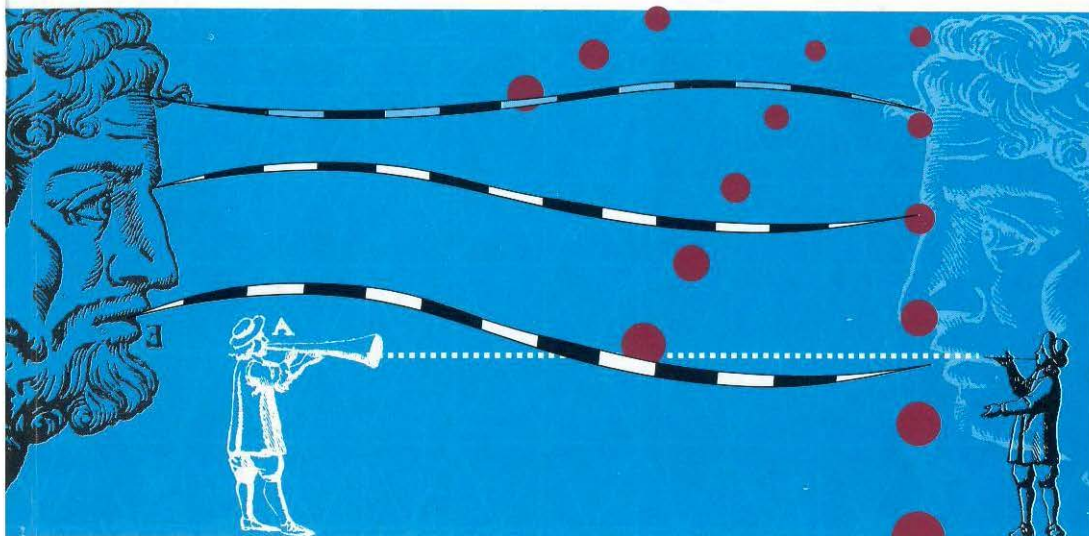# Educational Research

Research Catalogue
1989 - 1993

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Institut de Ciències de l'Educació
UNIVERSITAT DE BARCELONA

Educational Research

Edited by:

José L. Rodríguez Illera
Mª José Rubio Hurtado

Year 1994

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Institut de Ciències de l'Educació
UNIVERSITAT DE BARCELONA

Educational Research

Contents

Educational Research:

Presentation

RESEARCH WITHIN THE I.C.E. CONTEXT

As from its founding, the Educational Sciences Institutes have foreseen, among its essential objectives, the faculty continuing training and the educational research, the latter especially focused within those areas related to mentioned training.

However and as from the L.R.U. (University Ordering Law) passing, the university departments role has been emphasised as teaching and research basic units, hence deducing that the I.C.E.'s were freed from one of its fundamental tasks.

We believe that these assertions are in force though nevertheless this does not entail any sort of competitive conflict.

It is thus that we understand it is appropriate to place teaching and research at the same departmental responsibility level. Within the university context both functions entail the same continuum and its separation is undesirable.

To remove from teaching the innovating and creative reflection provided by research would be unfortunate and possibly suicidal. Neither is it easy to justify an especific furtherance via a research entirely disconnected from the teaching praxis in a primarily training environment such as the university one.

As it is widely known, the Barcelona University I.C.E., as the Educational Sciences Division Centre, participates in teaching tasks of great responsibility and due to this fact it ought not nor cannot resign – in accordance to what has been previously indicated – to the research elemental complement.

On the other hand, we deem that one of our Institute main features is its being the sole scientific–training meeting site of the various university departments related to teachers training, as well as that of the three large training levels, primary, secondary and university.

This relation optimal condition allows us the possibility to form a perfect supportive platform to create inter–departmental task force teams transversally projected with regard to the three teaching areas.

To make possible all the above is our grat challenge as well as a huge institutional responsibility. Our reply tries to become true as from providing an infrastructure and logistic support to all those groups that chose us as the usual working site or who are being trained round us.

The results being obtained are most hopeful. Slowly but steadily, the research consistent trends are coming to light, some of them being greatly appreciated and are object of national andinternational prestige. If the number and amount of the research aids are to be admitted as the fundamental index of a Research Centre, we can assess that there is no other more active unit in the whole Social Sciences environment of our University.

As proof of all the above is the publication we are pleased to introduce through this foreword. With its issuance we have intended to abridge, but to include as well, the essential information on the research work developed at our institute.

It is our intention to spread the works and the information on the research groups and to make it known as largely as possible tending to join the scientific community members who might be interested to know or to participate in those tasks which are part of our activities.

Through our effort we wish to co–operate to withdraw the renown – and probably sound – idea that it is easier for a researcher in our country to get to know whatever any other colleague of his is endeavouring in, let's say, Wisconsin, than the work being carried out by his colleague next door.

Finally, we wish to thank those who have made possible the patient collection of work through their effort, while we trust that their number might increase in the near future.

Barcelona, February 1994

Joan Mateo
Director

Introduction

Rather schematically the present publication reflects the large variety of research work carried out at the Barcelona University ICE throughout the last four years. We believe it is worth to uphold these works as they have not always received the necessary span public spreading.

As it is well known, the ICEs arose with an evident research purpose. This trend was fist channelled through the INCIE netwotk and further on it was continued through other bodies such as the current CIDE. Opposite to what has taken place in other autonomous regions, the ICEs in Catalonia have kept on bearing a similar status throughout over their more than 20–years of operation. This fact has been the reason why continuing education has kept on being carried out at the university and not at the Faculty Centres as it has happened in other models. Yet this closeness to the University has not always meant that the university faculty, on studys subjects close to research, have become involved insofar as educational research is referred. Many are the reasons for this not to have taken place yet perhaps one of the most obvious has been the gradual drift to training tasks which have more strongly fallen on these bodies throughout the last decade. An outstanding part of this training has posed new queries and some of these have become authentic research and training programmes.

Maybe the most outstanding change which has taken place in the last years, and partially supporting this publication, is the progressive increase of university faculty decided to carry outresearch on educational subjects linked to the Institute. It has not been due to chance that in 1988 three University assistant professors posts were created as well that later on a researcher vacant post was allocated, as well as another one for qualified technician to assist on research tasks. This reduced group of researchers together with several fellows awarded by the Research Personnel Training Plan fellowship and some university professors have jointly contributed to thrust research, publications and attendance to national and international meetings on research.

This change has been the result of some adopted decisions as well

as the continuation of a tradition well known in some environments. In particular in what we might broadly call "language and education". As from the beginning, and through Miguel Siguan's (ICE's first director) and his team's work, the teaching in bilingual contexts – such as the Catalan instance – subject has focused many people's attention and work. Ignasi Vila (ICE's second director) has prompted several works in the same sense. Some of these have become Doctoral Theses in other Departments of this same University. Even though the linguistic competence evaluation has been one of the last years focuses, it is nothwithstanding true that other subjects referred to the study of language have observed an increasing importance. For instance, the acquisition of writing and the notation systems in general. As well as second language didactics, in particular in languages such as Engish and Spanish.

Together with this large area that has been reinforced year after year as from 1982 through the Seminars on Language and Education that the Institute has published, other more restricted areas have been developed and have as well proven to be very dynamic. These areas entail, on one side, basic research on educational sociological objectives: as from passage to the working field going through the socio–educational codes up to multicultural education subjects. On another side, an area halfway between development and research referred to computerised and multimedia instructional materials evaluation and production, as well as development of computerised tools for research support (in particular in the case of language). And finally, a set of research works, even though not closely linked as far as subjects, that are classical in the educational field: professors' training, evaluation, specific didactics, etc. These main working areas coincide with the assistant professors profiles who are carrying out their doctorate work referred to programmes of other departments of this same University.

This is briefly the Institute educational research current situation as well as the aim of this publication, that in itself furthers the one carried out some years ago by Benedito (1983). Our exposition has chosen to

carry out a brief description of the research objectives and in some cases of its results, grouped by the criteria referred to the working main axes that have been commented. We have wished to add a bibliography with the publications of those persons whoo have been more involved with the Research Section throughout these years. Even though thisbibliography is not exhaustive, it indeed shows how and where the reasearch works have been made known. We have also simply included some general purpose articles on theoretical or methodological lines articles that inform them. An ordered listing of documents titled Working Papers / Papers de Treball on educational research has finally been as well included as it represents an agile means to publish final reports or reflections on works underway.

We hope this publication may become a catalogue on the subjects of the last years work and that it might prove useful both to review working lines as well as to become a link among persons interested on the subject.

Barcelona, December 1993

Jose L. Rodriguez Illera
Research Section Head

Record cards

Language Model transmitted in Immersion Programs.

Director
Josep M. Serra Bonet
Team numbers
Ignasi Vila Mendiburu, Mª Llum Páramo

Sumary

The expectations created in Catalonia by immersion programs and their good initial results have caused an increase in the number of children enrolled in schools which offer them.

This situation poses a question: the quality of the schools with immersion programs.

We make reference to the language model transmitted in immersion programs, an important question in psycholinguistics. We use two lines of approach to address it:

1-Study of the linguistic and interactional model transmitted by teachers.

2-, and the relation between 1 and 2.

How Children read on finishing immersion programs.

Sumary

In Catalonia there are currently 70.000 children in schools with immersion programs; for most of them Spanish is the language spoken in the family. This means that these children change language from kindergarten to school. This is important for two reasons: the important relation between the acquisition of reading and writing and success in school tasks, and the awareness that proficiency in the skills of reading and writing is clearly related to competence in the speaking skill. Therefore it is important that school activities in immersion programs enable children to reach competence in the speaking skill in their relations with other children and with teachers.

This research asks two questions:

1-How do children who go to schools with immersion programs read at the end of their primary studies?

2-Does the immersion program facilitate access to the new code, the written code?

Comparative Research into Knowledge of Catalan in the 8th grade of EGB.

Director
Josep Mª Serra Bonet
Team numbers
Ignasi Vila Mendiburu, Mª Llum Páramo

Sumary
Currently, the educational policy in Catalonia treats favourably every-thing that enables children to be equally competent in Catalan and Spanish. However there are other factors that may influence general results:

Differences in family language and learning types are important in understanding the differences in the children´s use of Catalan.

This research aims to study this question and wants to evaluate the knowledge of Catalan and Spanish in the 8th grade of EGB.

Language acquisition in bilingual families (Catalan / Spanish) in the 3-5 age group.

Sumary
The aim of this research project is to study the linguistic evolution of two bilingual subjects (Catalan/Spanish) and two monolingual subjects, Catalan and Spanish speaking respectively.

This evolution will be studied with reference to four areas:
- word order
- tense and aspect
- articles and pronoun system
- complex sentences

Catalan and Spanish have major variations with regard to the basic Subject-Verb-Object order, due to pragmatic factors. There are also differences in the placing of particles. The progressive command of these variations on the part of the bilinguals, as well as "errors", provides important information for the study of syntax acquisition.

As for complex sentences, we are interested in studying coordination and subordination inside the area of discourse. It is necessary to study the progressive command of argumentative particles in order to discover the "mezcla" or independence of codes in bilinguals. Furthermore, the study of particles such as articles and pronouns in discourse allows us to examine the path of these particles from unifunctionality to

plurifunctionality (Karmiloff-Smith).

Finally, tenses and aspects provide a morphological area of considerable interest in testing whether or not bilinguals distinguish between the languages they use.

Evaluation of an immersion program in low socio-cultural conditions.

Sumary
The aim of this research is to analyze the effects of a change of language program (home-school, Catalan-Spanish) in a low socio-cultural context, to identify variables and their interrelations that determine the success or the failure of this innovative pedagogic proposal.

The variables analyzed are:

1-Social and socio-linguistic aspects.

2-School-family relations.

3-The schools and their organisation.

4-Relations between the school and other institutions.

5-The immersion program.

6- Children´s bilingual competence.

Comparative study of different author languages for the productions of educational software.

Sumary
  Aims:
  . to analyze and assess the latest graphic and user interface software in the field of Author Languages.
  . to set up an EAO programme in the language or languages assessed that are considered to be the most suitable in terms of technical capacity and educational application.
  The selection criteria for the author languages were basically their power, and cost.
  The points considered in the assessment were: technical specifications, level of complexity, features of the language and the author systems, graphics and image edition, text edition, and videodisk control edition.
  The study offers an analysis based on thorough assessment and detailed comments on the author languages chosen: IconAuthor, Linkway and Hyperpad for PC, and Hypercard, CourseBuilder and Authorware for Macintosh.

Learning and education. Development of a Hypertext system for teaching support in the learning theories field.

Sumary

The basic objective is to develop a computer programme in hypertext format referred to the theories on human learning and its inferences on education, subject to be used as support tool on teaching. A great deal of information, both as text and graphics, and structured in hypertextual form will be entered to enable the student to use it as an "electronic book" yet reinforcing the connections between different authors and schools.

The programme usage context is located at universityteaching level. Basically among Pedagogics, Psychology and Professorate Studies students.

A prototype version with Macintosh and Windows versions of "Spinnaker Plus" author's system has been carried out.

Developing software for linguistic anlyses: strings.

Keywords
Educational computing

Director
José Luis Rodríguez
Team numbers
José Luis Rodríguez
Subsidised
No
Subject
Computing-development

Year
1990
Classification
Applied Development

Sumary
Software for the formal analysis of linguistic strings. It allows random generation of strings with numbers and letters, as well as formal analysis (size, average, distribution over length, contiguity of written products). It accepts and sends out data.

Development of software for geology: Sedimentary Forms.

Keywords
Educational computing

Director
J.L. Rodriguez, P. Busquets
Team numbers
Computer design. (E. Guiu, M. Lizano y M.J Rubio) graphic design. (M. Oró)

Subsidised	Year
No	1990-91
Subject	**Classification**
Computing-development	R + D

Sumary

Objectives:

- to develop an educational program in several computer environments by using different tools of software production.

-to compare the results obtained in every application, relating them to the time at which it was carried out.

The environments selected were: PC and Macintosh, and for development the choice was: authorware, simplified software languages which do most of the authors´ work for them, screen definition, forms of interface, answers input, evaluation of these answers, ramification strategies, etc.

The result was a first version of a document on a geological theme: "Sedimentary Forms"realized in 4 authorwares(CourseBuilder, Hypercard y Authorware for the Macintosh environment and IconAuthor for the PC environment). The document includes 50 graphs with complementary textual information; it is like a hypertext in which it is possible to go through all the information quickly.

In the next version , together with other new aspects, a post-test will be incorporated.

Software Development in Special Education:(See and understand I).

Sumary

The use of computing in special education is a scarcely investigated field at Barcelona University. This research project has designed a training program about descriptive sentences and the preposition "in" in deaf children.

The research team is made up of a specialist, a psychopedagogue from the Centre Municipal Fonoaudiodiològic, a graphic designer and a software designer and programmer.

One of the aims of ICE´s work was to test the power of a well-known authoring system provided with an interpreted language, for the development of educational software in general. The design of the program also included a system to record individual and global scores of subjects´ responses to a test.

The result is a hypercard text with 700 k and 30 graphics, 60 exercises and 60 games and digitalised voices for hearing feedback, especially made for deaf people.

Another complex version is in supercard, an auto-practicable program ("runtime") but large in size and not recommended for computers of 800 ks.

The subject can place what he thinks is true in a descriptive

6-The work of the students with LOGO.

7-Students' learning process.

-LOGO is a good way to introduce computers in the elementary schools.

-The introduction of any innovative project should be contemplated in the educational project of the center.

-The introduction of LOGO with the adequate methodology does not quarantee a change in the methodological focus of other areas in the curriculum.

-A good in - service training system requires a dedication of 200 hours.

- The oriented heuristic method is an active, constructive and participative methodology for both teachers and students.

-Others

Study of Shells in Expert Systems Construction.

Sumary

The first aim is evaluate different shell types for cosntructing expert systems in education. To do this, we select criteria to evaluate the adaptation of shells in expert systems development. These criteria are grouped in the following categories: types of inference, of knowledge representation, developmental interface, user interface, connection with external interfaces and uses in the area of education.

After the description of current educational developments in artificial intelligence techniques, we study the criteria for evaluating construction tools of expert systems (shells). We also analyze three types of shells: NextpertObject, MacSmarts and Instant-Expert.

Expert systems and the automization of instructive design.

Sumary

The fundamental objectives of this investigation are:

- To analyze the use of computer programs for giving advice in instructive design

- To analyze the most suitable tools for the development of these programs

Those programs which are analyzed are fundamentally programs or prototypes designed by using techniques from artificial intelligence. After describing the principal areas of investigation in the subject, an analysis of the quality of the prototypes and programs currently designed is made.

The automization of the instructive design seems to be at an initial phase, in which many problems are detected: the types of psychopedagogical theories used, the level of specificity of the programs, difficulties in the design itself and in the application of the programs, and so on.

Catalan and Spanish: Socio-linguistic codes and speaking.

Sumary
This research objective is to consider the 8–year olds children classification developments concerning the Catalan language/Spanish language variable. It was asserted that the differences to be expected are not due to cognitive aspects but rather to social aspects. Furthermore, the specific socialization terms found in Catalan speaking and Spanish speaking families are intended to the studied.
In order to achieve the research, a 200 boys and girls group has been selected from various Barcelona schools. All of them have gone through classification tests and an interview has been addressed to their parents.
The results follow the expected trends.

Catalan and Spanish: Speech and orientation to meaning.

Sumary

The objective of this investigation is to observe the classification of 8 year old children according to the variable Catalan/Spanish. For the investigation a group of 80 children (girls and boys) from different schools of Barcelona will be selected. All will pass through a classification test.

Orientation to meaning and classification developments in 8-olds.

Keywords
Codes, Bernstein, Classification, Social Classes.

Director
Rodriguez Illera, Jose L.
Team numbers
Lieven, Elena; Tolchinsky, Liliana; Larrosa Jorge; Escofet, Anna.

Subsidised	**Year**
DGICYT	1989
Subject	**Classification**
Education Sociology	Basic Research

Sumary
　　　　The evidence of the various orientations to meaning (related or unrelated to context) is considered as from previous research with regard to different social categories (social class, sex, mother tongue). Since orientation to meaning in classification formal contexts can be re–interpreted in development or acquisition of more elaborate classification forms (i.e., classificaton in terms of classes in opposition to classification in terms of sets) terms, and as from Holland's (1979) classic research and in general all of those that have emphasised on cognitive aspects of orientation to meaning, this research draws to astandardisation of the chosen sample with regard to a development of such classification. To this purpose, a group of 250 children is subject to a test to record level and classification terms. An interview is thence carried out with these children. During this interview, children are suggested a classification task. This task is evaluated by the researchers in terms of orientation to meaning. Prospectively a second interview is performed in a year time to verify whether the noticed differences remain throughout time.
The results of this research follow along the lines indicated by our hypotheses.

Interaction and Development in Children's Schools.

Keywords
Development, learning, interaction

Director
Lourdes Molina Simó
Team numbers
Ignasi Vila Mendiburu, Josep Mª Serra Bonet

Subsidised	Year
CIDE	1989
Subject	**Classification**
Evolutionary psychology	Basic research

Sumary

This research studies the interactional sequences and lines in the children's schools in order to identify them, know how they are produced and how they affect children's teaching/learning processes.

The aims are:

1) To analyze how the adult, using interaction, immerses children in the culture and their progress through the near development zone.

2) To identify interactional sequences and lines to explain the mechanisms that affect meaning and children's aquisition of competence.

3) To emphasize teachers' mechanisms to make relations among children compatible with the nursery school as an interactive collective context.

Business Spanish written languaje teaching.

Sumary

The research proposes the achievement of an integrated material
formed by a guide of didactic activities addressed to teaching, to self–
teaching and to the evaluation of written Spanish language to be used
in administration, business and labour environments in general. The
programme will also comprise computer material for production support
and for the revision of different types of texts: reports, briefings, letters,
summaries, curricula, memoranda, etc. with different purposes. The
material will include a section addressed to tutor assisted work in the
foreign languages schoolroom, and another one addressed to aid
theself–learning and self–correction processes of those persons already
having a basic knowledge of the language. This is a trans–national
project aiming to support the European dimension. These features are
disclosed in the objectives' definition, in its application to the population
target, in the participating centres, and in the material's expected
publicity. This material is addressed to attain the fact that workers
might become fluent in written Spanish and to enable them to use it
efficiently in the labour field. This material can be of use both for
foreigners as well as immigrants needing Spanish to become integrated

or to advance in their activities' development in Spanish–speaking communities. It will be developed in Spain, France and Italy and its evaluation will be carried out firstly in France, followed by Spain and then by Italy. Centres from these three countries participate in the project. It will be made public to other EC countries later on, through one of the project partners (Training Fund Department of the Labour Promotion Fund), body devoted to workers training and updating.

Mediation and Resolution of Tasks in Foreign Language Classes.

Sumary

The aim of the research is to analyze the interpsychological mechanisms that have educational influence in communicative tasks in foreign language classes:

1-To describe and analyze decision-making in the design of the educational activity by the teacher.

2-To analyze the structure and development of tasks in the L2 classroom.

3-To analyze the interactive sequences of the tasks.

4- To analyze L2 speech to identify the use of L2 linguistic units in relation to the different functional levels that exist in the activity, and their incorporation into the sutudents' L2 level.

The use of a constructivist framework in the school means that the educational process must be considered as a system where educational activity and the student work in relation to construct new meanings or representations. In foreign language teaching, L2 discourse relates to other semiotic systems to create new classroom definitions. The creation of new meanings relates to the participation in communicative situations with common elements. This is the aim of the study.

Furnishing of curricula on morals and ethics. Education adressed to primary and secondary schools.

Sumary

The research main objectives are:

. To design curricula modules on morals education

. To consider and organise school as a democratic community

. To furnish training programmes addressed to faculty devoted to these curricula subjects

By means of students' and teachers' interviews and press contents analyses, those situations implicitly or explicitly entailing moral conflict were analysed. A classification of subjects of outstanding moral comprehension was produced as from this analysis. These subjects comprised the basis of thecurricula units which were further designed and developed.

Prospectively we produced curricula materials for each educational cycle (6–8, 8–12, 10–12, 12–14, 14–16) bearing into consideratiom the 13 subject units and the useful methods or strategies sets to ensure the moral values in the classroom. The results thus ensued about five activities for each subject unit, totalizing 10 units for each educational cycle, that is, a total of 50 activities. Each activity and unit includes a section comprising didactic orientations addressed to the faculty for its application in the classroom.

Videographic report about ecosystems.

Keywords
Video for teaching

Director
Manuel Ballesteros

Team numbers
Amelia Gómez, Mª Antonia Ribera, Victor Alba, Daniel Martín

Subsidised	**Year**
ICE (UB)	1989
Subject	**Classification**
University teaching	Report

Sumary
  The research team aims to demostrate the usefulness of video in making scientific research accessible to a wider audience and to provide an example of their teaching methodology.

  We chose a research project run by the Department of Animal Biology at the Faculty of Biology, making underwater film recordings of aquatic animals.

  The videotapes offer a documentary register of the whole process of the project:

  - obtaining a licence
  - preparing immersion equipment
  - Studying the water, the temperature, salts analysis, analysing the evolution of the communities on the sea floor.

Written language acquisition in L2 (second language) school contexts.

Sumary

1) To compare the written language acquisition among children who have Catalan as school language and children whose school language coincides with their home language.

2) To assert the initial capacity to accomplish descriptive texts and to evaluate the extent of: shared knowledge, didactic activities and model texts analysis in this initial capacity development.

Results:

Among those aspects more easily incorporated by the children we are to indicate their general involvement to the text type. It also must be outlined that children were respectful to the proposed topic. In the second instance, they imitated mode, tense and person synctactic features. Indeed so, the description linguistic forms are clearly defined for children as affirmative or assertive forms fact which enables to effectively assert the existence of something, hence the indicative mode, present tense and stative verbs. There is a great correlation between the character's exposition and features or attributes and disposition in paradigmatic lists.

The synctactic features reproduction sparse facility is opposed to a certain hindrance in the incorporation of the adjectival lexicon. This

Study of literary competence in different discourse circumstances: User's viewpoint.

Sumary

This research intends to:

1) Locate prototype texts of narrative, descriptive and argumentative genres through statistic treatments related to Text Analysis. This treatment will disclose its most relevant discourse features.

2) Verify these features validity for the narrative, descriptive and argumentative genres recognition as from the subject's viewpoint

3) Ratify concomitants among the discourse features located by means of the Text Analysis statistic treatment and the discourse features that the subjects evoke to explicitly justify a text inclusion within a certain discourse genre.

4) Demonstrate the transformations that the subjects of different ages and different linguistic experiences are capable to carry out to go through one text type to another. To determine the concomitant between mentioned transformations and the discourse features located by Textual Analysis statistic treatment.

To meet the requirements of the proposed objectives we have planned to design a series of situations in which different aged subjects can recognise, evaluate, produce and modify different text types. Through these situations we will be capable to approach to the psychologic reality of the generic features at different explicitness levels.

notational as knowledge mastering or "problem space" and as representation instrument and knowledge communication on children aged 3 to 6 years. This part of the reseach is carried out in Barcelona. On the anaylisis of the issue that is notational as knowledge mastering we have considered the elements differentiation (letters or figures), the combining regularities (elements quantity per chain, repetitions, etc.), and the reference relations (phonology and cardinality). As regards to what is instrumental we have analysed the systems appropriate usage in the differentnotation situations.

The first results show that as from the notation component, iconic and non–iconic facts appear differentiated as from the first development stages. This differentiation is later on extended to writing and to numeric notation. Children choose and produce material in accordance to the own number and writing restrictions and later on, according to the reference relations that rule the decimal numeric system and the alphabetic writing. As referred to drawing, writing and numerical instrumental usage, we have found that cardinality representation precedes to that of phonologic structure. Furthermore, the notation type chosing has a wider basis on the represented dimension explicitness possibility that each system furnishes, than in the reference mastering consideration inherent to each system. Development will be featured as the passage from a notation modularity to a functional modularity. The eventual different linguistic and educational contexts influences are being evaluated.

have found some cases where the effect of writing on pronounciation is so revealing, that we thought this would be a much more general and strong phenomenon. This surprise is related to the second one: The succesive trials - mere repetition of the request - did not improve segmentation. Again, in individual cases we have witnessed progress, but all in all less than 20% of the children did progress. This finding speaks in favor of a strong specificity of oral segmentation.

Regarding writing development, in prescool, in both language groups the preferred ways of writing words were "formally constrained writing" or "writing constrained by syllabic correspondence", in one of three possible ways: syllabic mapping using letters without phonic value, syllabic mapping using mainly vowels, and syllabic mapping using mainly consonants.In second grade, in both language groups the preferred ways of writing words in accordance to alphabetic mapping, in one of three possible ways: Exhaustive alphabetic mapping, non exhaustive and syllabic alphabetic. Regarding the differences between language groups, while almost 100 %of the children attained the highest level of conventional writing. For the Spanish group this meant 100% of exhaustive alphabetic mapping, but for the Hebrew group, this meant exhaustive alphabetic mapping, only for some words.

All the children who segment exhaustively wrote at the highest levels. However, the majority of children did write alphabetically and even orthographically correct and did not tend to exhaustive segmentation. This finding evinces clearly than segmenting a word exhaustively and knowing how to alphabetically write the same word, are two abilities that will not be simoultaneously displayed by the same child in different tasks. It is clear that the child's writing level is not predictive of the segmentation behavior he will prefer in an oral task and segmentation behavior -beyond the syllable- is a better predictor of writing level than the other way round.

To conclude, change -with school level- is stronger for writing than for the oral segmentation (and the metalinguistic tasks). Knowing to

Protexts.

Keywords
Discourse analysis, texts, computerised instrument.

Director
Tolchinsky, Liliana; Teberosky, Ana and Rodriguez Illera, Jose Luis
Team numbers

Subsidised	**Year** 1993
Subject Psycholinguistic	**Classification** Computerising development

Sumary
It deals with a computerised instrument to analyse written texts resulting from the confluence of a psycholinguistic research line and a computerised tools development line for the teaching and analysis of language formal aspects. Once the approach and analysis methodology on which this tool is based we proceeded to its featuring as from a computerising and functional standpoint. Opposite to other approaches using computers to assist in the analysis of texts, this programme approach is based on three differential aspects:

a) to have available a reference analysis methodology including texts transcription and graphic configuration,
b) to trust on maximally reducing text preparation and previous coding for its categorizing, and
c) to trust on maximally reducing the capabilities or state–of–the– arttechnology the analyst must have available concerning computerising.

Publications

Educational Computing

Books

Teberosky, A., Tolchinsky, L. y Rodríguez Illera, J.L (1993) **Protextos. Un sistema para el análisis de textos.** Barcelona, I.C.E. de la Universidad de Barcelona.

Book chapters

Gros B. y J.L. Rodríguez Illera , "Pedagogical Criteria for the Evaluation of the automation of Instructional Design",**Automating instructional Design, Development, and Delivery**, NATO ASI Series, Series F: Computer and Systems Sciences, vol. 119, cap. 6, Berlin 1994.

Rodríguez Illera J.L. (1989) "Multimedia interactivos en educación", **Nuevas Tecnologías y Enseñanza**, Barcelona, Graó, 155-168.

Rodríguez Illera J.L. y M. León (1990) "La producció de software en Educació Especial: estudi d'un cas", **Informàtica i educació especial**, Barcelona, ICE, pp. 79-99.

Rodríguez J.L, Colombo, F. Busquets, P. (...) (1992) "Conocimiento de las formas sedimentarias de fondo: programa de enseñanza asistida por ordenador", **Actas del III Congreso Geológico de España**, vol. I, 332-341, Salamanca.

Publications

Learning and Education. An hypertextual system of students training.

José L. Rodríguez Illera, Begoña Gros, Teresa Romañá and Magdalena Lizano.

Together with the faculty of Pedagogy.

Windows 3 and Macintosh. versions.Programmed in PPL.

I.C.E. University of Barcelona, 1991-1992.

Dissolutions and models

Lourdes Díaz and José L. Rodríguez Illera

Two softwares including excersoces and practice in prbem solving in chemistry. By requirement of the Chemistry Faculty, University of ILa Habana.

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