de subiecți (30); primele rezultate experimentale obținute confirmă rezultatele anterioare.

5.1. Implicații ale studiului memoriei implicite pentru activitatea practică.

Orice aplicație de anvergură este precedată în societatea modernă de o cercetare fundamentală serioasă exprimată în date teoretico-metodologice riguroase (Miclea, 1994). Revoluția cognitivă din psihologie a însemnat enorm nu numai pentru cercetarea fundamentală, ci și pentru domeniile de aplicație ale acesteia: 1) psihodiagnostic; 2) psihologie clinică; 3) psihoterapie; 4) psihologie juridică.

5.1.1. Memoria implicită și psihodiagnosticul

În evaluarea memoriei implicite psihodiagnosticul este încă tributar tradiției inițiate de Ebinghaus (vezi 1). Pornind de la performanțele evaluate prin teste de recunoaștere și reproducere se face inferență asupra eficienței întregii memorii a sistemului cognitiv uman. Or, deși această opțiune teoretico-metodologică și-a adus un aport serios la îmbogățirea cunoștințelor noastre asupra memoriei, ea nu acoperă întreaga complexitate a acesteia. Cunoștințele implicite nu transpar în probele explicite de recunoaștere și reproducere, ele putând fi evidențiate doar indirect prin

modul în care ne influenţează comportamentul. În consecinţă, pentru a putea avea o imagine reală asupra eficienţei memoriei unui subiect uman probele de memorie implicită trebuie integrate în activitatea de psihodiagnostic. Etalonate şi standardizate, ele pot deveni teste viabile de memorie implicită, întregind astfel imaginea noastră asupra memoriei sistemului cognitiv, ducând la sporirea acurateţei predicţiilor asupra comportamentului uman.

5.1.2. Memoria implicită şi psihologia clinică

Cercetările vizând memoria subiecţilor amnezici arată că la aceştia memoria explicită este drastic afectată în raport cu subiecţii normali, în timp ce memoria implicită este afectată extrem de puţin sau absolut deloc; acest lucru este valabil şi în cazul amneziei posthipnotice (Kihlstrom, 1980). Pornind de la aceste constatări derivă logic următoarea sugestie: probele de memorie implicită pot constitui surse de cunoştinţe noi pentru subiecţii amnezici. Altfel spus, subiecţilor cu amnezie retrogradă spre exemplu, trebuie să li se transmită noi cunoştinţe în mod implicit, prin probe implicite şi nu prin strategii explicite (vezi învăţarea şcolară). Prin astfel de probe subiecţii amnezici pot achiziţiona noi cunoştinţe procedurale ca: reguli, proceduri cognitive, proceduri senzorio-motorii putându-se ajunge chiar la o îmbogăţire a vocabularului.

Un alt aspect al relevanţei studiului memoriei implicite pentru psihologia clinică îl constituie simptomatologia clinică. Spre exemplu, deşi memoria explicită pentru o informaţie traumatizantă este blocată prin strategii conştiente specifice ca: mecanisme de apărare, uitare intenţionată, amnezie posthipnotică, ea se poate exprima în comportament în mod implicit, nonconştient. Majoritatea tulburărilor emoţionale au la bază acest mecanism. În consecinţă elaborarea unor tehnici de blocare a manifestărilor comportamentale şi fiziologice a informaţiei din memoria implicită este o provocare pentru cercetarea fundamentală, miza constituind-o relevanţa practică evidentă în psihologia clinică a unor astfel de tehnici.

5.1.3. Memoria implicită şi psihoterapia

Dintre toate formele de psihoterapie, psihoterapia cognitiv comportamentală are impactul cel mai serios asupra tratamentului tulburărilor psihice, studiile de metaanaliză situând-o pe primul loc în ceea ce priveşte eficienţa tratamentului în cazul depresiei, fobiilor, anxietăţii şi a tulburărilor psihosomatice. Aceasta deoarece ea are în spate o cercetare fundamentală riguroasă care îi conferă cunoştinţe noi cu valenţe practice reale. Din păcate nu întotdeauna practicienii terapiei cognitiv — comportamentale au utilizat rezultatele cercetărilor de laborator în activitatea lor; aceasta fie din ignoranţă, fie dintr-o comoditate justificată de ideea că „mergem cu ceea ce avem şi care cât de cât dă rezultate, neavând sens să ne pierdem vremea cu asimilarea unor noi cunoştinţe abstracte de laborator care poate nu ne vor folosi la nimic". Spre exemplu, modelul lui Beck, Ellis sau Meinchenbaum este tributar psihologiei cognitive a anilor

'60—'70 nemaiasimilând noile descoperiri din psihologia cognitivă de după acești ani. O infuzie de noi cunoștințe din cercetarea fundamentală în terapia cognitiv-comportamentală ar crește spectaculos eficiența acesteia, care deși mai ridicată în comparație cu celelalte forme de psihoterapie este departe de ceea ce așteaptă societatea modernă de la psihoterapie: 1). să rezolve problemele în timp scurt; 2) să aibă o eficiență comparabilă tratamentului medical. Aceasta cu atât mai mult cu cât astăzi imaginea psihoterapeutului practician neinteresat de cercetare este o relicvă a trecutului, un rol asumat de diletanți, de mediocrități foste sau în devenire. Societatea modernă promovează imaginea unui psihoterapeut dacă nu implicat, cel puțin interesat de rezultatele cercetării, așa numitul „scientist-practitioner".

Nucleul tare al terapiei cognitiv-comportamentale este următorul: 1) orice simptom este determinat de cunoștințele și prelucrările informaționale pe care le face subiectul și este menținut datorită întăririlor din mediu; 2) pentru a elimina simptomul trebuie modificate cunoștințele și prelucrările informaționale pe care le face subiectul și/sau întăririle din mediu. Problema este că nu toate cunoștințele care determină simptomul sunt explicite, adică pot fi conștientizate și verbalizate în vederea schimbării lor prin tehnici specifice. Unele sunt nonconștiente, implicite, nonverbalizabile; sunt expresie a memoriei implicite și o cunoaștere a legilor lor de funcționare este fundamentală pentru psihoterapie. În acest caz singura soluție pentru eliminarea simptomului este manipularea întăririlor din mediu (dacă acest lucru este posibil). Dar simpla manipulare a întăririlor fără o modificare a prelucrărilor informaționale ce determină simptomul nu duce întotdeauna la modificări stabile pe termen lung. În consecință elaborarea unor tehnici[3] de modificare a cunoștințelor implicite constituie o provocare viitoare, miza fiind în acest caz sporirea eficienței psihoterapiei. Cercetările noastre viitoare vor fi orientate preferențial în această direcție asimilând și problema impactului memoriei implicite asupra simptomatologiei clinice în tulburările emoționale (5.1.2.).

5.1.4. Memoria implicită și psihologia juridică

Problemele care se pun în acest context sunt următoarele: 1) în ce măsură informația falsă și nerelevantă pentru un proces decizional supusă uitării intenționate influențează totuși procesul decizional, ducând la decizii eronate și prin ce tehnici poate fi această influență evitată; 2) elaborarea unor tehnici de detectare a simulării bazate pe probe de memorie implicită. Elucidarea mecanismelor implicate în problemele mai sus menționate ar avea un impact serios asupra modalităților de luare a hotărârilor judecătorești și asupra modului de desfășurare a anchetelor poliției în vederea obținerii unor mărturii adevărate și luarea unor decizii nedistorsionate de mecanisme conștiente și/sau inconștiente. O parte din cercetările noastre viitoare vor fi orientate și în această direcție.

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[3] Unele tehnici behavioriste (desensibilizarea progresivă, stress inoculation training) sunt o aproximare grosieră a acestui deziderat.

5.2. Concluzii şi sugestii vizând memoria implicită şi metodologia de cercetare a acesteia.

Concluziile şi sugestiile vizând memoria implicită, care vor fi prezentate în continuare, se bazează pe cercetări riguroase de laborator oferite de literatura de specialitate şi pe demersul experimental al studiului de faţă. Ele se doresc un ghid util pentru activitatea de cercetare şi activitatea practică.

Există două paradigme de studiu al distincţiei memorie implicită / memorie explicită: RIC şi PDP. RIC consideră distincţia memorie implicită / memorie explicită o distincţie între memoria neintenţionată / memoria intenţionată. PDP consideră distincţia memorie implicită / memorie explicită o distincţie între memoria nonconştientă memoria conştientă. Operaţional RIC evaluează memoria implicită prin instrucţia de reactualizare clasică iar PDP prin procedura de disociere a proceselor (vezi 2.2 şi 3.1).

Avem două tipuri de memorie implicită din punct de vedere al intenţionalităţii: 1) memorie neintenţionată cu conştientizare; 2) memorie neintenţionată fără conştientizare. Memoria neintenţionată cu conştientizare poate fi perceptuală sau conceptuală (vezi 2.1.2) şi are următoarele caracteristici: a) este afectată de LOP; b) în cazul prelucrării nonsemantice a stimulilor în faza de studiu sau a prezentării lor nonatenţionale are o valoare apropiată de zero; c) poate fi evaluată prin instrucţie implicită modificată; d) are ca bază neurofiziologică hipocampusul. Memoria neintenţionată fără conştientizare poate fi perceptuală sau conceptuală şi a) nu este afectată de LOP (forma perceptuală); b) poate fi evaluată cu PDP (sau RIC când în faza de studiu avem o prezentare nonatenţională sau o prelucrare nonsemantică a stimulilor); d) are ca bază neurofiziologică neocortexul pentru forma perceptuală şi lobii temporali, parietali şi frontali pentru forma conceptuală.

Memoria explicită este a) intenţionată şi conştientă; b) este afectată de LOP; c) este evaluată prin teste de recunoaştere şi reproducere; d) are ca bază neurofiziologică hipocampusul şi lobii frontali.

RIC evaluează cumulat efectul memoriei neintenţionate cu conştientizare şi al memoriei neintenţionate fără conştientizare prin instrucţie implicită clasică şi efectul memoriei explicite prin instrucţie explicită. PDP evaluează efectul memoriei neintenţionate fără conştientizare şi efectul cumulat al memoriei neintenţionate cu conştientizare şi al memoriei explicite.

Credem că cercetarea teoretico-metodologică ne pregăteşte în viitorul extrem de apropiat surpriza emergenţei unei noi paradigme în studiul memoriei implicite şi explicite cu efecte integratoare asupra RIC şi PDP, asemănătoare în angajamentul teoretico-metodologic cu metoda propusă de noi în această lucrare. Mai precis această paradigmă, — analiza disocierii proceselor — (PDA — process dissociation analysis) poate discrimina şi măsura separat: 1) memoria neintenţionată fără conştientizare; 2) memoria neintenţionată cu conştientizare; 3) memoria intenţionată cu conştientizare (Richardson — Klaneln et al 1996). Ne

propunem ca într-un studiu viitor să detaliem prezentarea acestei paradigme extrem de promițătoare în studiul memoriei.

PDP și PDA prin rigurozitatea metodologică pe care o impune au premisele să devină paradigmele dominante în studiul memoriei implicite deși unele aspecte teoretico-metodologice ale acestora se cer încă clarificate (vezi 2.2.4. și 4.2.).

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ANEXE

Instrucția implicită (pentru experimentul 3 și 4).

„Vă rog să completați rădăcinile de cuvinte cu primul cuvânt care vă vine în minte".

Instrucția implicită clasică (pentru experimentele 1, 2, 3 și 4).

„Vă rog să completați rădăcinile de cuvinte cu primul cuvânt care vă vine în minte. S-ar putea să vă vină în minte unele cuvinte studiate anterior; este OK. Ceea ce este important, este să-mi spuneți primul cuvânt care vă vine în minte, oricare ar fi acesta."

Instrucția explicită (pentru experimentul 1).

„Vă rog să completați rădăcinile de cuvinte astfel încât să rezulte cuvinte studiate anterior".

Instrucția implicită modificată (pentru experimentul 2).

„Vă rog să completați rădăcinile de cuvinte cu primul cuvânt care să vine în minte. S-ar putea să vă vină în minte unele cuvinte studiate anterior; este OK, iar dacă acest lucru se întâmplă spuneți „da" după completarea rădăcinii de cuvânt. Ceea ce este important este să-mi spuneți primul cuvânt care vă vine în minte, oricare ar fi acesta".

Instrucția de includere (pentru experimentul 4).

„Vă rog să completați rădăcinile de cuvinte astfel încât să rezulte cuvinte studiate anterior; dacă nu reușiți acest lucru completați rădăcinile de cuvinte cu primul cuvânt care vă vine în minte."

Instrucția de excludere (pentru experimentul 4).

„Vă rog să utilizați rădăcinile de cuvinte pentru a vă reaminti cuvintele studiate anterior, dar să completați aceste rădăcini de cuvinte cu alte cuvinte decât cele studiate anterior, dacă nu reușiți acest lucru, completați rădăcinile de cuvinte cu primul cuvânt care vă vine în minte."

STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA - PAEDAGOGIA, XLI, 1-2, 1996

VALOAREA TERAPEUTICĂ A RITUALULUI FUNERAR

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ABSTRACT. The Therapeutical Value of the Funeral Ritual.

Being a major trauma, the death of a close person produces dramatic effects shattering and/or changing the fundamental faiths about world.

Funeral and post-funeral ceremonies have therefore a therapeutic role for the recovery and the reintegration of the living.

This study describes and analyzes funeral rituals, from the agony to the end of the mourning, practiced in the community of Budeşti (Maramureş).

MOTTO: „Men do not weep for the dead because the fear them; they fear them because they weep for them"

Emile Durkheim

Existenţa noastră este ţesută din ritualuri, de a căror performare putem, sau nu, să devenim conştienţi. Dacă actele mărunte, zilnice funcţionează ca ritualuri (Thomas, 1985) instituind mediul şi conferind controlul cognitiv asupra acestuia, ritualurile *sacre* cu atât mai mult realizează reiterarea unor cadre consacrate, a căror necesitate, ca virtuţi axiologice, pentru comunitate înseamnă împiedicarea destrămării şi refortificarea coeziunii vieţii (Eliade, 1981). Dincolo de spaţiul ordonat al actului ritual, dar şi în absenţa performării ritualului, mediul e, pentru existenţa umană, friabil şi plin de spaime. Siguranţa echilibrului vine doar cu siguranţa ritualului împlinit. E nevoie de reintegrarea în cadrele consacrate pentru că viaţa este mişcare; iar întâia consecinţă a acestui postulat este că există moarte.

A doua consecinţă ar fi că prin moarte *se trece în ceva*. E o necesitate fundamental umană a construi acest ceva. Pe de-o parte e vorba de o strategie psihologică a omului, încă din vremea societăţilor arhaice, de a contracara spaima de moarte, dar pe de alta poate fi intuirea extraordinară a unui raport, real, între existenţa individuală şi cea cosmică (I. Şeuleanu, apud Istrate, Chiş-Şter, 1983, p. 316), ce se poate formula în termeni de la strict pozitivi până la mistici.

În fond, această *postexistenţă* este profund opacă pentru vii; dar dispariţiei prin moarte a unuia dintre vii, prin traumele psihice pe care le cauzează celor rămaşi, nu i se poate supravieţui lăsând acel gol ca o cavitate. Deci din propriile nevoi spirituale, comunitatea celor rămaşi va încerca o punte de comunicare între „aici" şi „dincolo", făcând penetrabil

un orizont a cărui lipsă de manevrabilitate o vor suplini cu propriul lor instrumentar mental de oameni vii. Comportamentul funerar al membrilor unei comunități se compune din practici care vor viza exorcizarea spaimei și a durerii lor de vii, vor fi încărcate prin funcția lor apotropaică, în vreme ce mortului vor încerca să-i deschidă drumul către „dincolo"; în ansamblu, vor viza *reinstituirea ordinii de existență a comunității*. De precizat că societățile tradiționale cuprind în înțelesul de *comunitate* pe toți morții lor laolaltă cu comunitatea viilor, la fel de organic.

Obiceiurile funerare și-au păstrat formele arhaice aproape neschimbate din vremuri imemoriale, căci doar ele, ca unele *experimentate*, pot fi eficiente în trecerea în necunoscut, pentru a-l călăuzi pe „dalbul de pribeag" și a-l așeza după datină și netulburat în lumea de dincolo (Boț, 1983).

Trecerea de la o stare la alta prin moarte e marcată de rituri de trecere; actantul lor este cel care trece și nu comunitatea din jur. Conform schemei lui Van Gennep, riturile de trecere au o structură tripartită: *separarea* de starea veche, *preîncorporarea* în starea nouă, între care se găsește o perioadă marginală, liminară. Acest concept de liminaritate (Hertz, 1907; Van Gennep, 1909 — apud Huntington, Metcalf, 1979) este comun tuturor riturilor de trecere, nu doar celor funebre, pentru că în orice trecere se fixează reprezentări terminale, mortuare. Liminaritate înseamnă fiecare condiție/stadiu/secvență care tranșează *separarea*.

Pentru cei care celebrează ceremoniile funerare nu există decât nevoia împlinirii lor pentru cel mort; dar singura valoare *probată* a riturilor funerare este cea curativă — pentru cei vii.

Reformularea echilibrului de existență se împlinește în măsuri diferite, de la comunitățile tradiționale, unde se pare că încă ritualul funerar funcționează până în finalitățile sale ultime, până la societățile moderne, unde simplificarea progresivă duce la o refacere incompletă — cu un număr considerabil sporit de probleme nevrotice, psihosomatice și chiar fiziogene organice consecutive (Benton, 1978). În ce privește simptomatologia de ordin psihic, nu există încă o univocitate a demersurilor clasificatorii. Savage (1994) optează pentru diagnosticul de stress posttraumatic atașat simptomelor de *complicated bereavement*, detașându-se în acest mod de punctul de vedere al APA (1987), care identifică aceste tulburări în termeni de depresie majoră; autorul citează și opinia exprimată de Kim și Jacobs (1991), pentru care simptomele apar în conjuncție cu o anxietate de separare severă și prelungită. După Ramsey & Happée (1977, 1979) și Mawson, Marks, Ramm & Stern (1981) ar fi vorba de o reacție fobică de evitare (apud. Raphael, 1994). Prezentăm și clasificarea operată de Raphael (1994), care încearcă să circumscrie complexitatea simptomelor prin trei mari patternuri de doliu morbid sau patologic: 1) doliu absent, inhibat sau întârziat; 2) distorsiuni, ce iau forma unor sentimente extreme, unice, de furie sau vină în raport cu cel dispărut; 3) durere cronică.

Prezența unor asemenea manifestări patologice, care prin durată și severitate impun adesea spitalizare sau tratament prelungit, dincolo de problema taxonomiei lor a impus și o alta — aceea a elaborării unui me-

del de normalitate caracterizând reacțiile psihice declanșate de moartea cuiva drag.

Eveniment traumatizant major, dispariția prin moarte a unei persoane apropiate acționează la un nivel experiențial adânc, invalidând sau zdruncinând credințele fundamentale și asumpțiile implicite despre sine și lume — conținute în acea „teoria personală a realității" la care se referă Epstein (1990; apud. Meichenbaum & Fitzpatrick, 1993). Încât este nevoie de o nouă lume asumptivă care să poată asimila experiența victimizării într-o manieră adaptativă.

Worlen (1982, apud. Savage, 1994) consideră că persoanelor care se află în situație de doliu le-ar sta înainte patru sarcini fundamentale:

1) acceptarea realității pierderii suferite

Începând cu Melanie Klein (apud. Benton, 1978) — și nu doar în tradiție psihanalitică — se consideră că scopul trăirii doliului, ca durere *(grief)* și suferință *(mourning)*, ar fi de testare a realității *(reality testing)*, de recunoaștere a pierderii și de adaptare la aceasta. Se vizează astfel contracararea negării (eventual și a represiei), aflate în proximitatea polului evitativ al mecanismelor cognitive de coping (Miclea, 1995).

2) experiențierea durerii

Chiar dacă pe moment negarea pierderii duce la minimalizarea durerii, acest fapt nu poate fi permanentizat, existând riscul decompensării, cu apariția ulterioară a unor tulburări depresive. În acest sens, se recunoaște rolul *canalizării trăirilor într-o activitate circumscrisă*, cu un scop clar, un început, respectiv un sfârșit, distincte — tip *ritual*.

3) ajustarea la un mediu din care lipsește cel decedat

Adesea nu există o percepere clară a tuturor dimensiunilor pierderii suferite. Mai mult chiar, se poate pune și problema practică a adoptării unora din rolurile celui dispărut.

4) „retragerea" energiilor emoționale și reinvestirea lor în relații noi

Este cea mai dificilă sarcină, deoarece ea poate fi interpretată în termeni de vină și de neloialitate față de cel dispărut. De fapt, unele persoane nici nu reușesc să se mai angajeze vreodată în relații afective cu altcineva. Problema este mai acută în societățile occidentale, unde derituali-zarea induce o nesiguranță legată de durata adecvată a doliului. Ceremoniilor de după înmormântare *(parastas, pomana morților)* le revine tocmai funcția de a *concluziona doliul* — permițând celor vii refacerea și reintegrarea.

Programele de intervenție terapeutică existente până în prezent au în vedere, sub o formă sau alta, tocmai rezolvarea obiectivelor enunțate mai sus. Precizăm că în ultima vreme se accentuează ideea unor intervenții nu doar post hoc, ci și profilactice, de psihiatrie preventivă.

Cele mai populare forme de psihoterapie, adaptate pattern-urilor de doliu patologic, ar fi (apud. Raphael, 1994; Savage, 1994):

— psihoterapia focală (Zindermann, 1944; Raphael, 1975) — în criză sau subsecvent; se urmărește conversia răspunsurilor într-un pattern mai normal, în care persoana să fie în stare să trăiască și să-și exprime durerea;

— „re-grief therapy" (Volkan & Showalter, 1968; Volkan, 1971) — se caută motivele datorită cărora persoana nu a fost în stare să experienţieze doliul în trecut şi se asigură asistenţa necesară re-trăirii complete a acestuia în prezent;
— terapii comportamentle (Ramsay & Happee, 1977, 1979; Gauthier & Marshall, 1977; Mawson, Marksal, Ramm & Stern, 1981) — pot fi aplicate deopotrivă în perioada imediat următoare pierderii şi subsecvent; manifestările patologice sunt caracterizate drept reacţii fobice de evitare, al căror „tratament" constă în expunere la şi confruntare cu amintiri, idei sau situaţii dureroase, legate de pierderea suferită;
— imagerie ghidată (Melges & De Maso, 1980) — reamintirea scenelor legate de evenimentul funest, şi îndepărtarea barierelor în trăirea durerii;
— folosirea ritualurilor (Reeves & Boersma, 1990; Irion, 1991) — trăirile sunt canalizate într-o activitate circumscrisă, cu un scop clar, un început, respectiv un sfârşit, distincte, emoţiile însă putând fi exprimate liber, „de-intelectualizat";
— ritualuri de separare simbolice sub hipnoză (Savage, 1994) — se urmăreşte vizualizarea corpului celui decedat şi „ceremonia" luării unui ultim rămas-bun.

Aceste programe de intervenţie terapeutică nu aduc însă *nimic nou;* pentru că performarea ritualurilor indeplineşte toate funcţiile pe care aceste terapii — abia fragmentar! — şi le asumă.

Încât vom considera în continuare ritualul funerar drept o formă „instituţionalizată" de coping (Lazarus, 1991) — adică de ajustare la o situaţie de viaţă extrem de traumatizantă —, care *se oferă* şi *impune* indivizilor comunităţii o dată cu reiterarea evenimentului declanşator. Intrarea în spaţiul său mediază cognitiv inclusiv procesele de evaluare primară ale actanţilor — acele prelucrări de informaţii care vizează potenţialul stresant al situaţiei; deci cu atât mai mult reacţiile emoţionale subsecvente vor fi modificate, iar evaluările secundare: atribuirea responsabilităţii pentru situaţia dată, estimarea resurselor personale de adaptare la solicitările situaţiei şi expectanţele pentru viitor vor fi modulate. Eficienţa performării ritualului stă şi în prezenţa unor strategii comportamentale (căutarea suportului social, acţiunea planificată) şi biochimie (optimizarea reacţiilor biologice la stres prin catharsis emoţional sau inducerea unei stări de conştiinţă hipnotice), alături de cele cognitive, orientate spre *confruntarea* cu evenimentul traumatizant.

Analiza prezentă are în obiectiv o comunitate din Budeşti, judeţul Maramureş, studiată în vara 1994, a cărei existenţă se înscrie încă în tiparele tradiţionalului. Informaţiile provin din observaţie participativă şi din interviuri realizate cu informatorii prezentaţi în lista anexată. Vom considera ceremonialul funebru din perspectiva intensităţii *trăirii liminarităţi* de către supravieţuitori: o primă etapă cuprinde secvenţele desfăşurate din momentul morţii până la scoaterea mortului din casă; a doua etapă începe cu scoaterea mortului şi cuprinde drumul lui — inclusiv sfinţirea gropii; iar a treia cuprinde depunerea în groapă şi acoperirea mormântului, şi ospăţul funerar. Probabil că această fază se va în-

cheia doar o dată cu ieșirea din starea de doliu (după 3 zile, 6 săptămâni sau un an). În rest, tot ce se va împlini pentru cultul morților presupune reiterări ale relațiilor, deja statuate prin ritualurile funebre, între membrii vii și cei morți ai comunității.

Riturile funerare încep în agonie; principala obligație a celor ce rămân — dincolo de chemarea preotului pentru maslul creștin — este a-i da în mână o lumânare (numită „lumină") aprinsă. Găsim informații (Marian, 1892) că e cel mai mare păcat să-l lași să moară fără lumină. Explicațiile date arată toate că acesta e *primul rit liminar;* în esență, se spune „ca să i se vadă mortului în aceea lume", să găsească *drumul;* ca cel plecat să treacă ghidat hotarul morții. Lumânarea se va stinge după moarte; ea va mai fi aprinsă de câte ori bat clopotele și *„se cântă"* (se bocește); se va mai fi aprins noaptea, fiindcă trebuie să fie tot timpul lumină în odaia cu mortul. În anumite zone etnografice există mențiunea că această lumânare se topea în ceara „luminii trupului".

Moartea e anunțată comunității prin bătaia clopotelor; în sens ritual, acest lucru se va petrece pentru a marca cele trei momente esențiale ale zilei (dimineața, amiaza și seara), în toate cele trei zile obligatorii până la înmormântare. De precizat că nu se fac înmormântări în zile de post decât în situații-limită, pentru că toate alimentele care se consumă acum au valoarea rituală de merinde pentru mort și deci trebuie să întrunească toate condițiile de complexitate pentru a-i fi în cel mai înalt grad îndestulătoare în marele drum.

Rudele apropiate încep să se comporte așa-cum-trebuie-în-prezența-mortului: imediat se instituie doliul: femeile se despletesc și-și pun pânzătură neagră, bărbații se descoperă. Se pregătește odaia: se acoperă oglinzile, pentru că mortul nu mai are voie să se vadă în oglindă; cu acest act începe pregătirea cadrului pentru săvârșirea necesarelor rituri liminarii; posibilitatea dedublării prin oglindă e un privilegiu al viilor, interzis celui mort pentru că el trebuie să rămână dus din lumea de aici. Dacă se vede mortul în oglindă, se întoarce, nu pleacă de tot; și „apăi îl tăt vezi pă mort, când te duci în camera ceee, ori când te gândești la el" (informator 4), după ce-i îngropat. E un rit de protecție a celor vii împotriva acțiunilor potențiale ale mortului, marcând în același timp o nouă treaptă liminară în drumul său. Cele două finalități — pentru vii și pentru mort — ale actului înseamnă un același lucru: că separarea de comunitatea viilor, adică realitatea morții, se cuvine tranșată cu fermitate.

Nimic ieșit din comun nu se înregistrează în comportamentele de pregătire a mortului: e un membru al comunității, care e pregătit cu grijă pentru drum. Dar toate semnificațiile acestor acte arată foarte clar că mortul e deja *altceva:* întâi e spălat, de către un om mai sărac, din afara familiei (pentru că cei din familie se tem că vor rămâne mereu dominați de amintirea lui, ceea ce este ceva *rău!* — [Năprădean, 1976]), care va primi de *pomană* hainele mortului. Orice lucru dat *de pomană* va fi în grad maxim eficient în *împlinirea* sa pentru mort. Vasele de la spălat se dau celui ce-l spală, de pomană, ori trebuie aruncate, ca și apa mortului, foarte încărcată cu puteri malefice; căci *„te leagă"*, precum orice lucru care interferează dinspre lumea cealaltă. Tot

acest om îl îmbracă pe mort, dându-i hainele cele mai bune, căci el e *„dalbul de pribeag"*, care se mișcă, de acum înainte, într-un spațiu de sacralitate, dimensiune implicită în care se produce orice *trecere*. Înainte vreme „s-o audzit că-i bine să să-ngroape cu cămașa cu care-o fost mire" (informator 3), probabil pentru că aceasta își probase virtuțile rituale în cealaltă trecere.

Cel ce îl îmbracă trebuie să aibă grijă să nu-i înnoade brâul ori brăcinarul, căci altfel soțul sau soția rămân *legați de mort* și nu se mai pot recăsători; altă explicație spune că „îi înnoadă drumurile".

Femeile rude apropiate ale mortului îl bocesc (îl cântă) la momente stabilite; când bat clopotele, și mortului i se aprinde lumânarea, ele încep cântarea — simultan —, înconjură odaia, apoi ies afară și îl cântă de jur împrejurul curții; bocetul exprimă durerea la paroxism, dar separarea trebuie trăită și înfruntată deplin în fiecare colț al casei.

Bocetele transcriu furia, durerea și plânsul în forma ritualizată a unor pattern-uri ritmice, care sincronizează structuri verbale complexe cu gesturi specifice. Recurența acestor pattern-uri duce la focalizarea atenției și la absorția adâncă în actul performat, inducând o stare care la extreme poate părea analogă unei stări de transă (Shor, 1962, Sarbin, 1964, apud Hilgard, 1970). Detonarea emoțiilor este facilitată astfel — iar „arderea" lor are funcția homeostatică de supapă biochimică a tensiunilor acumulate. Pe de altă parte, prin faptul că există *momente* și *durate* oarecum determinate pentru fiecare secvență de bocete (de exemplu, se bocește atâta timp cât bat clopotele) descărcările emoționale sunt ținute sub control.

În bocete apare și un posibil corespondent al logicii de transă, care ar putea exprima chiar esența conceptului de liminaritate: îl invoci pe mort, ca și cum ar fi în același timp în lumea de aici și în cea de dincolo (a se vedea anexa cuprinzând vorbele bocetelor).

În ziua înmormântării se pregătește toată mâncarea *de pomană;* sunt chemate femei specializate pentru aceasta — socăcițele. Cei ce au umblat cu mortul, deci și femeile casei, nu au voie să se atingă de mâncare, în timp ce se prepară.

Tot în dimineața acestei zile se așază în sicriu, în așternutul special destinat. Până acum el va fi stat „gios pă pământ", dar iarna poate fi pus în copârșău imediat ce acesta e gata. Deși e neverificabil astăzi, s-ar putea ca acest act — deopotrivă cu cel al spălării mortului pe pământ — să închidă în sine semnificațiile arhaice ale *morții pe pământ*, necesară precum era *nașterea pe pământ;* cu atât mai mult cu cât în sate învecinate semnificația — pur practică — a așezării mortului este clară.

I se fac ultimele pregătiri pentru drum: pe piept i se pune un colac împletit, de merinde, cu banii pentru cele douăzeci și patru de vămi ale sufletului; pe piept i se pune și *„lumina trupului"*, lumânarea având lungimea mortului, care s-a aprins de câte ori s-a cântat. Acum — din lipsă de ceară naturală — o lumânare de dimensiuni obișnuite se pune într-un borcan cu grâu sau porumb (posibilă relație rituri fu-

nerare — rituri de fertilitate. A se vedea și Bot, lucr. cit., p. 40 și urm.); și aceea e *„lumina trupului"*, și ea va arde și pe copârșău, până la plecarea mortului din curte. Aprinderea ei marchează trepte în separare, iar faptul că are lungimea mortului poate însemna că-l simbolizează, arderea ei echivalând incinerarea (Năprădean, 1976); Marian (1892) o interpretează ca toiag, pe care are a se sprijini mortul până va ajunge la capătul drumului său, adăugând că îi va arde toate păcatele, cât stă neîngropat, — condiția purității rituale la momentul trecerii fiind îndeplinită în profunzime. Probabil drumul lui va ține *exact* până se va toci de tot acest toiag având lungimea statului său; ceremonialul, ca acte rituale prin care să treacă *mortul* în călătoria sa, continuă dincolo de lumea noastră (Pop, 1968); semnificativ pentru concepția, foarte subtilă, asupra marii treceri, este modalitatea de a imagina continuarea în mit a ceremonialului funerar: fiecare are *drumul său propriu;* iar în planul ceremonialului terestru, drumul va dura — și va fi vegheat de cei ce rămân — până se va isprăvi lumânarea de măsura lui.

Pentru „lumina trupului" și pentru copârșău s-a luat *măsura mortului;* sfoara respectivă se leagă la streașina casei, pentru că în ea *poate* rezida norocul casei; deci legătura dintre lumi, prin faptul că o anume valoare poate să le transceandă pe amândouă, dincolo de hotarul morții dintre ele, profilează din nou felul de concepere a mitului despre moarte.

În jurul amiezii, oamenii casei merg după preot și-l aduc în casă să facă *feștania;* preotul sfințește mâncarea de pomană și face aghiazma pentru groapă. Acum se interpretează bocete care cresc în tensiune pentru că o dată în plus e manifestă realitatea separării iminente.

Apoi se scoate mortul din casă. Acesta e pasul decisiv în despărțire, făcut de vii, — după ce primul să facă pasul decisiv în separare va fi fost cel plecat. Mortul e scos cu picioarele înainte, ca să nu se întoarcă; soția închide ușa cu putere, izbind-o cu spatele: e al doilea rit liminar de protecție față de orice acțiune „de dincolo". Cei ce-l scot nu pot fi rude foarte apropiate ale lui, căci — se spune — „cum să scoată fratele pe frate din casă?" (informator 3). La fel e și cu săparea gropii: nu-i poate săpa cineva foarte apropiat groapa; e deci o fază a ritualului în care pierderea nu e primită (acceptată) deci negarea e încă manifestă — și permisă.

E așezat pe masa pregătită în curte, și apoi începe datul pomenilor, peste copârșău, condiție obligatorie în eficiența lor ca hrană rituală funebră.

Înainte de prohod, se cântă din nou la intensitatea maximă. (Vezi anexa . . .).

Prohodul în sine are o funcție curativă din perspectiva scenariului creștin. La sfârșitul prohodului e cântat *versul,* compus și interpretat de diac, la indicațiile familiei, în numele mortului, ca rămas bun luat de la toți cei vii. Deși e o creație semicultă — deci nu aparține patrimoniului arhaic moștenit și probat în eficiență prin exersare îndelungată —, cu cât e mai zguduitor cu atât e mai apreciat de comunitate.

Probabil baterea capacului sicriului e momentul culminant în durere, exprimat și prin bocet; prin asta despărțirea e pecetluită.

Se formează convoiul funebru care va merge la groapă; se bocește tot drumul, în afară de cele în medie douăsprezece stații la care citește popa. Bocetele încă îl cheamă înapoi pe cel plecat, dar se simte că deja e receptată ca evidentă distanța dintre lumi (vezi anexa...); se invocă încetinirea ritmului de mers al convoiului condus de preot — deci pare că e un fel de târguială—negociere a sfârșitului definitiv (a se vedea pattern-ul de coping negare—furie—„târguială"—depresie—acceptare, consacrat de Kübler — Ross [1974]. Totuși îngroparea nu e numai imineută, e și foarte necesară.

Bocetele de la groapă conștientizează, într-un alt maxim al durerii despărțirii, că îngroparea e punctul final al drumului terestru; de aici mortul va călători singur, vegheat de la distanță de supraviețuitori.

După acoperirea mormântului nu se va mai cânta după mort; nu avem informații de aici cu privire la bocetul la mormânt închis.

Prima mână de pământ o aruncă preotul (sau soția) apoi rudele; dar se spune că e bine a arunca o frunză mai degrabă, căci „aceia lut e mai greu, care l-au aruncat cei apropiați" (informator 4).

Semnificative sunt actele care se împlinesc în a doua și a treia etapă pentru „a-l uita pe mort": de exemplu, ca să nu-l mai vezi venind, trebuie să te uiți printr-o sită în direcția în care e dus la groapă.

De la groapă, oamenii sunt chemați la masa de pomană: „pentru oameni s-o făcut, și cu oameni să fac aieste" (informator 1). La plecare fiecare primește hrană de pomană în afara ospățului funerar.

La trei zile se sfârșesc riturile legate direct de moarte; până acum se spune că sufletul a stat la streașina casei, privind cum împlinesc cei vii cele trebuitoare trecerii. Acum el își ia toată porția de hrană și pleacă; în anumite locuri se chiar pune apă și făină, în noaptea celei de a treia zile după înmormântare, să se ospăteze mortul.

Mai departe nu se mai oferă nicăieri hrană direct mortului, ci doar prin pomene: la șase săptămâni, la un an, la șapte ani, la zilele morților (de obicei în „sâmbetele morților" din postul Paștelui și postul Crăciunului).

Starea de doliu se sfârșește de obicei la un an, dar integrarea completă a mortului în lumea de dincolo și refacerea completă a comunității vilor se pare că nu poate avea l: e înainte de șapte ani.

Deși sumar expus, ritualul prezentat aici își relevă semnificația validată în timp: față de mort rămâne doar siguranța actului ritual împlinit; împlinirea lui condiționează supraviețuirea celor ce rămân, astfel încât ritualul de moarte este de fapt ritual de viață.

Lista informatorilor

1. Berci Mărie, 64 ani, Budești.
2. Chiran Mărie, 52 ani, Breb (sora celui decedat).
3. Vișoran Pătru, 56 ani, Breb.
4. Chira Anuță, 26 ani, Mara.

CÂNTĂRI LA MORT

(Vasile Borca 63 ani, Budești, Maramureș)

CÂNTĂRI ÎN CASĂ:

„...Vai ochii nu mi s-a usca *(soția)*
Vai bădiucă și bunuc
Vai și vezi rându' cum mi-a si
Vai bădiucă bunu' m'ieu
Vai trăit-am bine și rău
Vai c-așa o lăsat Dumnezău
Vai odată de ți-am gresit
Vai iartă-mă la despărțît
Vai scoală-te să grăim
Vai mint'enaș n'e d'espărțîm
Vai scoală-te și grăi cu mine
Vai că vine popa după tine
Vai bădiucă bunu' m'ieu
Vai spune tu cu gura ta
Vai că cum îmi leși căsuca..."
„...Vai tu cum te-ai legiuit cu moartea *(sora)*
Vai nu știu cum te-ai legiuit
Vai că moartea te-o hăznuit
Vai frătiuc măi Vasalii
Vai frătiucă pă dum'eta
Vai în ocol te-aș îngropa
Vai în ocol lângă fereastră
Vai să lăsa rânduțu-n casă
Vai și dziuca și noaptea
Vai și sara când oi cina
Vai frătiuc frătiucu' m'eu
Vai după tine-mi pare rău
Vai unde moarte tu te bagi
Vai nu mai leși boii-ngiugați
Vai numa'lacrâmi pă obraz
Vai frătiuc măi Vasalii
Vai mult în viață ai muncit
Vai puțind ai hăzuit
Vai numa' cinci scânduri de brad
Vai și pământu' măsurat
Vai frătiuc măi Vasalii
Vai scoală-te de mai poți
Vai și grăi cu nouă cu tăți
Vai frătiuc măi Vasalii
Vai străiniu ai fo'-n spital
Vai numa' surori ai chemat...
...Vai cât te mesteci cu lutu'..."
„...Vai zărite-ai să mai grăim. **(soția).**
Vai că mint'en' n'e despărțim
Vai scoală-te și grăi cu mine
Vai zin'e popa după tine
Vai eu de-aș ști că te-ai scula
Vai aș întoarce pe popa
Vai eu de-aș sti că te-ai trezî
Vai aș întoarce prapoții..."

CÂNTĂRI CÂND AJUNGE PREOTUL ÎN CASA LA FEȘTANIE:

„...Mereți prapori înapoi *(fiica)*
Vai tătuca nu mere cu voi
Vai hăi tătucă nu pleca
Vai că tătuca n-o murit
Vai numa' cât s-o hodinit
Vai că tătuca s-o sculat
Vai hai vid'eți c-a colindat
Vai hai vid'eți c-aici îl cat..."

CÂNTĂRI LA IEȘIREA DIN CASĂ:

„...Vai bădiuc bădiucule *(soția)*
Vai pune-te cu moarte-afară..."
„...Vai ce casă mândră-ai avut *(fiica)*
Vai tătucă nu ț-o plăcut..."

CÂNTĂRI LA BĂTEREA SICRIULUI ȘI PE DRUM:

„...Vai ai murit pă patu' spitalului *(sora)*
Vai pă mâna doctorului
Vai fără lumină de său
Vai fără oamini din satul tău
Vai măi frătiuc măi Vasalii
Vai unde v'ei amu pleca
Vai nu mere poșta nici cartea
Vai de-aici când îi ieși
Vai numele ți s-a uita

Vai urma ți s-a astupa
Vai frățiuc măi Vasalii
Vai și din ocol nu porni
Vai frățiuc măi Vasalii
Vai întinde mănurile
Vai și grăi cu neamurile
(începe drumul):
„...Vai și din ocol nu porni *(fiica)*
Vai hăi tătucă și hăi ta'
Vai pă cine te-ai supărat
Vai de-așa drum lung ai plecat
Vai și de știre nu ne-ai dat
Vai că ești gata de plecat
Vai și la noi nu te-ai băgat
(— stație —)
Vai fii părinte cu iertare
Vai și nu mere așa tare
Vai mare-i ziua și-am sosit
Vai mintenaș ne-om despărți
Vai tătucă și hăi ta'
Hai scoală-te tătucă scoală
Și lasă lada asta goală
Vai las-o-n pod să putredească
Și haida la mine-acasă
Vai că te-oi pune după masă
Vai la noapte ți-i culca-n pat
Nu-nt'-o groapă cu ajad
(— stație —)
Vai în poartă la țintirim
Stăi oleacă să grăim
Subt o creangă de mălin...
Vai cât o fo' primăvara
Vai te-ai legiuit cu moartea
Vai nu știu cum te-ai legiuit
Vai că moartea te-o biruit
Vai frățiucă Vasalii
Unde moarte tu te bagi
Vai nu mai lești boii-ngiugați
Vai, numa' lacrimi pă obraz
Vai frățiuc frățiucule
Vai aicea când oi zini
Vai cu cine m-oi jelui
Vai dacă dum'eta nu-i si
Vai frățiuc frățiucule
Vai de-acăsucă duci-te
Vai într-o grădină cu cruci..."
...Vai înt'o groapă cu izvor *(soră)*
Vai și noi ț-om muri d'e dor...
...Vai oi zini duminica
Vai când o fa' popa slujba
Vai m-oi uita la dum'ăta...
(— stație —)
Vai frățiucă și bunuc
Vai la poartă la țintirim
Vai stăi un pic să mai grăim
Vai mint'enaș n'e despărțim
O șoian nu ne mai întâlnim
De-a fi făcut Dumnezău
Vai fereastă la copârșău...
...O mămucă și bunucă
Fă-ți cărare p' în morminte
Ieși la frati-miu 'nainte
Vai că ț-am făcut de merindie
O merindioară puțîne'
Vai făcută de mâna me'..."

CÂNTĂRI LA GROAPĂ:

„...Vai hăi tătucă și hăi ta' *(fiica)*
Vai hai acasă s-om cina
Iară-napoi-i înturna
Vai c-ai plecat fără gustare
Vai de la casa dum'itle
Vai tătucă și hăi ta'
Vai aproape de mine-i si
Numa' nu-i pute' zini..."
„...Vai frățiuc unde-i dur'ni *(soră)*
Vai în țintirim cu morții..."
„...Vai cât de drag te-oi ierta *(soția)*
Vai cu te iert din inimioară..."
„...Vai noapte bună cu îți dzic *(fiica)*
Vai dum'eta nu dzici nim'ic..."
„...Vai mie rându' cum mi-a si...
(soția)
...Vai cum mi-a intrat pustiia-n casă...
Vai să-ț fie țărâna ușoară..
Vai la noapte unde-i dur'ni
Vai în grădină cu morții..."

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STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA PAEDAGOGIA, XLI, 1-2, 1996

IN MEMORIAM

ALEXANDRU ROŞCA

O VIAŢĂ ÎNCHINATĂ ŞTIINŢEI ŞI ÎNVĂŢĂMÂNTULUI

În cel de-al 90-lea an al existenţei sale, la 17 februarie 1996, s-a stins discret din viaţă — ca într-o fâlfâire de aripi — profesorul Alexandru Roşca, membru al Academiei Române, personalitate de seamă a psihologiei româneşti.

Născut la 23 august 1906 în localitatea Călata, judeţul Cluj, după ce face studii liceale, Alexandru Roşca se înscrie la Facultatea de litere şi filosofie de la Universitatea din Cluj, luând licenţa în psihologie în 1928. Încă student în anul II, este numit preparator la catedra de profil de la Universitatea clujeană, iar lucrarea sa de licenţă *O privire sintetică asupra psihologiei contemporane* este tipărită în volumul colectiv *Psihologia configuraţiei*. Doi ani mai târziu, în 1930, obţine titlul de doctor cu teza *Măsurarea inteligenţei şi debilitatea mintală* publicată în acelaşi an. După o călătorie de studii prin mai multe ţări, la reîntoarcere publică două lucrări *Debilitatea mintală* şi *Patologia deviaţilor morali* apărute în 1931. Pe linia aceloraşi preocupări, lista de lucrări tipărite ale tânărului psiholog clujean se îmbogăţeşte în anul următor cu un nou volum *Delincventul minor*, apoi *Psihologia martorului* în 1934, pentru ca ulterior să semneze (în colaborare) *Instabilitatea emotivă* (1936), *Adaptarea socială* (1938) şi *Monografii profesionale* (1943). De notat apariţia, în anul 1943, a importantului volum *Motivele acţiunilor umane*, devenită lucrare de referinţă în problema motivaţiei.

Toate aceste volume (cărţi), care finalizează o impresionantă muncă de investigaţii personale şi de condensare a unei ample informaţii bibliografice, duc mai departe cercetările cunoscute, îmbogăţesc literatura psihologică cu date inedite, făcând familiare cititorului de la noi o largă problematică şi totodată o documentare de specialitate adusă la zi. „Într-o perioadă în care psihologia experimentală şi aplicată făcea doar primii paşi la noi în ţară — se spune într-un medalion aniversar la 60 de ani — lucrările lui Alexandru Roşca au însemnat tot atâtea începuturi fecunde, care au fost reluate şi dezvoltate ulterior, oferind în acelaşi timp premise deschizătoare de drumuri pentru alţi cercetători" (Studia, 1967).

În activitatea sa didactică, între anii 1926 şi 1946, Alexandru Roşca îndeplineşte funcţiile de preparator, asistent şi şef de lucrări, în 1946 este promovat conferenţiar iar în 1947 devine profesor la catedra de psihologie de la Universitatea din Cluj, al cărei conducător a fost timp de 30 de ani. După pensionare, funcţionează în continuare ca profesor consultant, conducător de doctoranzi, manifestându-se ca o prezenţă activă şi sistematică în viaţa ştiinţifică. Este ales membru corespondent al Academiei Române iar după 1990 devine membru activ.

Într-o perioadă de peste 5 decenii de activitate, generaţii de studenţi şi-au însuşit din cursurile profesorului Alexandru Roşca fundamentele psihologiei şi au cunoscut — sub îndrumarea sa competentă — anii de ucenicie ştiinţifică. De asemenea, numeroşi cercetători tineri au beneficiat de asistenţa sa metodologică, au preluat idei şi tehnici de lucru verificate de o îndelungată experienţă, au cunoscut măsura înaltei exigenţe a muncii de investigaţie ştiinţifică.

Luând distanţă faţă de evenimentul cotidian, istoria ştiinţei este tentată să reţină produsul finit ca atare, corpul de cunoştinţe valide punând adesea între paranteze personalităţi, respectiv colective de cercetare, angajate în efortul organizat de explorare a unui domeniu sau altul. Memoria colectivă păstrează peste timp mărturii despre opera vie a acestor oameni şi grupuri, despre investiţia lor cotidiană de efort şi inteligenţă, care nu face materia consemnării istorice, dar devine foarte instructivă pentru studii de euristică ştiinţifică, de analiză a creaţi-

vității etc. Mesajul remarcabil al vieții de dascăl și om de știință a lui Alexandru Roșca este acela de a fi pildă vie de muncă exemplară, care se propune de la sine prețuirii comune fără ostentație sau prețiozitate verbală.

Profesorul Alexandru Roșca a strâns în jurul său un colectiv închegat de muncă, pentru care anii de colaborare rodnică au făcut ca ținuta științifică sobră, înalta exigență, cultivarea studiilor experimentale și aplicative, schimbul reciproc de informații și activități, stilul colectiv de lucru să devină cerințe firești, de fiecare zi.

Posesor al unei informații impresionante, dar și al unei grile severe de evaluare și selecție, în anii deplinei sale maturități științifice, Alexandru Roșca se dedică unor opere fundamentale pentru psihologia românească. Este vorba de *Tehnica psihologiei experimentale și practice* (1947), *Tratat de psihologie experimentală* (1963 — lucrare încununată cu Premiul de stat), *Psihologie generală* (1966 și 1975), *Creativitate, modele, programare,* (1967), *Metodologie și tehnici experimentale în psihologie* (1971). În aceeași perioadă semnează în colaborare: *Psihologia muncii industriale* (1967) — lucrare distinsă cu premiul Academiei Române, apoi *Aptitudinile* (1972), la care se adaugă în anii '80 patru volume de *Sinteze de psihologie contemporană*, în care psihologul clujean apare în colectivul de coordonare generală și ca autor.

Opera psihologică a lui Alexandru Roșca reprezintă o pledoarie convingătoare pentru utilizarea metodei experimentale în studiul fenomenelor psihice, pentru cercetarea condusă cu rigoare, pentru inferența controlată prin teste statistice, pentru expresia concisă a datelor și a concluziilor, aflate mereu în vecinătatea imediată a faptelor și evitând progresia spectaculoasă a discursului. Optiunea fermă pentru metoda experimentală o datorează Alexandru Roșca formației și apartenenței sale la Școala de psihologie clujană, fondată de Fl. Ștefănescu-Goangă, apreciat a fi întemeietor al psihologiei experimentale din România.

În ultimele trei decenii, Alexandru Roșca și-a concentrat eforturile asupra studierii creativității, în particular asupra colectivului de cercetare științifică. Preocupările în această direcție au început cu cercetarea comparativă a rezolvării de probleme în situație individuală și în grup (1967), în cadrul unor experimente simple, care miniaturează situații reale din învățământ.

În lucrarea sa de sinteză *Creativitatea generală și specifică* (1981) — apărută la 75 de ani — Alexandru Roșca reia întreaga problemă într-un cadru mai larg cu contribuții originale. Lucrarea în ansamblu constituie o încercare de a elabora o teorie științifică unitară a creativității, pornind de la surse dispersate, uneori divergente. Un loc important se rezervă, în lucrare, climatului creativ și colectivului de muncă științifică. În noțiunea de climat creativ se cuprinde nu numai climatul psihosocial din grupul profesional de muncă, ci și atmosfera din familie și școală care-l precedă, precum și ceea ce revine condițiilor social-istorice. În ceea ce privește creativitatea colectivă, apariția simultană a unor creații, invenții și descoperiri certifică faptul că acestea se încadrează în anumite legități social-istorice, independente de particularitățile individuale ale personalității creatoare. Trăsătura care devine tot mai caracteristică pentru știința contemporană — arată autorul — este activitatea de grup. Colectivul științific (formal sau informal) este nu numai o necesitate a vremii noastre, ci și un factor de amplificare a creativității în comparație cu prestația individuală. Această concluzie devine evidentă în cercetările autorului, desfășurate — pe baza unui interviu analitic — asupra unui lot de 70 de oameni de știință remarcabili (40 matematicieni și 30 fizicieni). Printre factorii potențiali ai creativității colective se remarcă: schimbul de informații și idei, compensarea calităților, dinamica de grup, atmosfera din colectiv, influența formativă asupra cercetătorilor tineri ș.a.m.d.

În același context, Alexandru Roșca subliniază funcția creatoare a discuției științifice care înlesnește grupului vehicularea unui volum mai mare de informații decât în situația individuală, oferă o bază critică mai largă și un pretest al ideilor avansate, favorizează gândirea divergentă prin multiplicarea punctelor de vedere, imprimă claritate și concizie comunicării.

Bucurându-se de un binemeritat prestigiu în lumea științifică Alexandru Roșca a participat la numeroase congrese și reuniuni internaționale de psihologie, fiind

invitat să conducă simpozioane sau să prezinte rapoarte în cadrul lor. De asemenea, a fost ales în conducerea Asociației Internaționale de Psihologie Aplicată, precum și a Asociației de Psihologie Științifică de Limbă franceză. În nenumărate rânduri, a fost invitat să prezinte expuneri în cadrul universităților din Franța, Belgia, S.U.A., Germania ș.a.

La capătul vieții sale, în consonanță cu modestia și discreția traseului propriu, Alexandru Roșca a dorit să aibă o înmormântare simplă, fără publicitate, discursuri sau ceremonii. În ziua de 20 februarie 1996, de la capela din cartierul Mănăștur al Clujului, un grup de prieteni și colaboratori l-au condus cu inimile cernite pe ultimu-i drum, având conștiința că omul e trecător, doar opera e perenă.

PROF. I. RADU
CONF. M. MICLEA

STUDIA UNIV. BABEŞ-BOLYAI, PSYCHOLOGIA-PAEDAGOGIA, XLI, 1-2, 1996

DIMITRIE TODORAN

(1908– 1996)

De curând (22 august 1996) pedagogia românească a pierdut pe unul dintre reprezentanții săi de elită, pe profesorul Dimitrie Todoran. Regretat de mulțimea colegilor, a colaboratorilor și a foștilor săi elevi pedagogul clujean a lăsat în urma sa un mare gol, care cu greu va putea fi completat. Istoria pedagogiei a înregistrat locul deosebit pe care l-a ocupat Dimitrie Todoran în evoluția pedagogiei românești. Apreciat ca o figură proieminentă a pedagogiei contemporane, ca un cavaler al disciplinei, ca un model de conduită profesională și cetățenească, un exemplu de exigență și autoexigență, profesorul Dimitrie Todoran, formator al multor generații de educatori a lăsat în urma sa o operă memorială nu atât prin mulțimea volumelor cât mai ales prin calitatea lor.

Stima de care s-a bucurat prof. D. Todoran în diversele funcții pe care le-a ocupat a devenit și ea un indiciu al calității și competenței sale. Trăsăturile de personalitate ale pedagogului D. Todoran subliniate de diverși săi comentatori au fost: demnitatea, distincția și eleganța, competența și rigurozitatea, erudiția și curajul unor opinii personale, o autocenzură severă. Dimitrie Todoran este considerat ca un pedagog academic, de catedră.

Dimitrie Todoran s-a născut în comuna Ibănești, jud. Mureș, în septembrie 1908. Termină liceul la Târgu Mureș și urmează cursurile Facultății de filozofie și litere la Universitatea din Cluj (1926—1929), unde își ia licența în psihologie și pedagogie, iar în 1932 obține titlul de doctor. Pentru perfecționarea pregătirii face o călătorie de studii în Austria și Elveția, în 1934. Ocupă apoi pe rând posturile de preparator, asistent, șef de lucrări, conferențiar și profesor titular din 1947.

Funcționează ca profesor la catedra de pedagogie a Universității din Cluj între 1947—1970. După 1970 trece la București, unde ocupă postul de președinte al Consiliului științific al Institutului de științe pedagogice, rector al Institutului de perfecționare a personalului didactic; profesor și șef de catedră al colectivului de pedagogie la Universitatea din București, până la pensionare.

Psiholog de formație, elev al profesorului Fl. Ștefănescu-Goangă, Dimitrie Todoran se afirmă inițial prin câteva lucrări de psihologie. Cu lucrarea *Psihologia educației* (1942) face trecerea de la psihologie la pedagogie.

Contribuția profesorului D. Todoran la dezvoltarea pedagogiei a mers pe mai multe direcții: psihologică, axiologică, culturală și filozofică. El abordează câteva probleme fundamentale ale pedagogiei: obiectul pedagogiei ca știință modernă și legile de dezvoltare a fenomenului educativ, previziunea în dezvoltarea și conducerea educației, modernizarea învățământului și a educației și posibilitatea măsurării acestor fenomene etc. D. Todoran a fost și un traducător și comentator al unor însemnate figuri din științele educației, ca: Rousseau, Helvetius, Diderot, Meumann.

O primă etapă în evoluția profesională a profesorului D. Todoran este caracterizată de lucrările de psihologie, publicate între anii 1932—1942. Între acestea se înscriu: *Psihologia temperamentului* (1932) *Bazele psihologice ale caracterului* (1935);*Psihologia reclamei* (1935); *Orientarea profesională academică. Studiul vieții studențești* (1936); *Psihologia educației* (1942).

Între anii 1943—1982 lucrările publicate de prof. D. Todoran au un caracter predominant pedagogic: *Educație și pedagogie* (1943); *Introducere în pedagogie* (1958);*Fundamenta paedagogiae* (1970) (coord.); *Probleme fundamentale ale pedagogiei* (1983), (coord.), *Individualitate și educație* (1974).

O categorie specială de lucrări ale profesorului D. Todoran o constituie introducerea unor opere cu implicații pedagogice ale lui A. Binet: *Idolle moderne*

despre copii (1795); E. Meumann: *Prelegeri introductive în pedagogia experimentală și bazele ei psihologice* (1980); E. Rousseau: *„Emil" sau despre educație* (1973); Helvetius, Diderot ș.a. Traducerile făcute, însoțite de comentarii arată o documentare și un spirit științific riguros.

Se cuvine subliniat apoi, în mod deosebit, *stilul de lucru* pe care prof. D. Todoran l-a introdus și cultivat în colectivele catedrelor de pedagogie din Cluj și din București, și a cărui influență benefică asupra colaboratorilor săi a fost resimțită de către cei mai mulți. Prezența în colectivele de lucru a pedagogului D. Todoran crea o atmosferă serioasă, adeseori gravă, mobilizatoare și stimulatoare, fără inhibiții sau reticențe.

Principiile care-i dirijau conduita funcționau constant și consecvent.

Călăuzit de o concepție progresistă despre evoluția umană pedagogul Dimitrie Todoran consideră că pedagogia este o știință normativă și de aici decurge specificul său de „modelatoare a naturii umane sub imperiul valorilor". De altfel el propune termenul de știință a educației în locul celui de pedagogie, care este o știință aplicată, de sinteză.

În volumul *Probleme fundamentale ale pedagogiei* al cărui coordonator este, pedagogul D. Todoran scrie: „Transmiterea sistematică și organizată — prin instituții corespunzătoare — a experienței social-istorice în vederea pregătirii pentru viață a noilor generații și a perfecționării acestei pregătiri în tot cursul dezvoltării individului constituie educația în semnificația ei cea mai generală" (p. 11). Mai departe autorul precizează că: „Știința educației, pedagogia, tinde să descopere legile ce intervin în desfășurarea fenomenelor educaționale pentru ca, treptat să le poată stăpâni, dirija și planifica în toată amploarea lor" (p. 57).

Multe din ideile pedagogice ale profesorului D. Todoran au devenit repere importante și puncte de sprijin pentru elaborarea unor aspecte psihopedagogice ale procesului de educație. Iată unul din acestea: „Responsabilitatea umană și etică a oricărei acțiuni pedagogice implică în mod necesar eliminarea pericolului de trecere din situația de învățare în cea de frustrare" (p. 66).

Câțiva dintre istoricii pedagogiei (I. Gh. Stanciu, Ștefan Bârsănescu, Stanciu Stoian, D. Zaharian ș.a.) au rezervat câteva pagini analizei operelor sale și contribuției pe care prof. D. Todoran a adus-o la dezvoltarea pedagogiei românești.

Astfel I. Gh. Stanciu (în *Școala și pedagogia secolului XX*) subliniază că: Psihologia educației este o „scriere de erudiție" menționând că temelia educației este „biologică" și „sociologică", D. Todoran lansând o „teorie originală asupra învățării (p. 80—87) (gradient-dinamică).

Stanciu Stoian în *„Pedagogia română modernă și contemporană* referindu-se la lucrarea profesorului D. Todoran: *Introducere în pedagogie* o caracterizează ca o lucrare „erudită", în care abordarea educației se „face în termeni cu totul noi și moderni" (p. 213), profesorul D. Todoran fiind „unul dintre primii care introduce la noi preocupările axiologice moderne în pedagogie" (p. 213).

Prof. Ștefan Bârsănescu în *Dicționar de pedagogie contemporană* (1969), prezentându-l pe D. Todoran subliniază că acesta „prelucrează experimentul pedagogic cu măsură, considerând că valoarea acestuia constă mai ales în tehnica de aplicare și de interpretare și că acesta trebuie asociat în permanență cu celelalte metode de cercetare pedagogică. Preocupările lui Todoran din ultimii ani țin mai ales de epistemologia pedagogică (bazele pedagogiei ca știință, problema legii în pedagogie etc." (p. 268).

Uneori intervențiile cumpănite și plasate în momente critice ale profesorului D. Todoran au scos din impas mișcarea pedagogică. Traducerile au fost un refugiu în perioada în care restricțiile și devierile pedagogiei, sub influența ideologiei marxiste, acționau cu o detestabilă perseverență.

Personalitate aleasă, un spirit științific riguros, cu de o deosebită consecvență, în pas mereu cu mișcarea pedagogică din țară și din străinătate, a evitat excesele; s-a opus preluării rapide și necritice a unor inovații (învățământul programat, abuzul de termeni străini etc.).

Prin atitudinea sa măsurată, calmă și controlată în fața invaziei noutăților „ideologice" el a influențat în mare parte conduita colaboratorilor săi.

Un pedagog de catedră, exigent cu sine și cu alții, adept al unui stil sobru, științific, exact și meticulos profesorul Dimitrie Tudoran este apreciat ca un specialist cu o largă viziune asupra fenomenului educațional.

Prin dispariția profesorului Dimitrie Todoran, pedagogia românească pierde una din figurile sale cele mai reprezentative, un model de atitudine etică și cetățenească.

Susținător convins al școlii și al reprezentanților ei, D. Todoran lasă în urma sa o operă, care își așteaptă exegeții pentru a fi pusă la dispoziția personalului didactic de toate gradele. Științele educației îi rămân îndatorat pentru aura aleasă cu care le-a înconjurat și cultivat.

PROF. UNIV. DR. DUMITRU SALADE

RECENZII

Christiane Lepot-Froment, Nadine Clerebaut, **L'enfant sourd — Communication et langage,** De Boeck & Larcier S.A., Bruxelles, 1996.

Tratatul *Copilul surd. Comunicare şi limbaj,* reprezintă rodul unei activităţi de cercetare desfăşurată timp de mai multe decenii de Christiane Lepot-Froment, profesor la Facultatea de Psihologie şi Ştiinţele Educaţiei din cadrul Universităţii Catolice din Louvain-la-Neuve şi de Nadine Clerebaut, psiholog şi logoped la un centru de terapie a limbajului din Bruxelles, care au coordonat investigaţiile unui grup de specialişti în problematica atât de complexă a educării copilului deficient de auz.

Lucrarea este structurată în patru părţi, cu titluri semnificative *(La întâlnirea cu limbajul, Mediile lingvistice noi, Copilul şi partenerii săi* şi *Un drum diferit,* precedate de o prefaţă semnată de Olivier Perier şi de o introducere.

Pentru elaborarea acestui tratat, autorii au consultat o bogată literatură ştiinţifică din diverse discipline: medicină, psihologia dezvoltării, psihologie cognitivă, psiholingvistică, lingvistică, logopedie, audiologie etc. Deasemenea, au fost fructificate reflecţiile ştiinţifice provocate de diferite cercetări empirice şi de activităţile educative desfăşurate cu copii dedeficienţi de auz.

Remarcabil este faptul că prin acest tratat s-au adus contribuţii esenţiale în privinţa dezvoltării comunicării şi limbajului la copiii surzi proveniţi din părinţi surzi sau auzitori şi la copiii auzitori proveniţi din părinţi surzi. In acest mod, autorii îmbină elemente ale psihologiei dezvoltării şi ale psihologiei diferenţiale pentru explicarea achiziţiei competenţelor de comunicare la copiii deficienţi de auz.

În cadrul primei părţi, autorii analizează: *construirea comunicării vocale* la copilul cu deficienţă de auz comparativ cu copilul auzitor; *interacţiunile prelingvistice între copil şi părinţi; premisele achiziţiei limbajului oral şi scris; achiziţia unui limbaj al semnelor; limbajul oral şi comunicarea gestuală spontană; efectele expunerii la limbajul vorbit şi la limbajul semnelor.*

A doua parte este destinată analizei problematicii noilor medii lingvistice în cadrul cărora are loc educarea copilului surd: *utilizarea „limbajului vorbit completat"* — conceput ca un sistem de semne vizuale care permit depăşirea ambiguităţilor lecturii labiale şi contribuie la dezvoltarea lingvistică şi cognitivă a deficientului de auz; *tinerii surzi şi comunicarea bimodală* (prin semne şi cuvinte). Cercetările experimentale şi de teren au pus în evidenţă beneficiile pe care le antrenează expunerea precoce a copilului surd la „limbajul vorbit completat" cu diferite sisteme de facilitare a lecturii labiale. Aceste beneficii rezidă în optimizarea achiziţiei caracteristicilor fonologice, morfologice şi sintactice ale limbajului oral, precum şi în învăţarea citirii.

Multimodalitatea universului lingvistic a copiilor surzi, analizată în această parte a tratatului, a permis infirmarea ipotezei conform căreia învăţarea vorbirii şi învăţarea limbajului gestual ar fi incompatibile. Important este ca, prin demersuri pedagogice adecvate, să se conştientizeze de către copiii surzi diferenţele structurale între limbajul semnelor şi limbajul vorbit.

În cadrul părţii a treia, se subliniază rolul formativ al interacţiunilor dintre copilul surd şi partenerii săi. În acest sens, sunt ana-

lizate: *schimburile comunicative între părinți, îndeosebi mama, și copilul surd între 2 și 5 ani; limbajul oral adresat de adult copilului surd și copilului cu handicapuri multiple; copilul surd în grădiniță — comportamente de comunicare și de conversație; copiii surzi și profesorii lor — abilități de comunicare și de conversație, strategii conversaționale promovate de către profesori și de către părinții auzitori; copiii surzi și jocul simbolic.*

Ultima parte a tratatului analizează problematica specifică a copiilor auzitori proveniți din părinți surzi. Se insistă asupra particularităților dezvoltării comunicării la acești copii, ale relațiilor părinți-copii cu repercusiuni asupra sentimentului stimei de sine, precum și asupra rolului experienței clinice în educația precoce a copiilor deficienți de auz.

Considerăm că acest tratat are o certă valoare teoretică, metodologică și aplicativă, fiind, după cunoștința noastră, primul de acest gen din literatura de specialitate. Valoarea metodologică și aplicativă a *lucrării rezultă, în mare* măsură din faptul că în majoritatea capitolelor sunt prezentate experimente și experiențe edificatoare pentru formarea competențelor de comunicare la copiii cu surditate, precum și studii de caz analizate pe baza înregistrărilor video. Totodată, informațiile științifice din acest tratat deschid noi posibilități de explicare a psihogenezei comunicării verbale și nonverbale, atât în condițiile validității cât și în condițiile deficiențelor de auz.

VASILE PREDA

Christiane Lepot - Froment (Éd.) **Éducation spécialisée — Recherches et pistes d'action**, De Boeck & Larcier S.A., Département De Boeck Université, Paris, Bruxelles, 1996.

În ultimii ani, problematica educației speciale a declanșat o serie de cercetări teoretico-metodologice și mai ales cercetări-acțiune, multe dintre ele de nuanță interdisciplinară. Apariția unei asemenea lucrări cum este cea editată de Christiane Lepot-Froment, în colaborare cu 14 cercetători belgieni specialiști recunoscuți în domeniul educației speciale, este de larg interes pentru toți cei implicați în optimizarea acțiunilor corectiv-compensatorii și formative desfășurate care prezintă diverse dizabilități.

Introducerea, semnată de Christiane Lepot-Froment și Michel Mercier, relevă cele mai recente probleme ale educației speciale, subliniind importanța acesteia în prevenirea și înlăturarea unor handicapuri.

În primul capitol, André Dehant și Nathalie Catinus abordează problema **stimulării mintale prin intermediul imaginilor,** la copiii deficienți mintali. Pe baza celor mai recente teorii privind structurile cognitive și evoluția genetică a acestora (A. Paivio, E. Rosch, E. Tulving), autorii subliniază rolul reprezentărilor și al organizării conceptelor în cadrul diverselor rețele semantice. Pornind de la cadrul teoretic oferit de psihologia cognitivă cu privire la geneza și funcționarea sistemului de tratare a informațiilor, A. Dehant și N. Catinus propun un proiect de antrenare a lecturii imaginilor, în cinci etape, de complexitate crescândă. Acest proiect informativ a fost aplicat cu succes la copiii cu handicap mintal, relevându-se efectele pozitive asupra dezvoltării limbajului, precum și asupra inteligenței.

Annick Comblain prezintă, în al doilea capitol, un remarcabil studiu privind *evaluarea limbajului la copiii și adolescenții handicapați mintali*, pe baza bateriei de evaluare a morfologiei și sintaxei (BEMS). Pentru practicieni, este important faptul că, pe lângă calitățile evaluative ale BEMS, autoarea prezintă și valoarea formativă a acestei baterii, în cadrul în-

terven̦iilor care vizează achizi̦iile din domeniul morfologiei și sintaxei, în contextul învă̦ământului special.

În capitolul trei, Jean Marc Braibant studiază *diversitatea tulburărilor de lectură*, prezentând și interesante studii de caz (hiperlexie moderată, dislexie compensată, retard global în achizi̦ionarea lecturii). Diferitele profile de dislexici și hiperlexici au fost relevate prin utilizarea a două baterii de probe de evaluare, aplicate la 450 de elevi din învă̦ământul primar.

Michel Born și Vinciane Chevalier, în capitolul patru, ne prezintă cele mai recente *abordări comportamentale și cognitive în educarea tinerilor cu conduită agresivă*. Autorii relevă calită̦ile și limitele tehnicilor cognitive și comportamentale aplicate delincven̦ilor: programul „Token economies", tehnica bazată pe contractul comportamental, „Emotional shock training", antrenamentul abilită̦ilor sociale, programul de dezvoltare a maturită̦ii în relă̦iile interpersonale și programul de ameliorare a competen̦elor de tratare a informa̦iilor, pentru rezolvarea problemelor vie̦ii cotidiene.

În capitolul cinci, Marie-Claire Haelewyck, Nicole Montreuil și Ghislain Magerotte prezintă o sinteză a cercetărilor referitoare la importan̦a *individualizării* ac̦iunilor educative cu scopul formării competen̦elor de generalizare și de creare a re̦elelor sociale la copiii cu handicap mintal și la copiii autiști.

Promovarea sănătă̦ii în educa̦ia specială reprezintă o problemă de actualitate, cititorul găsind în capitolul șase, elaborat de Jacqueline Delville, Michel Mercier și Marie Mattys, informa̦ii utile privind importan̦a alimenta̦iei, a vie̦ii afective și sexuale în educa̦ia pentru sănătate a handicapa̦ilor mintali. Autorii subliniază rolul psihologului în cadrul echipei interdisciplinare care se ocupă cu aplicarea noilor tehnologii în promovarea sănătă̦ii acestor persoane.

Ultimul capitol al acestei cărți prezintă câteva reflec̦ii referitoare la problemele etice pe care le presupune educa̦ia specială, care are drept scop valorizarea tuturor poten̦ialită̦ilor persoanelor handicapate sau cu diverse disabilită̦i, pentru optimizarea integrării școlare, profesionale și sociale a acestora.

VASILE PREDA

CRONICĂ

I. Manifestări ştiinţifice organizate de Catedra de Psihologie

Manifestări interne:

- A doua Conferinţă Naţională de Ştiinţe Cognitive, 2—4 mai 1996, Cluj-Napoca.
- Conferinţa Naţională de Neuropsihiatria Copilului şi Adolescentului, 2—4 iunie, Cluj-Napoca.

Manifestări internaţionale:

- International Summer School on „Cognitive-Bahavior Modification", —22 august 1996, Cincis — Hunedoara.

Colaborări din străinătate şi vizite la catedră:

- W. Hirst, New School for Social Research New York, U.S.A.;
- D. Read, University of Toronto, Canada (visiting professor);
- D. Manier, New School for Social research, (visiting professor).

Participări la manifestări ştiinţifice externe:

- Adriana Băban — European Congress on Health Psychology, Dublin,
- Mircea Miclea — International Conference on Memory and Cognition, Padua — Venezia.

II. Manifestări ştiinţifice organizate de Catedra de Ştiinţe ale Educaţiei

Manifestări internaţionale:

- Simpozionul internaţional „Formarea formatorilor", 16 iunie 1996, Cluj-Napoca.

Colaborări din străinătate şi vizite la catedră:

- Roel Steenberger, rectorul Institutului Superior Windesheim, Olanda;
- Harry Daniels, şeful catedrei Educaţie integrată, Universitatea din Birmingham, Marea Britanie;
- Aalt Riezebos, profesor, Institutul Superior Windesheim, Olanda;
- Johan Valstar, profesor, Institutul Superior Windesheim, Olanda;
- Katalin Feher, profesor, Universitatea ELTE, Budapesta, Ungaria;
- Charles Temple, profesor, Colegiul Hobard & William Smith, Geneva, New York, U.S.A.;
- Scott Brophy, profesor, Colegiul Hobard & William Smith, Geneva, New York, U.S.A.;
- Scott Walter, director International Reading Association, Newaik, U.S.A.

Participări la manifestări ştiinţifice externe:

- Miron Ionescu, schimb de experienţă la Universitatea Birmingham, Marea Britanie, în perioada 1—30 martie 1996;
- Vasile Chiş, schimb de experienţă la Universitatea Birmingham, Marea Britanie, în perioada 1—30 martie 1996;
- Ionuţ Isac, participare la Congresul „R. Descartes", Universitatea Sorbona, Paris, în perioada 30 august — 4 septembrie 1996.

Tiparul executat la Imprimeria „Ardealul" Cluj
Com. nr. 70150

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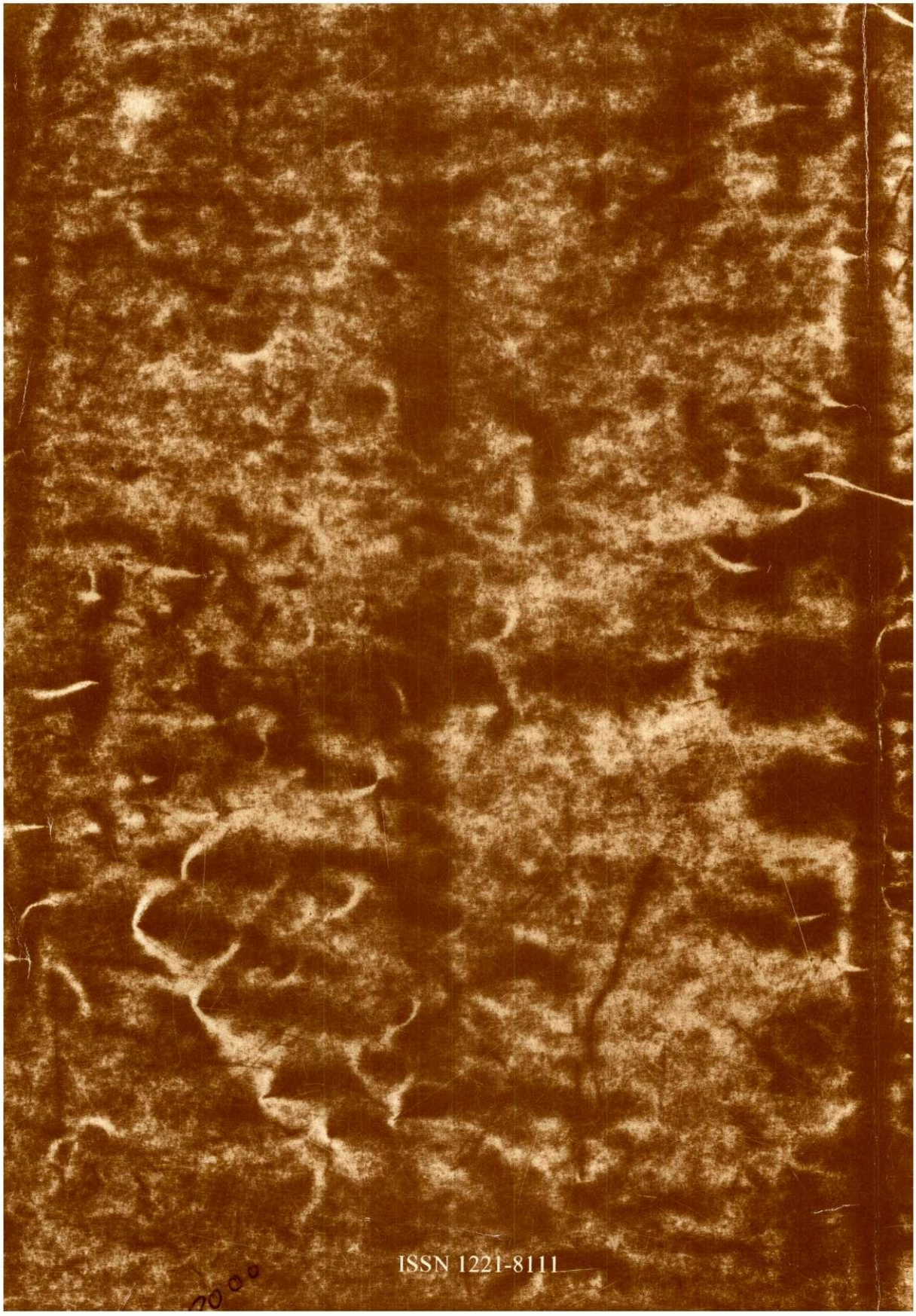

ISSN 1221-8111