

Ripensare l'innovazione:
Prospettive, Orientamenti, Nuovi Paradigmi-

Rethinking Innovation:
Perspectives, Directions, New Paradigms



Work-Tools: Tablet per una didattica inclusiva

Work-Tools: Tablet for Inclusive Education

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ABSTRACT

Extensive studies conducted by a group of experienced researchers in linguistics and informatics, have shown that the language of the pathological perceptual disorientation, in the light of the syntactic theory, could provide a better understanding of these phenomena and give to the search tools and effective technologies. (Bulton, 2010, p. 534-572). Experience over time has become a challenge to keep up with other European countries and even today it continues in agreement with the University of Hamburg Fakultät für Geisteswissenschaften, Sprache, Literatur, Medien I (SLM I), Institut für Deutsche Gebärdensprache und Kommunikation Gehörloser, and on the basis of the German dictionary borns Work –Tools. It's a multifunctional software of consultation, composition, reformulation, transcription, translation in real time (Gilquin Griess, 2009). It's a tool for use both in teaching, that for the realization of professional texts and comprises: 1) a database (WT), said "linguistic corpus", for queries and analysis and reading "quantitative" data; 2) –file text, said "Human search converter", for the production, manipulation and reformulation of the word, the phrase and the text; 3) text file called "beyond language", transduction, decoding, translation; 4) a bar of writing for playing in real time.

Studi approfonditi condotti da un gruppo di ricercatori esperti in ambito linguistico ed informatico, hanno dimostrato che il linguaggio patologico del disorientamento percettivo (Forchini 2012), alla luce della teoria sintattica, poteva fornire una migliore comprensione di questi fenomeni percettivi e dare alla ricerca strumenti e tecnologie efficaci. (Bulton, 2010, p. 534-572). L'esperienza nel tempo si è trasformata in una sfida per essere al passo con gli altri paesi europei e ancora oggi si prosegue in accordo con l'Università di Hamburg Fakultät für Geisteswissenschaften, Sprache, Literatur, Medien I (SLM I), Institut für Deutsche Gebärdensprache und Kommunikation Gehörloser, e sulla base dei dizionari tedeschi nasce l'Work –Tools. È un software multifunzionale di consultazione, di composizione, di riformulazione, trascrizione, traduzione in tempi reali (Gilquin Griess, 2009). È uno strumento di utilizzo sia nella didattica, che per la realizzazione di testi professionali e si compone: 1) una base dati (WT), detta "linguistic corpus", per interrogazioni ed analisi e lettura "quantitativa" dei dati; 2) –file text, detto "Human search converter", per la produzione, riformulazione e manipolazioni della parola, del sintagma e del testo; 3) file text detto, "beyond language", transduction, decoding, translation; 4) una barra di scrittura per la riproduzione in tempi reali.

KEYWORDS

Inclusive Technologies, French Consultation, Translation and Reformulation Text. Tecnologie inclusive, Dizionari di consultazione, Traduzione e riformulazione testo.

Introduction

The linguistic investigation began at the University of Salerno, at the POLO DSN of the Faculty of Communication Sciences dir. prof. Annibale and by a team of experts, which essentially based on building vocabulary and syntax, availing themselves of the opportunities offered by computer processing, aimed at a description, the most comprehensive and formalized as possible, of a given language. The research was part of the project Lexicon-Grammar of Italian language L.G.L.I. and the result was a strictly analytical approach in which, notwithstanding the centrality of syntax and the rigor of the transformational rules, the grammar of a language was not interpreted as a more abstract model, but it was, rather investigated from concrete utterances. Even then the POLO DSN of the aforementioned university agency, the applications of linguistics information technology were many, just remember parsing for automatic processing of linguistic data. The first computer products were the corpus of consultation and translation DELAF –DELAS, which, unlike the paper dictionary provided data only about the meaning of the words, while the corpus, however, created a comprehensive utilization, a wordnet vocabulary with major consequences for the future of the Dictionary and the same corpus. The research, which began with the study of synthetic Professional languages, for a realization of communication in real time, continued and perfected on the assumption that the communication circuit for the hearing impaired from broadcasting verbal or written code of signs causes the same damage and so linguistic and phonological disorder. The research extends to the DSA and, in particular, to dyslexia, dysorthography, dysgraphia, dyscalculia and connecting these neurobiological dysfunctions with deafness, verifying similarities and differences (Keller Lapata, 2003, p.459-484). Using, then, circuit analysis of communication it is confirmed that the specific learning disabilities and the lack of perception, albeit from different causes, cause the same problems in communication and that is that the DSA stretch to build the phrase, to learn new terms, etc. In verbal communication it can be detected the presence of automated elements (syllables, words or short phrases) that in severe cases may be the only possible production. Therefore, to describe the characteristics of communication, it can be said that the misguided perception is characterized by two main qualitative phenomena: can omit pronouns, auxiliaries, prepositions and articles, so that, as a product, takes on a telegraph; can not accomplish normal concordances name-article-adjective and not to grant verbs (Kennedy Miceli, 2001, 77-90) The deaf, however, for lack of sense ignores orality, but in the composition of written text has lexical disorders in the recovery of the names and phenomenal replacements, etc. (DSA) (Bucciarelli p.122) – (Figure 1).



Figure1. Communication circuit in the DS

2. Background of a search

For years in Italy had appeared the first corpora or consultation dictionaries for learning vocabulary (Hanke, 2013) and explained the utility for language teachers to explain semantic properties and of language use, not present nor in grammars and neither in paper dictionary and the validity of his thesis with the following premise:

«Answering these types of questions with the help of traditional subsidies such as dictionary and grammar is sometimes problematic because the explanations, if any, are, solve in a disappointing way the language doubt of our student. Unlike the corpus linguistics allows us to clarify features of vocabulary and of the phraseology of language through the analysis of a “corpus” of linguistic usage. The survey methodology has highlighted the fact that although the lexicon is a well-structured system, actually not all forms in use (especially idiomatic expressions) depend on the general rules of grammar or semantic nature, and it is rather in the corpora that you can see how the language behaves in reality, “as they say».

Remember, however, that several are however the limits of a corpus, but said that an introduction to the use of corpora for teachers was very useful for language teaching (Ducati, Leone, 2007). Since then there have been built many corpus of consultation and translation, useful for education and professional communication. Hence the idea for us linguists, supported by European research, that the lexicography of the corpus could qualify the learning-impaired, for the disorientation and for that the lack of perception. Simultaneously began the collaboration with prof. dr. Christian Rathmann dir. Institut für Deutsche Gebärdensprache Hamburg and Thomas Hanke Wissenschaftlicher Mitarbeiter Institut für Deutsche Gebärdensprache Hamburg, expert in a data base approach to handle lexicon building and spotting token form sign language (Hanke, 2000). (Figure2).

The lines of study and research programs are:

Subsequently the studies by Roland Pfau Johann Wolfgang Goethe University, Frankfurt on the study Characteristics and categories in language production. They studied all the possible errors in reporting and spelling of phrases committed by deaf such as. the verb does not match with the times, the article that is not right and disorder of the axes etc. They investigate on the child’s acquisition of syntax in terms of self-organization. The main topics of generative language acquisition research – in particular the appearance of functional categories or, infl (AGR, TNS), and COMP DET – are reformulated into a dynamical systems theory. The parameter settings for these as well as corollary syntactic phenomena such as the establishment of the correct order of the words, the movement, the formation of phrases and sentences are interpreted as a set of convergence in the space of a syntactic phrases. From these assumptions, the first lexicographical, the second theory we decided to build a corpus that had a new computer product useful for perceptual disorientation and deafness. Well if there is disorder in sign language there can be a tool next to the text in LIS that reformulates rewrites, summarizes and translates. (Figure 2).

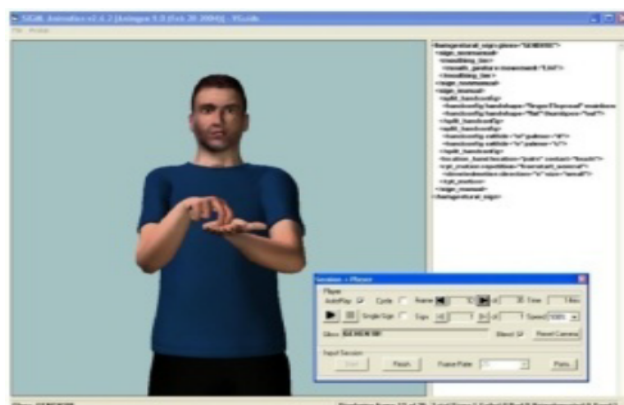


Figure 2. Auto learning dictionary for consulting and transcription WT (Hanke. p. 3)

2.1. Research objectives

It seems obvious at this point, to extend the search, because having explored the causes and deficits that united the deaf to DSA, it had to pursue research tools for teaching, it seemed logical to assume that just lexicography and descriptive linguistics could be aid and that the acronyms and fixed phrases or textual part could improve the quality of learning. Which means, if not the electronic dictionary or corpus could better meet our needs? It was thought then to a software that in addition to consulting sentences, animation of the lines of research and composition cloze, could be supported also in textual composition. Once inserted in the data base sequences of verbal or gestural phrases it was necessary to support the DS also in drafting and redrafting the text, and so was born WT.

3. Product: Work Tools (BVT 2015)

It is a multipurpose software consists of: 1) Dictionary of consultation; 2) Corpus writing; 3) Corpus transcription, reformulation and conversion code LIS in Cs; 4) Corpus translation; 5) Bar Writing subtitled in real time and therefore:

1. Dictionary of consultation, analysis and “quantitative” reading data. The digital computing consists of several interacting moments, because, by increasing the areas of language skills, improves the quality of informatic output (Bucciarelli, 1986). The criterion carrier guide that allows the input is the structural linguistics. During archiving data, the analysis is directed to the word combination and even more in the synthesis of morphemic and lexical elements acts to produce cognitive learning techniques for non-structural complexity and semantics of specialist texts. It involves the construction of a morphological-syntactic-semantic parser, which is able to operate structural choices on the basis of custom codes, such as the position of a certain constituent, as well as fixed structures, sentences, etc. Polirematics formulas used in various parts of the text in analysis, in order to sense transcription systems. The software is realized in several stages, namely: 1) Dictionary or body of consultation of the Italian language, which provides phonological information, morphological and syntactic, of fixed sentences, phrases and text parts. This informations, as all the corpus language, have the following purposes:

- 1.1) consultation, training, in order to broaden their knowledge; 1.2) of aid for teaching the teacher in composing test completion and cloze tests; 1.3) to broaden the linguistic baggage of the DSA; 1.4) to reduce, to obtain a synthetic professional language and to speed up the time of writing; 1.5) to clarify some important synthetic content. In fact, just type in a code and you can see the significance, the construction of complex sentences, the use of the juxtaposition of deictics, determinants, concordances, the contents of the nominal and verbal categories and the use of inflected verbal and operators. The uniqueness of this product is the fact that were integrated software: 1- sequences filmed in LIS code in the database.
2. Text file for writing text composition, the next step is the most important and is called (Human search converter) or corpus of writing and textual composition, intervenes human to compose text. He draws from the DB, typing a simple acronym, fixed phrases, verbal inflections, polirematics, animations traits in LIS or DGS, when the semantics of composition lacks clarity, for him, in short, composes the text using phrases and compositional text parts, employing phrases that are not compositional (Bucciarelli, 2010) and at the same time can also make text parts without any help. The DS is transformed into digital operator of its knowledge, that is the tutor of the scene and the teacher becomes a tutor of backstory (Biber, Johansson, Leech, Conrad & Finegan, 1999).
 3. Phase of transcription and reformulation, is done with a simple call by the operator and the text is recomposed, transcoding in correct forms and the acronym stands back together in sentences or integral text parts with the advantage for the DS to have composed a text correct, for phonology, morphology and syntax.
 4. Phase of translation into German and English, text composed in the previous step, and transmits the data in real time to the scroll bar. (Bucciarelli, Villari, 2013) (Figure 3).

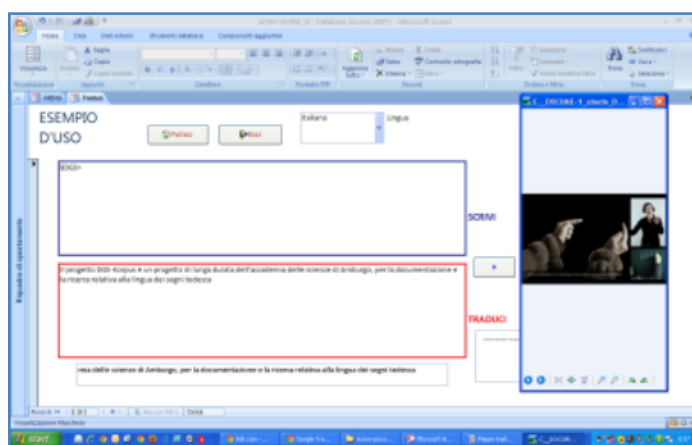


Figure 3. Product

4. The prototype computer

The project addresses the application domain of computational codes. Having to pay to define a set of possible words in representation of its code and, being able to be expressed in different languages, the approach application was based on Microsoft® ACCESS. The result is the implementation of two main modules for

assisting the activities of generation and development of coding systems (DEFINER) and to elaborate documents in code in order to obtain a fast translation and reliable (PARSER). The development of the project involves a prototype stage of the two modules above indicated, released in a single database, necessary to the setup of coding matrices and the basic characteristics of PARSER. The prototype version contains all the key performance identified in the project and related to the question of coding. The prototype will allow the development of codes and punto scrutineering and technical testing and performance of PARSER. [...]. Features of the first final version, protection systems, aspects of interface and ease of use, etc. Since the prototype version are evident the two areas of work, "Text" for the activities of drafting and translation of codified documents, based on system encoding (module activity previously called PARSER) and "Encoding" to allow the definition and maintenance of the coding system (module activity previously called DEFINER). Under the activities of drafting and translation is available the option "vocabulary" that allows the writing of free text containing codes. After having done the drafting of the text, it may be required the real time translation of what is written on the basis of the encoding system specified or available through "type-wri.

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