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C O N T E N T S

A PRELIMINARY INVESTIGATION INTO THE EFFECTS OF TARGETED CORRECTIVE FEEDBACK IN FOREIGN LANGUAGE WRITING

BY

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Abstract. The benefits of corrective feedback on student writing have been the subject of some debate in recent years. Recent studies have suggested that error correction on student writing improves written accuracy in student writing over time. However, it still remains unclear as to the kind of error correction that best assists L2 students in particular settings to improve accuracy. This paper addresses this issue. It reports on a classroom study of forty-eight first -year university students who were divided into two groups. One group received indirect correction on errors and the other group received indirect correction in combination with teacher conferencing. Error ratios per fifty words on errors of the use of the simple past tense were calculated. Results suggest that teacher conferencing used in connection with indirect correction improved student accuracy in the use of the simple past tense. Results also suggest that students require further instruction on how to self-correct tense errors.

Keywords: error correction; L2 writing; indirect correction; direct correction; teacher conferencing.

1. Introduction

The acquisition of English language writing is perhaps the most challenging of the four language skills. However, with the widespread use of

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computer mediated communication in both social and business settings, mastery of English language writing has increased in importance. The Test of English for International Communication now includes a writing test that is "designed to measure the ability to use written English to perform typical international workplace communication tasks" (TOEIC Manual, 2007). Thus, the ability to write in English is crucial in providing learners with the necessary skills to compete in the job market, especially with organizations and companies that are involved at the international level. In addition to business writing, competent writers should be able to function effectively in academic and recreational discourse communities. A crucial component of learner acquisition of L2 writing skills is the corrective feedback (CF) they receive from teachers.

2. Noticing

Schmidt (1990) suggests that the concept of "noticing" is an interlanguage development in formal instruction in second language acquisition. It is possible for implicit learning to occur during meaningful interaction. However, as Skehan (1998) points out, low level learners are unable to process input for both meaning and form at the same time. O'Malley and Chamot (1990) propose two strategies of noticing: "selective attention" and "self-evaluation". The former refers to attention given to linguistic items in input and the latter to checking output to internal accuracy measures. Corrective feedback has been linked to "noticing theory" in that CF acts as a form consciousness-raising, referred to as "input enhancement" (Lightbrown and Spade,1990; Sharwood-Smith, 1991).

3. Teacher Response to Student Writing

Errors in learners' output provide opportunities to activate learners' conscious awareness of linguistic problems. Thus, corrective feedback (CF) by teachers enables learners to correct or modify their hypotheses about the target language (Larsen-Freeman, 2001). Considerable research has been carried out into the type of CF and the effectiveness of CF (Ashwell, 2000). While there is still debate on which type of corrective feedback is most effective and at what stage in the writing process it should be given, it is suggested that feedback should respond to formal errors as well as meaning (Brown, 2004).

Over the years, teacher feedback has taken several forms. Ellis (2009) proposed six major classifications of CF: direct, indirect, metalinguistic, focussed and unfocussed, digital and reformulation. For the purposes of this paper, I will not discuss digital or reformulation.

Direct correction refers to writing samples where the teacher writes in the correct form of the error (e.g. tense or error). Typically this form of correction involves adding or omitting words to achieve the correct form.

Extreme examples may result in the "corrected sentence" being changed to the degree that it no longer resembles the original student work. This form of correction is very time-consuming for the teacher.

Indirect CF is where the teacher indicates where an error exists by underlining or in some way marking the error. Metalinguistic feedback either takes the form of some type of error coding (*e.g.*, "WF" for word form) or a brief grammatical description. The use a coding system requires a considerable amount of teaching and as Ellis suggests (2009) requires on the part of the student at least some metalinguistic understanding of English syntax, lexis and discourse features. In the second type of metalinguistic feedback, the teacher numbers the errors and briefly provides a brief explanation for the error at the end of the text. Focused and unfocused feedback distinguishes between the scope of the feedback. In focused errors, the teacher only focuses the specific teaching objective and ignores other errors. In contrast, in unfocused feedback the teacher may correct all errors, sociolinguistic as well as linguistic errors. One problem often associated with unfocused feedback is that students may become overwhelmed by the number and nature of errors, whereas focused feedback provides learners with a clear learning objective.

The effectiveness of the different forms of feedback has been the subject of much discussion among researchers in the fields of L1 and L2 writing (Kepner, 1991; Ferris, 1999). Truscott (2007) is a strong proponent of the ineffectiveness of feedback, arguing that all forms of error correction of L2 student writing are not only ineffective, but also harmful and should be abandoned. He even states that teachers should not respond to student requests for error correction. However, other studies have shown that students receiving feedback improve over time (Hyland, 2003). Ferris and Roberts (2001) showed that students who received any kind of feedback (either coded or just underlined) significantly outperformed students who received no feedback at all. Bitchener *et al*. (2005) found a significant effect of the combination of written and oral feedback in the use of the past simple tense and the definite article in new pieces of writing. These findings were further supported in a study by Bitchener (2008) who compared three types of direct corrective feedback with a control group that received no feedback. It was found that the accuracy of students who received feedback in the immediate post-test outperformed those in the control group who received no corrective feedback in the use of the referential indefinite "a" and referential definite "the". Bitchener's study also found a significant effect for the combination of written and conference feedback compared to the other types of feedback.

Liu (2008) compared direct feedback and indirect feedback in three linguistic categories: morphology, syntax and semantics. Results indicated that both types of feedback improved student error correction, but that indirect correction did help students reduce errors in a new writing assignment. Liu suggested that " …mini-lessons or workshops focusing on different types of

errors or aspects of grammar are necessary to improve students' ability to self-edit." (2008, p. 65).

Following recent research that has suggested that there is a case for CF in the L2 writing class, this study follows this line of research suggested by Liu (2008), Bitchener (2008) and Ellis (2009) by focusing on one error type only: simple past tense. Two forms of CF were compared: the effect on student correction of the simple past of indirect correction and indirect correction combined with teacher/student conferencing (Bitchener, 2008).

4. The Study

As Bitchener (2008, p195) notes, previous studies have focused on advanced learners in academic settings or in the case of Liu (2008) learners in the United States in an ESL setting. Bitchener's study focused on migrant learners in New Zealand. This study focused on low level writers in an EFL setting. This study also differs from previous studies in that it compares indirect correction with or without teacher conferencing. Previous research has suggested that indirect correction has been shown to be more effective that direct correction (Liu, 2008) in reducing errors in new writing and that teacher conferencing has been shown to be more effective when used in combination with (in Bitchener's study) direct correction (Bitchener, 2008) . The simple past tense was selected as the focus of this study as this error type represented a common error among students in the research setting.

5. Research Question

Does the inclusion of teacher/student conferencing to indirect correction improve L2 student ability to correct past tense errors on second drafts and on new writing?

6. Participants

The study was conducted in a private university in Taiwan. Forty-eight students participated in the study. They were first-year students enrolled in a four-year program in an Applied English Department taking a writing course. The writing course met two hours a week for the first semester and the students were taught by the teacher-researcher.

7. Setting

The goal of the course is to begin academic writing by writing a one-paragraph assignment consisting of a brief introduction, topic sentence, main points, supporting details and a brief conclusion. The students are required to

produce five assignments plus one re-write and a timed writing. Students are made aware of course goals and the production of correct sentences is emphasized.

8. Design and Measures

The class was divided into two groups. Unfortunately, due to administrative procedures it was not possible to randomly divide the students. Group A received indirect correction and teacher consultation, while Group B received indirect correction, but no teacher consultation. Both groups were given a brief written instruction telling them to correct only the underlined words and that all the underlined words referred to errors where the simple past tense should have been used. Each group produced a first draft and was then required to produce a rewrite. The first draft of a paragraph on a new topic was collected. The students were required to produce a writing sample of at least 150 words. The dependent measure in this study was a word count of errors per 50 words (following Liu, 2008 and Chandler, 2003). In the second part of the semester all students were exposed to both types of correction.

Teacher/student conferences were five minutes in duration. The teacher began by asking the students if he/she understood the task, and then asked the student to "correct" the first underlined error. If the student was unable to make the correction, after teacher prompting, the teacher supplied the correct answer. The student was allowed to ask other questions related to the text, but not ask about other underlined words.

9. Error Marking Procedures

In this study, only one grammatical feature was selected for corrective feedback: simple past tense. This category consisted of verb form; plural or possessive ending and incorrect subject –verb agreement. The present study does not report different error categories, only total errors. The use of simple past errors only will serve to increase inter-rater reliability. The papers were scored by the researcher and an experienced writing teacher. A 98% agreement was achieved.

Example of verb error:
My family **visit** Tainan eating delicious snacks (on my birthday).

10. Results

Table 1 shows the results of the error ratio for the first draft and the second draft (re-write). This study counted the number of errors per 50 words as the word requirement for each assignment was 150 words.

Group A received indirect correction with errors marked combined with student-teacher conference. The total number of past tense errors decreased from an average of 8.5 errors per 50 words to an average of 5.7 on the second draft: an average reduction of 2.8 errors per 50 words.

Group B received indirect correction only. The total number of past tense errors went from an average of 8.6 errors per 50 words to an average of 6.5 on the second draft: an average reduction of 1.9 errors per 50 words.

Table 1
Means and Standard Deviation on Errors per 50 Words on Two Drafts for Essay 1

		Group A	Group B
		Past Tense	Past Tense
Essay 1	Mean	8.5	8.6
Draft1	SD	2.5	1.1
Essay 1	Mean	5.7	6.5
Draft2 (re-write)	SD	1.6	1.8
Change	Mean	2.8	1.9

Adapted from Liu (2008)

Following Liu (2008), Chandler (2003) and Ferris and Roberts (2001), to determine the effects of correction type, a subsequent first essay draft was collected six weeks after the second draft of Essay 1.

Table 2
Means and Standard Deviation on Errors per 50 Words on the First Draft for Essay 2

	Group A			Group B	
		Mor			Mor
Essay 1	Mean	8.5	Mean	8.6
Draft 1	SD	2.5	SD	1.1
Essay 2	Mean	6.7	Mean	8.0
Draft 1	SD	1.4	SD	1.5
Change	Mean	1.8	Mean	0.6

For Group A, the number of errors went from 8.5 per 50 words to 6.7 per 150 words, a reduction of 1.8. For Group B, the number of errors went from an average of 8.6 to 7.5, a reduction of 0.8.

11. Discussion

The results reported in this study show that both groups were able to reduce the number of errors when re-writing the same essay when focusing only on the use of past tense. This supports Bitchener *et al*'s (2005) finding that corrective feedback resulted in an improvement in accuracy in the use of simple past tense.

However, considering that students were required only to focus on verb tense, the results indicated that indirect correction led to several unsuccessful corrections. This result is similar to the findings of Liu (2008) and Ferris and Roberts (2001) for indirect correction. However, in Liu's study students were required to develop their essays and revise content, which resulted in more chances to make errors. The findings in this study suggest that a focus on one form of grammatical error only did not produce the expected reduction in the number of errors, suggesting that indirect correction requires considerable analysis as well as an understanding of morphological rules. This study does not report on the different types of simple-past tense error, such as subject verb agreement. Further analysis may reveal the reasons for student failure to increase the number of corrections. It should also be noted that as Bitchener (2005) points out, language acquisition is subject to varying performance, which may account for the failure correct a larger number of errors. Therefore, following Liu (2008), the results of this study suggest that students require further instruction on how to focus on the correction of specific error types.

The second comparison of this pilot study investigated the effect on error correction of the addition of teacher/student conferencing to indirect correction. Results (Table 1) showed a small reduction in the number of errors for the re-write of Essay 1 by Group A (2.8), compared to the number of errors for the re-write of Essay 1 by Group B (1.9). This suggests that teacher conferencing may have helped students to understand and focus on the task at hand compared to students in Group B, and may have facilitated "noticing" among learners.

The third comparison of this study investigated the effect of indirect correction combined with teacher conferencing on a new piece of writing (Essay 2). Results (Table 2) show that indirect correction only resulted in almost the same amount of errors for Essay 2. In contrast, indirect correction plus teacher conferencing resulted in fewer past tense errors in Essay 2. The average reduction in errors per 50 words for Group A was 1.8, while that for Group B was 0.6. This finding suggests some advantage for teacher conferencing in highlighting the target error. However, the difference is only slight and suggests further research is required to identify the reasons for failure to correct.

12. Conclusion

Previous research (Liu, 2008; Ferris & Roberts, 2001; Chandler, 2003; Bitchener *et al*., 2005; Bitchener, 2008) investigated different types of corrective feedback and results indicate the superiority of indirect over direct feedback in enabling students to make fewer morphological errors in new pieces of writing. The findings of this pilot study suggest that targeting a specific error common to a specific group of L2 students using a combination of indirect correction and teacher conferencing may help reduce student errors. However,

the limitations of this study, the small reduction in total number of errors in particular, the question of long-term acquisition, suggest further research is needed to identify the types of errors that students failed to correct and the benefits of specific instruction on certain error types.

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O INVESTIGARE PRELIMINARĂ ASUPRA EFECTELOR FEEDBACK-ULUI CORECTIV CU ȚINTĂ PRECISĂ ÎN REDACTAREA TEXTELOR ÎN LIMBA STRĂINĂ

(Rezumat)

Beneficiile unui feedback corectiv față de textile redactate de studenți au constituit subiectul unor dezbateri în ultimii ani. Studiile mai recente sugerează că o corectare a erorilor îmbunătățeşte acuratețea scrisului în timp a textelor redactate de studenți. Totuşi, este încă neclar ce tip de corectare îi ajută mai bine pe studenții din anumite contexte educaționale. Lucrarea de față se referă la această problemă. Ea prezintă rezultatele unui studiu axat pe o clasă de 48 de studenți din anul întâi împărțiți în două grupe. Unul din grupuri a beneficiat de corectură indirectă a erorilor, iar celălalt a beneficiat de corectură indirectă combinată cu dicuții profesor-studenți. S-au calculat procentele erorilor în utilizarea timpului trecut (preteritului) raportate la 50 de cuvinte. Rezultatele sugerează că discuțiile cu profesorul combinate cu o corectură indirectă au îmbunătățit utilizarea corectă a timpului trecut de către studenți. Rezultatele indică şi faptul că studenții au încă nevoie de îndrumare în privința autocorectării acestor erori.

ON TEACHING TERMINOLOGY

BY

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Abstract. Intensive development of computer technologies enables us to consider terminological lexis from different points of view: morphological, word-building and semantic. Computing terminology is an example of young terminology; being formed in the middle of the XX century, it is still in the process of active development. The dynamic character of computing terminology makes it suitable for the study of means of linguistic nomination. Keeping in mind that terminology is a subsystem of the general lexical-semantic system of a language, it contains all structural word types, all means of nomination and all semantic processes that are characteristic of the lexis in general. The specific character of any terminology manifests itself in different realization of the above processes depending on the type of science and technology, history of its development and typology of a national language. The particular characteristics of computing terminology are determined by these factors as well. Understanding the computing terms structural and semantic specific features, the system character of computing terminology seems important for the practice of English language teaching, it ensures better comprehension and mastering of the terms, improves the efficiency of academic performance.

Keywords: characteristic; term; abbreviation; stem; derived; semantic.

1. Introduction

Modern linguistic research evinces an undying interest in the study of characteristic features and principles of formation and development of terminological systems in different areas of knowledge.

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Due to the intensive progress and penetration of the latest information, computer, telecommunication technologies into various spheres of life, many linguists have focused on the study of the respective sub-language, which is also being actively introduced into common-literary language. Special vocabulary attracts linguistic attention by no means accidentally, the reason being a rise in the role of science and technology in the development of mankind, and the increased role of terminology in modern languages. Linguistic literature highlights the fact that due to current rapid growth of scientific and technical knowledge over 90% of new words that appear in modern languages belong to special vocabulary. "The increase in number of terms in various fields of science outstrips the increase in number of common words of a language" (Kazarina, 1998, p. 66).

Term is a dynamic phenomenon that is born, formulated and delves into the process of cognition, the transition from a concept to a verbalized concept associated with some theory to conceptualize a particular field of knowledge or activity (Leichik, 2009, pp. 21-22). This understanding of the term is inextricably linked to the implementation of the main tasks of cognitive linguistics: to explain connections between the structures of language and knowledge structures, because the term acts as a "carrier" of information about these relationships.

The boundary between terminological and general vocabulary is unstable, its character being not a historical, but a functional one. The process of terms transformation into commonly used words and vice versa is ever-going. Common lexis item transition into a terminological one started with the use of the former in specific contexts.

The word-building system is understood to be a peculiarly organized unity which is different from other linguistic systems both in its being composed of specific units and in the way of their structural organization and distribution. The system character in word-formation can be studied on the basis of terminology primarily because terminology is consistent and the system of terms defines interrelated concepts. Due to the intensive development of computer technologies, the possibility to consider terminological lexis from different points of view, namely to analyze its morpheme, word-building and semantic structure seems timely. A survey of system character of computing terminology seems important for the practice of English language teaching, it ensures better understanding and mastering of the terms, and improves the efficiency of academic performance.

Defining and describing the system character features of terminological units determined the use of the following methods: structural analysis, word-building modeling, semantic analysis and immediate constituent analysis. The word *term* comes from Latin *terminus*: landmark, boundary. "Terminus was the god of land mark and boundary stone in Ancient Rome and guarded the inviolability of the land lot." (Selivanova, 2010, p. 736). Term is a word or

word-combination which denotes the notion of a special realm of communication in science, industry, technology, art, in a definitive field of knowledge and human activity, i.e. a special purposes linguistic unit (Leichik, 2009). Computing terminology is understood to be a unity of terms which makes up a special system of terminological lexis in English. Terminological system as a unity of terms is being formed up on the basis of one concept and reflects the relations between the concepts of a definite realm of science and technology (Leichik, 2009).

2. Discussion and Results

Keeping in mind that terminology is a subsystem of the general lexical-semantic system of a language, it contains all structural word types, all means of nomination and all semantic processes that are characteristic of the lexis in general. The specific character of any terminology manifests itself in different realization of the above processes depending on the type of science and technology, history of its development and typology of a national language. The particular characteristics of computing terminology are determined by these factors as well. The system of computing terminology means of nomination can be considered from different points of view: terms structural types, ways of terms formation, distinguishing units of primary and secondary nomination. These approaches do not contradict, but rather complement each other enabling to create a comprehensive pattern of computing terminology.

The analysis of linguistic literature on the subject made it possible to distinguish the following structural types of terms: underived, derived, compound, terminological word- combinations and abbreviations.

The term's structural model is understood to be a general amount of term-elements and their system organization (Danilenko, 1975; Superanskaya *et al.*, 2012).

Monolexeme terminological units constitute a relatively small portion of the general amount of lexical units being analyzed. Nevertheless, these terms define basic notions in this field and are used more frequently. The structural model of a nominal radical morpheme type (*e.g. card, code, deck, file, etc.*) is the most productive one among underived English computing terms.

Terms-underived words are characterized by a developed semantic system, which in its turn allows concluding that the semantic method of word-formation is productive for the analyzed terminology. Metaphoric change and restriction of meaning are two main types of semantic changes.

The synchronic analysis of English computing terms creates the impression of abundance of Latin borrowings or terms coined on the basis of Latin elements. The diachronic analysis shows that the majority of one-lexeme terms were formed by means of intra-linguistic borrowing. These are borrowings from literary language, technical language, and from terminology of

related sciences: from the field of mathematics and logics, analytic-synthetic processing of information, electric engineering and organization of production processes. The etymologic analysis of one-lexeme computing terms allows to state that in many cases a link is preserved between a contemporary meaning of the term and a definite initial meaning of a classical root. The preservation of this link leads to the emergence of terms with transparent etymological structure (*e.g. „comparator"*) and terms with motivation being based on links of associative terminological meaning with lexical-semantic variant of Latin root (*e.g. „ processor"*).

Morphologically the terms are mainly nouns, but they may also be verbs, semantically correlated with nouns and adjectives most often derived from nouns, e.g. *absorption (n) – absorb* (v); *activation (n) - activate (v); anion (n) – anionic (adj); corrosion (n) – corrosive (adj); circle (n) –circular (adj).* It should be noted that rows of the same root word-terms function in scientific discourse, e.g. *adsorb-adsorption-adsorbent-adsorptive; corrode-corrosion-corrosive; diffuse-diffusion-diffused-diffusible.*

The number of derived terms by far outnumbers the underived ones, though the variability of their affixes is somewhat limited. This feature proves the regular character of computing term-formation system. The word-building structure of terms-derived words contains a large number of word-building models, the most productive ones consisting of verbal root morpheme and suffixes. The most widely used suffixes are: *-er/-or, -ion/-tion, -ing, -ity*. The terms ending in *–er/-or* are the most recurrent ones. This may be explained by the very object of this realm of science and technology that is computer with its components, elements and also means that ensure its functioning. This suffix is used to denote a device, instrument in many other fields of technology as well.

The intensive use of mainly Greek-Latin origin suffixes (*sub-, tele-, inter-, de-, multi-, macro-, super-, etc.*) is a specific feature of the word-forming system of derived computing terms. Due to their international language relevance, they ensure a more exact definition of the notion in general and thus specify its meaning.

Compound terms are not numerous in computing terminology. Compound is close both to a word and to a word-combination. Compound terms are not structurally homogenous: simplex, derivative, compound stems, clipped first and second components, abbreviations and codifications may be components of compound terms.

The computing terminological system is marked by the heterogeneous activity of stems involved in term compounding and varied occurrence of word-building models. Stems of different parts of speech demonstrate diverse activity in term compounding as well (Kubriakova, 2004).

Noun and adjective stems distinguished by their word-building possibilities are the most active ones in term compounding. Both derived and underived noun stems are the most frequent components of compound terms.

When the second component of a compound term is a nominal stem, the first component can be the stem of present and past participle, the stem of an adverb, a numeral, a preposition, *e.g.*: *first-order, 10-key, in-out selector, normally-off, far-out, remote-down, real-around, last-in, two-dimensionally*. Adjective stems are in most cases in the positive degree, seldom enough in the comparative and superlative degree, e.g.: *higher-speed, highest-quality.*

Compound terms reflect computing notions in different ways. There exists a connection between the structure of a term and its lexical meaning.

Compound terms of adj + n type are most widely used to describe the principles of a computer structure, its parameters, hardware, software, programming languages: *higher-speed, mainframe, general-purpose, special-purpose, low-cost, small-system, single-board, high-performance, low-level, high-end, long-term, single-step, variable-point, single-precision, new-line, high-pass, low-byte, discrete-time, double-precision, double-length, deep-depletion, high-volume, high-density;* computer input-output control description: *double-density, hard-copy, high-quality, highest-quality, full-screen, single-rock, single-density, digital-readout, narrow-band, operational amplifier, small-input, full-duplex, parallel-data, serial-data, single-wire;* for naming computer elements, including the description of logical scheme, triggers, integral microcircuits: *single-input, open-collector, discrete-component, positive temperature, thin-film, single-chip, multiple-function, continuous-path, complementary-symmetry.*

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Both derived and underived noun stems are the most frequent components of compound terms. When the second component of a compound term is a nominal stem , the first component can be the stem of present and past participle, the stem of an adverb, a numeral, a preposition, e.g.: *first-order, 10-key, in-out selector, normally-off, far-out, remote-down, real-around, last-in, two-dimensionally*. Adjective stems are in most cases in the positive degree, seldom enough in the comparative and superlative degree, e.g.: *higher-speed, highest-quality*. Compound terms formed according to the models *adj+ n, n + n* are the most frequently used ones. In many cases the following tendency is true: the more productive is the word-building model, the more frequently it is used.

The syntactic way of computing term formation is a productive one due to the complex logical-conceptual system of such terminology and the necessity to define the meaning of the notion most accurately. The syntactic way of computing term formation comprises two-, three- and four-component word-combinations. The distinguishing feature of a word-combination as opposed to a compound is manifested above all in formal grammatical peculiarities of its composition, in its structural characteristics. Two-component attributive word

combinations with a modifier in preposition that correspond to structural models *A + N* and *N + N* having the meaning "modifier-modified" are the most widely used types of terminological word-combinations. Nominal word-combinations are the most active ones, the right position component being their nucleus: *system, computer, device*, *program, control, storage, memory, unit, code, data, method, mode, set, etc*. In the left position the most active components are: *data program, control, system, disc, address, machine, file, etc.*

An adjective component may be primary or derived one and a nominal component may be primary, derived or less frequently a compound word.

It should also be mentioned that terminological word-combinations formed according to the models *N + A + N, A + N + N, N + N + N, PII + N, PI + N, A + PI* are among the most frequently used ones. The necessity to give more information by means of extending a word-combination is confronted with limitations imposed by the structure of a definite syntactic model. The limitations of possible extension depend primarily upon the grammar potencies of the model itself and consequently upon the grammatical forms that constitute the word-combination. Being a member of the sentence, the terminological word-combination cannot but conform to the general aims of communication (giving and getting information), thus it cannot extend endlessly. The length of a word combination is also limited by the special nature of scientific style and scientific discourse, both being marked by laconic, clear and logic manner.

The presence of a large number of terminological word-combinations in computing terminology system brings about an opposite phenomenon, i.e. compression, which leads to the formation of a substantial number of abbreviations, being of syllable type, letter-syllable and clipped. The terminological units recurrent both in literature and discourse and denoting basic concepts of computing manifest the tendency to abbreviation.

There exists a large number of abbreviations connected with the terms "memory", "register", "unit", "system ", "processor", etc.: RW memory, RAM , USB-memory-stick., HAM; TBR, PR; CPU , NTU, ACU; DBS, ESS, HDBMS; HEP, ISP, GWP, etc. According to their structural characteristics, computing abbreviations are in most cases alphabetic acronyms. Some structural parts of speech (articles, particles and conjunctions) may be used to form computing abbreviations along with stems of notional parts of speech, e.g.: CUE - Computer Up-Date Equipment, NLP – Non-Linear Programming.

Computing abbreviations can also be formed by omitting the stems of notional parts of speech (nouns, adjectives, present and past participles) and whole word-combinations: NMC – Network Measurement Center, MPS – Modular – Runtime linkable Programming System, BTM – Batch Time-Sharing Monitor. In abbreviations LF (Line Feed Keyboard Key) and RO (Rub-Out Keyboard Key) the word-combination Keyboard Key is totally omitted.

A clear-cut dependence exists between the term's structural characteristics and its motivation. This proves that the semantic potency of a

lexical unit is determined, in particular, by the linguistic character of its components and the way they are united (Kharitonchik, 2007). Underived words are structurally the simplest ones, including only one lexical morpheme. The act of term formation comes to semantic word formation. And there is a possibility to depict only one single feature of a notion. It means that the relation between the inner form and lexical meaning is manifested in concordance of the only one semantic notion.

The structure of derivatives includes both lexical morpheme and a word-forming affix. Thus, such structural type allows defining hypothetically at least two features of a concept in the process of term formation, leading to a greater motivation as compared to underived words (Cruse, 1987; Ufimtseva, 2010). Compound words also consist of two lexical-semantic components, most often of two stems. The stem's ability to fully and accurately express necessary information is more substantial than that of an affix. Thus, it is possible to speak about an increase in motivation as compared to derived words.

Word-combinations comprise both underived and derived words as their components, less often compounds. This results in a higher degree of motivation. The length of the term also influences the degree of motivation, reaching its maximum in 2-4 word- combinations. Terminological word-combinations of N + N + N structural model have the highest degree of motivation in the English computing terminology system, terms-underived words having the lowest degree of motivation (Bialik, 1985).

The semantics of computing terms is determined to a great extent by logical-conceptual system of this realm of science. Based on the semantics of nuclear component, it is possible to distinguish lexical-semantic categories (LSC) peculiar to the lexical-semantic computing terminology system in general: a) LSC "an object/ material body" (terms that denote objects of reality: computers, details, elements, devices, etc); b) LSC "process/movement" (terms that denote process, action, state); c) LSC "quality/feature" (terms that denote quality quantity, extent, characteristic features); d) LSC "abstract logical notions" (terms that specify most general logical notions, mathematical notions, programming languages, etc.).

Terms that may be attributed to LSC "object/ material body" (denoting equipment, *i.e.* hardware) are the most representative of computing terminology. The number of terms that belong to LSC "quality/feature" is insignificant. It is possible that such terms lack semantic features necessary to denote a certain scientific-technical concept.

A definite set of structural models is mainly used in term-formation of a certain LSC. Terms that belong to LSC "object/physical body" are formed according to the models N + N, A + N, PI + N, N + A + N. Terms that constitute LSC "process/movement" have structural models A+ PI, PII+N.

Speaking about non-term lexis, it is worth mentioning that it comprises polysemantic and polyfunctional words and phrases that are the term's lexical

environment and may be of common, general scientific and general technical use. A word in a scientific discourse forms contextual relations marked by varying degrees of binding. The scientific discourse lexical core is a chain of interconnected units, its elements being a word, a morphosyntactically conditioned phrase, a reproductive phrase, an ultimate syntactic unit and a terminological unit.

The problem of defining the field of general scientific words combinability probably remains among the most difficult ones in mastering a foreign language. The flow of speech segmentation into functional units is instrumental in deeper understanding of scientific discourse lexical combinability.

3. Conclusions

The familiarization with the structural and semantic peculiarities of the terminological system enhances the perception of the system character of term-formation processes. The focus on such correlation in the course of teaching English computing terminology may considerably facilitate its mastering, stimulate the processes of comprehension and learning, hence improving academic performance in general.

The computing terminological system is marked by the heterogeneous activity of stems involved in term compounding and varied occurrence of word-building models. The stems of different parts of speech demonstrate diverse activity in term compounding as well. In many cases, the following tendency is true: the more productive the word-building model is, the more frequently it is used.

It is the noun that denotes fundamental concepts of this field of science, thus underived, derived and compound computing terms are mainly nominal ones.

The number of derived terms by far outnumbers the underived ones, though the variability of their affixes is somewhat limited. This feature proves the regular character of computing term-formation system.

Terms-underived words are characterized by a developed semantic system, which in its turn allows concluding that semantic method of word-formation is productive for the analyzed terminology. Metaphoric change and restriction of meaning are two main types of semantic changes.

The syntactic way of word-formation and abbreviation dominates in Modern English computing terminology, this tendency being caused by extra linguistic factors. Terminological word-combinations prove to be the most explicitly and coherently motivated, as a motivated term denotes the specific character of a concept, the term's inner form, ensuring the accuracy of a definition.

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UNELE ASPECTE ALE PREDĂRII TERMINOLOGIEI

(Rezumat)

Dezvoltarea intensivă a tehnologiilor informaţionale permite luarea în considerare a lexiconului terminologic din perspective diferite: morfologică, structurală şi semantică. Terminologia IT este un exemplu de terminologie tânără; formată la mijlocul secolului al XX-lea, este încă în curs de dezvoltare activă. Caracterul dinamic al terminologiei IT o face adecvată pentru studiul mijloacelor de nominalizare lingvistica. Având în vedere faptul că terminologia este un subsistem al sistemului general lexico-semantic al unei limbi, acesta conţine toate tipurile de cuvinte structurale, orice mijloc de numire şi toate procesele semantice care sunt caracteristice lexicului general. Caracterul special al unei terminologii se manifestă în diferite variante de realizare a proceselor de mai sus în funcţie de tipul de ştiinţă şi tehnologie, istoria dezvoltării sale şi tipologia unei limbi naţionale. Caracteristicile speciale ale terminologiei calculator sunt de asemenea determinate de aceşti factori. Înţelegerea caracteristicilor specifice structurale şi semantice ale terminologiei IT şi natura sistemului acestei terminologii pare important pentru practica predării limbii engleze, asigură o mai bună înţelegere şi controlul termenilor şi îmbunătăţeşte eficienţa performanţei academice.

TRANSLATING INTERJECTIONS FROM ENGLISH INTO ROMANIAN IN THE LITERATURE FOR CHILDREN: "OH, MY GRACIOUS, GLORIOUS, GALUMPHING GOODNESS!"

BY

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Abstract. This study represents both an analysis of interjections found in the book *Mary Poppins*, by P. L. Travers, and an investigation on their translation from English into Romanian. In order to take on this research all occurrences of interjections were analysed in the original English text, based on a detailed consideration of their pragmatic and contextual meanings.

Keywords: interjections; occurrences; contextual analysis.

1. Introduction

The present research refers to the particularities of interjections. Their specificity lies in the diversity of both form and contextualized affective meaning. Their meaning cannot be perceived without properly considering the whole discourse – from semantic, pragmatic and contextual points of view. The linguistic examination of interjections also represents a translation challenge, as interjections are pragmatic markers that encode discursive emotional replies

2. On Interjections

Most contemporary Anglophone literature considers interjections as independent exclamative utterances, rather than forming a proper word class.

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(Quirck, 1972, p. 411; Crystal, 2003, p. 218; Carter & McCarthy, 2006, p. 208). Cuenca (2006, p. 20) shares this view, stating that interjections are idiomatic units or routines syntactically equivalent to a sentence.

On the one hand, in terms of form, interjections are made either of a single word (e.g. alas, huh, oh) or of an entire phrase (e.g. "Oh, my Gracious, Glorious, Galumphing Goodness!"). Syntactically they 'behave like sentences', as they prove autonomy, being 'semantically complete' (ibid.). On the other hand, in terms of significance, it is clear that their meaning cannot be grasped out of the discourse context. The table below lists all emotional content conveyed through interjections in *Mary Poppins*, by P. L. Travers. The meanings of the 297 interjections were elicited and interpreted based on a comprehensive dictionary, found at http://en.wiktionary.org/wiki/. As the available version of Travers' *Mary Poppins* was found on internet, in Word format, it is impossible to make reference to the number of the pages where interjections appear. Moreover, I signalled with [*] the idioms for which only the number of interjectional uses were taken into account.

Table
Emotional Content Conveyed through Interjections in "Mary Poppins",
by P. L. Travers

Interjections used in the text	Occurrences	In the order of their appearance in the text (without repeating recurrent meanings!), these are used to:	Examples
a-a-a-h	1	express that the speaker knows something as obvious, but of which the hearers are not aware of;	"But why can she remember and not us?" said John. "**A-a-a-h!** She's different. She's the Great Exception. Can't go by her," said the Starling, grinning at them both.
ah	15	introduce further explanations; to persuade; express obviousness, empathic response, surprise, understanding; attempt to persuade;	"Oh! But I didn't see you in the picture," said Mary Poppins. "**Ah**, I was behind the tree," explained the Waiter.
Ah well	1	express concern;	The furry shape yawned and stretched itself. "**Ah well**, I'll have to make a home for you all. There wouldn't be enough room in mine."
aha	2	express thoughtful inquiry, understanding;	"What will they be next time?" asked Jane, looking at Mrs Corry's fingers with interest. "**Aha!**" said Mrs Corry. "That's just the question. I

			never know from day to day what they will be.
ahem	1	draw somebody's attention;	"**Ahem!**" said Mary Poppins, with a ladylike cough.
alas	1	express (formal) regret;	**Alas**, this is just a passing visit. We're on our way round the world."
all right	2	indicate support (agreement);	"**All right**, all right. I'm not deaf, I'm thankful to say – no need to shout," he heard her saying calmly.
blast my gizzard; blast my vitals	4; 1	express fret;	Over and over again the inhabitants of the Lane heard him say as he rolled past Miss Lark's mansion: "**Blast my gizzard!** What does she want with a house like that?"
bless my soul; bless me; bless my tail - feathers	2; 1; 1	exclaim (joyful) surprise;	**Bless me** if it isn't Mary Poppins, with John and Barbara Banks.
Cheerio	1	a parting formula;	"**Cheerio!**" he said perkily, and spread his wings and was gone. . .
Cowardy-custard! Cry-baby!	1	utter ironic appellations;	Look at her! Just look at her! **Cowardy-custard! Cry-baby!**" she shrieked, pointing her knotty finger at her daughter.
Dear me	2	express surprised indignation;	"**Dear me!**" said the Red Cow to herself, as she began on a Sailor's Hornpipe. "What an extraordinary thing! I always thought dancing improper, but it can't be since I myself am dancing. For I am a model cow."
deary me	1	express acknowledging one's own forgetfulness;	But, **deary me** – here am I running on and on and you not being served!
Dee-licious!	1	express happiness;	"Do you like the feel of me?" it said, as though it loved being praised. "**Dee-licious!**" said Barbara, with a happy sigh.
Dee-lighted!	1	express pleasure in doing something;	"**Dee-lighted!**" said the Lion in rather a mincing voice, and he offered her his arm.
eh	7	express lack of attention in conversation; request that the listener	"**Eh** – what? Oh, get along, girl, get along. I've no time for such frills and furbelows."

		expresses an opinion about what has been said, as a tag question; emphasize what is said before; ask for opinion;	
- er -	6	express hesitation in speech;	"Crying? Certainly not. I have – **er** – a slight cold, caught on my return journey – that's all. Yes, a slight cold. Nothing serious."
'Ere! (contraction of *look hereI*)	1	emphasize the expression of an opinion, at the beginning of a sentence;	"**'Ere!**" he called angrily, shaking his fist at Maia.
Gangway, gangway!	1	ask for the crowd to make way;	And he pushed his way through the crowd crying, "**Gangway, gangway!**" and dragging Jane and Michael after him.
golly	3	euphemistically express wonder (from *God!*);	"Strike me pink!" said Mary Poppins. That was what she always said when she was pleased. "**Golly!**" said the Match Man. And that was his particular phrase.
Good gracious!	2	express awe;	"**Good gracious, my dear!**" my Mother said to her. "You don't suppose that only one star ever fell out of the sky!
Ha ; Ha! Ha! Ha!	5; 1	express an exclamation of discovery; express (ironic) amusement / laughter; express inquiring;	**Ha!**" said Mr Banks, drawing in his head very quickly. "Admiral's telescope says East Wind. I thought as much.
Here, you impertinence!	1	express criticism	-
hey	1	get attention	"**Hey!**" called Mary Poppins softly.
hi	1	call attention	**Hi** – whoa there, look out!
Hist!	1	exclaim that one should be silent	"**Hist!**" said Mrs Corry suddenly, listening with her head on one side, like a small bird
h'm	4	indicate thinking	"**H'm**. Not poetic enough," observed the Penguin.
ho	1	attract attention to something sighted (nautical);	All hands to the Pump! Land**, ho!** Heave away there!
Hooray	1	express excitement (pleasure);	"**Hooray**, hooray, splendid, hooray!" she cried in her shrill little

			voice.
hsst; hsssst	1;1	exclaim that one should be silent (a sibilant uttered by a snake - a King Cobra)	"**Hsst!**" he went on, and spread out his hood as though he were listening with it.
huh	3	reinforce scorn, in all-knowing replies;	"**Huh!**" said the Starling contemptuously.
Hull	3		
hullo; Hullo, hullo, hullo!; Hull oh!	1; 1; 1	utter a cheerful greeting (hello); express excitement;	"**Hull oh!!**" said Michael excitedly from the window.
humph	4	utter a sigh of assent; to express: disapproval; doubt; mild disapproval;	"**Humph!**" said Mary Poppins as she tucked him in and went away to wash up the supper things. . .
Humph – Urrumph!	1	express disapproval, in a grunt;	"**Humph – Urrumph!**" he said, blowing his nose very hard and taking his overcoat from its peg.
hush	1	exclaim that one should become quiet;	"**Hush!**" said Jane, as Mary Poppins took out a large bottle labelled "One Teaspoon to be Taken at Bedtime."
(oh,) Lordy, Lordy	1	express request;	Oh, **Lordy, Lordy**, don't make me laugh, I beg of you—
my dear*	2	to address to someone with an affectionate term, showing surprise	"The idea – **my dear!**"
My goodness	6	to address to someone, showing amazement;	"**My goodness**," said Mary Poppins, "I am having a Day Out!"
my Gracious, Glorious, Galumphing Goodness!	1	to address to someone, showing extreme shock;	"**Oh, my Gracious, Glorious, Galumphing Goodness!**" roared Mr Wigg, dabbing his eyes with his coat-tail because he couldn't find his handkerchief.
My gracious, goodness, glory me!	1	to address to someone, showing extreme amazed shock;	"**My gracious, goodness, glory me!**" exclaimed Mary Poppins, and stood still.
my word	1	express admiration;	"**My word!**" said Mary Poppins admiringly, stooping so that she could see it better.
Naow, naow	1	draw attention on a prompt to be followed;	"**Naow, naow**. Wot's all this? A Naccident or wot?"
Now, now, now, (now)!	2	draw attention; express surprise;	"**Now**, now, now – well, I do declare!
oh (including 'oh, yes','oh, no', 'oh, really', 'oh, well',	54	introduce further explanations; to express: understanding;	"Just going to? **Oh**, indeed! That is very interesting. And who, may I ask, Annie, gave you

'oh, indeed', 'oh, of course', 'oh, please')		request; surprise; realization; astonishment; request for confirmation; despair; grief; sympathy; relief; opposition to the previous idea; understanding; wonder; pain; all-knowing wonder; realization; to introduce an added comment / explanation; to express shyness; supplication; irony; authority; introduce words of affection; to express wonder; reproach; an afterthought; as a space filler, in songs; to express fear; happiness; anxiety; reproach;	permission to give away my gingerbread—?"
oh dear	4	express concern;	"**Oh dear**, all I can find is my sailor hat and a pair of gloves!" said Michael, running round the room pulling at drawers and feeling along shelves. "Those'll do. Put them on. It isn't cold. Come on."
Oh! Oh!; oh, oh!; oh, oh, oh!	2; 1; 1	express worry; joy;	"**Oh! Oh!**" Michael dropped the compass. "Mary Poppins, help me!" he screamed and shut his eyes in terror.
Outrageous!	1	express strong disapproval;	What – no Yorkshire pudding? **Outrageous!**
pff	1	express the fulfillment of something miraculous;	And still holding her hands he drew her right out of the street, away from the iron railings and the lamp-posts, into the very middle of the picture. **Pff!** There they were, right inside it!
pooh	5	express contempt; rejection of an idea;	"Robinson Crusoe – **pooh!**" said Mary Poppins rudely.
Preposterous!	1	express disagreement;	"But it's not possible!" said another voice. "**Preposterous!**" cried a third.
Ready! Steady! Go!	1	give the start of a race;	"**Ready! Steady! Go!**" she cried. And as if it were bird

			rather than fish, the herring swooped up and splashed into the sea.
really *	11	to express conviction; surprise; to indicate affirmation; displeasure at one's behavior; skepticism; irony;	"**Really!**" said Mary Poppins. "Really, such behaviour!"
shoo	2	to induce someone to go away;	"Go away! Go home! **Shoo**, I say!" said Miss Lark, waving her arms angrily at the dog.
Silence!	1	exclaim that one should be silent;	"**Silence!**" said Mrs Corry fiercely (…)
snap!	1	imitate the sound of a snap;	**Snap!** The wardrobe door shut quickly and Mary Poppins hurried from the room.
sorry!	2	express regret;	"**Sorry!**" said the sunlight. "But I can't help it. I've got to get across this room somehow. Orders is orders.
spit-spot	1	express a warning	"One more question from you – and **spit-spot**, to bed you go!" she said
Sssh!	1	exclaim that one should be silent;	"**Sssh!**" hissed Jane from her bed, for she, too, had heard the footsteps.
Tch, tch, tch	2	to show wonder; worry;	"**Tch, tch, tch!**" said the King. "Secretary, look in the Encyclopædia and see what it says about cows with stars on their horns."
the idea!	3	express surprise; disagreement;	"**The idea!**" Jane and Michael heard her say as she glanced down at her shoes.
there * (including 'there, you see')	5	express indignation; delicacy in offering a gift;	**There!** Off went a button. Good – there would be fewer to do up in the morning.
Wee-Twe – ee – ee!; Cuckoo	1	reproduction of bird sounds;	that the Starling says '**Wee-Twe – ee – ee!**'
well * (including 'Ah well')	62	acknowledge something to be done; a situation; express agreement; to fill gaps (filled pauses); express surprise; introduce further explanations; draw attention of the addressee; introduce the expression of indignation; of a proposal; to introduce,	"But if it were me – I mean I – **well**, I should get somebody to put in the Morning Paper the news

		accompany, strengthen, or express a question or a statement;	
(what) Nonsense!	2	express indignation;	"Can't stop?" **Nonsense!**" said the King furiously. "Stop at once! I, the King, command you!"
What!	1	express indignation;	"**What!** My dear young lady, the Lion, as you know, is the King of the Beasts.
whew	1	express surprised indignation;	**Whew**, it's as cold as the North Pole.
why *	18	express indignation; mild surprise; impatience.	"**Why**, children," said Mrs Banks, noticing them suddenly, "what are you doing there?
yap / yap-yap	2	to express the high-pitched bark of a dog.	"**Yay-yap!**" said Andrew several times very quickly.

There are 194 interjections in the Romanian version of Travers' text Mary Poppins, meaning nearly 100 fewer than in the original text, a significantly high difference as compared to the translation. Different translation strategies are to be used based on the contextual meaning, aiming to "have a similar effect upon the readers and give them the illusion of an independent value" of the text. (Dimitriu, 2002, p. 23).

To sum up, in our research we have emphasized and exemplified the necessity of comprehending the context in order to extract the pragmatic meaning and functions of interjections.

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∗ * ∗ http://en.wiktionary.org/wiki/Interjection.

TRADUCEREA INTERJECȚIILOR DIN ENGLEZĂ IN ROMÂNĂ, ÎN
LITERATURA PENTRU COPII: "OH, MY GRACIOUS, GLORIOUS,
GALUMPHING GOODNESS!"

(Rezumat)

Acest studiu prezintă atât o analiză a interjecțiilor găsite în cartea *Mary Poppins*, de P. L. Travers, cât şi o scurtă examinare a traducerii din limba engleză în limba română a acestora. Pentru această cercetare au fost analizate toate apariţiile interjecţionale în textul original în engleză, considerând în detaliu toate semnificaţiile pragmatice şi contextuale ale acestora.

EASTERN CHRISTIAN SPIRITUALITY AND EXPERIMENTAL PSYCHOLOGY: DILEMMAS AND INTERROGATIONS IN BUILDING A DIALOGUE

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Abstract. The society in the 19th century got a *science about man* that meant the development and progress of the world. This gain brought along a big loss, too: negation of soul, spirit and spiritual life, of the relation with Divinity. It reflected in the moral and value crises of the modern and postmodern man. What else the experimental psychology has lost and what can be recovered by dialogue with the Eastern Christian spirituality are aspects developed in this approach.

Keywords: psychology; spiritual life; mechanistic paradigm; person; objectivity.

1. Introduction

Psychology appeared as science at the end of the 19th century and has developed spectacularly till date in various *psychologies*, with the socio-economical and political progress, which modelled in time various conceptions about man. The applications of psychology in many fields, the need to overcome one's own reductionism (especially in experimental psychology, behaviourism, psychoanalysis, etc.), as well as the innovative spirit for a psychology of the future, have opened ways of interrogation about man and his problems, equally important as the great scientific discoveries. Experimental psychology (with the first laboratory of psychology set in Leipzig in 1875) was

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the founding trunk from which the other psychological schools and trends have detached. To become a science, it obeyed to the new rigours (given by the model of natural sciences), which were reflected in a reductionist vision about man. It could not have been differently, and it had to catch this privileged moment. Walking the historic path of the appearance of the science about man is surprisingly confusing and edifying at the same time, both for specialists and non-specialists. The first gain of such an approach is the amazement in front of the great effort of transforming the man in "subject" of study (see Parot & Richelle, 2006).

This paper presents briefly some historical moments of these "losses," the most obvious one being at the beginning ignoring and then denying the existence of soul and the spiritual dimension of man. Even though some psychological schools/trends (psychoanalysis, humanist psychology, existential psychology, transpersonal psychology, experiential psychology, etc.) have recovered complex and profound aspects of human reality (unconscious, human value and potential, consciousness and sense of existence, impersonal transcendence, their emotions and expressiveness, etc.), overcoming the founding reductionism, the return to religious and non-religious spiritual horizons and practices has nowadays an increased interest. The human crisis that the world experiences today, despite the scientific and technological development, requires dialogue and rapid solutions, the opening to knowledge and valuing some cultural and spiritual spaces less explored by psychology. Re-evaluation and recovery of some *human potential ignored by the psychological science*, yet preserved in the eastern Christian space represent a second purpose of this approach. This psycho-spiritual potential is amazingly preserved and analysed in the *un-scientific* psychology of the eastern Fathers of the church. There is an essential question that guided this approach: What can modern experimental psychology gain from the dialogue with experimental and spiritual psychology of the Church Fathers?

2. Applying the Mechanistic Paradigm to Nature and Man

The longer or shorter history of psychology has made a *certain type of man,* whose "layers" were placed slowly and surely on a "profile" well defined by the historical contexts during several centuries. The development of science started from the transformation of the physical world, then the transformation of society and human being.

Modern science in the 18th century was based on the **mechanistic science** of the 15th-17th centuries that showed that the natural phenomena can be *measured quantitatively*, and imitating nature (by building machines) can offer man more power. The mechanistic programme inspired another understanding of the world and its relation with Divinity: *physical world would work even without the Creator's interference or some spiritual presence.* Man could create

movement (industrial machines) and heat; he could observe directly phenomena in movement, without the need of theological or philosophical (metaphysical) explanations. By Galileo's thinking (1564-1642), the vision on nature and knowledge was confounded, *separation between man and nature* becoming definitively strong. Nature separated from Divinity left all traces of anthropomorphism for good, became "cold" and treated as a reality *exterior* to man; an *object* looked at, by using mathematical instruments. Since the qualities of the objects are relative for senses, it was legitimated that what is true is the result of some *measuring* (Parot & Richelle, 2006, p.39).

Mathematician and engineer Galileo thus defines the founding of modern science - *objectivity*, as something independent of the senses. *Measuring by mathematical means* became the only way by which objectivity could be produced, absolute principle and criterion to assess the science-ness of later "sciences" (Patapievici, 2005, p. 73). Thus, the genuine innovation of the 17th century remains the *technical idea of autonomy* – of the world thought as an isolated and closed physical system, idea that excluded God altogether. In other worlds, *the first cause was killed by the efficiency of the second causes, which became an autonomous entity called Nature* (Patapievici, 2005, p. 90).

The Newtonian paradigm followed the same line of thought as Galileo's, and redefined science as a *statement of laws* and not as research-explanation of the phenomena by invented hypotheses (as in the Cartesian science), which are not necessarily true (*hypotheses non fingo*). However, Newton did not desecrated the physical world, because he opposed the idea of considering gravitational attraction a *property inherent to matter* and understanding matter as autonomous reality in all its manifestations (Patapievici, 2005, p. 80). "For him (Newton) the force of attraction is a proof of the fact that the mechanistic approach is insufficient as such – of the fact that attraction is the sign of presence and action of God in the world." (Patapievici, 2005, p. 81)

Could modern science include the science about man? Could man be treated as a machine? These are the decisive questions of the history of psychology as science (Parot & Richelle, 2006, p. 40). Rene Descartes in *Discourse on Method* (1637) formulates an answer to these questions. Even though he adheres to mechanistic conceptions related to organic phenomena relation to the *body*, he states that *the soul* (or thinking as its product) does not belong to nature, being the refuge of the sacred (Descartes, 1957).

The Newtonian model was applied to the world of ideas (by D. Hume's philosophy) and the social phenomena by the political philosophy of T. Hobbes (1588-1679) (Hobbes, 1642; 1651). The latter build a *modern science of the social* (searching for the causes of peace and war, suffering and happiness, and helping the people's governing), by using the mechanistic method of *decomposition and re-composition*. The place of God in the being and society is reduced till absence or, in other words, as nature "works"

without divine interference, even man and society can be the object of knowledge independent of faith (Parot & Richelle, 2006, p. 48). "Hobbes gets a *radical de-sacralisation* where the field of a *real science about man* opens, a science too radical, without doubt, for that era, but which would find its path." (Parot & Richelle, 2006, p. 48).

Julien Offray de La Mettrie marks the top of man's "desecration," prolonging this desecration until *L'homme-machine.* From the man compared with a machine (in the mechanist vision) it goes to: *man-machine to enjoy* (G. Brătescu, 1961; La Mettrie J.O., edited by Thomson Ann, 2003). The result was: "certitude" of the inexistence of some divine principle in man; man obeys the natural, social and educational determinism; man is only what he can do by his and others' will, which means matter that can be modelled by pedagogical instruments. Illuminist psychology stressed on the cultivated and minutely developed *individualism* (starting with the 14th century), which gives man *total autonomy*, certainty that he is *source for himself*, that he can look at himself from outside without the feeling of losing something about himself.

The spirit of Ideology, the science of ideas with metaphysical suppositions, has refined this vision of man rooted in a material reality that determines his will and behaviour. Between the observer and what they observe there is no universal principle, unseen, nothing transcendent (that he would miss) to determine it (Parot & Richelle, 2006, p. 88).

In A. Comte defined *science-ness,* to clearly delimit between what is scientific and what is not. *Science states laws and it is just what is stated (placed) in laws without metaphysical or theological speculations* regarding the primary causes or the final purposes of phenomena (Parot & Richelle, 2006, p. 98). The psychology of empirics, ideologies and spiritualists in his time does not belong to the positive sciences. Comte denies a psychology of the human nature because metaphysical discourses cannot be held, and the explanations degenerate to abstract ideas. Despite the condemnation without right to appeal of psychology as *un-scientific in positivist sense*, Comte admits that a set of deeds with physiologic fundament can be the object of a scientific subject (called *Intellectual and affective physiology* or *Philosophical phrenology*). It was thus defined the *objectivity, functionalism and pragmatism*, the main features of *scientific psychology.* (Comte, 1864, p. 157).

Positivism assured the ideology of science development in the 19th and 20th century, and *scientism,* the radical attitude of positivism, has transformed science into religion. *Science alone became the source of truths* and only it could assure the progress or solving of man's problems (as long as in society would triumph ideas about order, progress and efficiency) (Parot & Richelle, 2006, p. 102). *Positive man*, master of self and universe, interfered efficiently, ruled, controlled the world, without the complex that something was missing – *the unseen part of himself and the world*. The possibility for psychology to become a positive science was defined by Comte, without him sensing the

effects in the remote future, of those who treated *man as a natural object*, as an animal among others. Darwin stated with strong proofs the philosophical position of Comte. Thus, only scientific psychology was recognised by the institutions of education and had credibility. Only it could measure, validate by experiments, without explaining anything and without expressing anything doubtful. It saw in man first the animal, his behaviour and abilities, without *a sense* reported to the individual (Parot & Richelle, 2006, p. 166).

The conception about *man as individual* will be maintained, strengthened and generalised until today, having a history of "naturalness," of natural already formed, difficult to deny in the current circumstances and useful to people's governing. *Profound humanity* was sacrificed to man to create the science about man, which continues to have power to model his image and explain his identity. How can this *spiritual humanity* be recovered?

3. Valuing the Eastern Christian Spirituality in Psychology: Difficulties

Eastern Christian spirituality (ECS) is a source less explored and valued by humanist sciences (especially by psychology and pedagogy), mainly with respect to the aspects related to the knowledge and modelling of the person/human personality. ECS is the experimental, practical part of the Orthodox doctrine; it is the live theology of living with God from His power. According to the Dictionary of Orthodox Theology, "spirituality is the conscious feeling or experience of God's spirit, manifested in a way of knowledge and life; it is the existential process towards becoming God, personal recovery of the Holy Spirit, by "unseen battles" to gain back the sensitiveness towards God" (Bria, 1994, p. 364).

Some reasons supporting a reduced interest for this space or the difficulty to value the spiritual experience specific to it could be: the difficulty of understanding the texts written by monarchs (monks), who seem to be a different "species of people," separated from the world and today's man's problems; lack of scientific validity for the spiritual information and experiences offered by them; impossibility of scientific objectification of some "behaviour" related to the psycho-spiritual interiority of man (such as the act of faith, the work of spirit in man or co-work man-God); different understanding of some common concepts that were partly re-signified by each field separately (for example the concept of person, normality, objectivity, etc.). I will develop briefly several ideas related to the last aspect to form an image about the difficulties at the base of the dialogue between science and the Christian spirituality.

3.1. The Psychological Person and the Spiritual Person

For the experimentalist psychologist and today's man, a discourse on man that starts from God can create misunderstandings, suspicions and even

hostility. Marko Ivan Rupnik warns us that there are several ways to start from:

> "…if we start from God in a conceptualist way, it is obvious that the conclusions on man are rather frustrating and modern man, sensitive to his autonomy and freedom, will react energetically and will prefer to it one of his reductionisms. But Fathers will not start from God in this sense." (Marko Ivan Rupnik, 1997, p. 124).

How then? For the Orthodox tradition and for those who know it as lived experienced, God is Somebody alive, a Person who remains in relation with His creation, where present mysteriously, allowing man the freedom to ignore or reject Him. By this personal relation with a personal God, there can be reached the knowledge of man as *spiritual/holy being*. Thus, the characteristic of being a *spiritual person* includes and exceeds the psychological sphere of the concept, which designates the actual man, aware of the freedom and possibility to self-determination.

D. Stăniloae and Ch. Yannaras suggest a richer meaning of the word person: man discovers himself as person in a spiritual sense when he lives and is aware that the divine reality is the most intimate presence of being and his existence (Stăniloae, 1997; Yannaras, 2000). Vladimir Lossky develops the concept of *person*, finding its psychological sense insufficient:

> "On characterising a person by the features of character found in other subjects as well, we realize at the end that what is the most precious in a being, what makes him be himself, remains undefined, since there is nothing in his being (man's) that would be specific to the person, always unique and un-comparable, without resemblance. The determined man, acting by his nature, in the virtue of his natural characteristics, though his character, is the least." (Lossky, 1990, p. 150).

Eastern tradition proves completely the fact that any act of communion with God during prayer leads also to an act of contemplation of the man's mystery. That is why prayer as dialogue dimension, as the most intimate and profound truth about man, remains a constant preoccupation in knowing the relation man-God (Rupnik, 1997, p. 69).

3.2. Psychological Normality is Different from Spiritual Normality

Psychological normality/health reflects the optimum adaptation of the individual to the socio-cultural environment by manifesting behaviour conform to the norms of a community. It can be known by taking into account the hereditary-social-cultural factors that influence man psychologically. In the Orthodox anthropologic conception, psychological normality means the health of the *old man*, who wears "skin clothes" added after the fall. The divine nature is original to man, and not the psychological one, hence the "skin

clothes" represent: *biological mortality* (*nekrotes)* as man's second nature after his fall (*nekrotes)* or "*life in death*" because man lives (survives) by postponing death; *irrational nature* that functions in man as vices and leads him by "bodily thinking"; *psychological functions* that have become too "corporeal, fleshly" and too little spiritual (Panayotis Nellas, 1994, p. 27-29). Knowing the "layers of psyche" define a partial, "horizontal" normality of man, which must be completed by the spiritual one ("vertical") that changes the perspective from *what* is man to *who* is man: from an intelligent and sensitive being to a subject of communion with God. The two normalities, even if different, overlap and support each other mutually in their development.

3.3. Scientific Objectivity and Spiritual Precision

The detailed analyses of the eastern thinkers make a difference between the soul life (psychological) of man and the spiritual one (in communion with God), which they place in an intimate relation. The two experimental psychologies (scientific and holy/spiritual) have many elements in common, among which even what calls every *precision,* what comes either on experimental way of laboratory or from practice or *praxis* of asceticism and prayer. The writings of the eastern authors (see writings from the 12 volumes of Romanian Philocalia) resulted exclusively from the practical experience, that is why spiritual "rigour" is one of the criteria for its authenticity. The spiritual "objectivity" has other landmarks, different from the scientific one, and it "cannot be assessed based on the conventional one, because (this) objectivity is not only what science or man behind it pre-establish as methods, logical rules, categories [...], the approach it (the scientific objectivity) traces being too simple to reach the true complexity of life and human reality." (Rupnik, 1997, p. 106-107).

From the perspective of scientific objectivity, *man's soul* does not exist, even if it was studied by psychology in its philosophical period. The human *soul* has become an object of study inappropriate for a science such as psychology. Reducing its field of interest only to the part of objectified psychic life (by behaviour, conduct) led many times to putting between brackets the *consciousness* itself, considered the most profound level of the human being (behaviourism). If for psychology the reality of the *soul* does not have consistence and relevance, it is an *incontestable reality* for eastern Christian life: "For what will it profit a man if he gains the whole world, and loses his own soul? Or what will a man give in exchange for his soul?" (Mark 8, 36-37)

Church Fathers talk about the unseen life of the soul because they received as understanding the *man's mystery* and succeed in expressing the psycho-spiritual dimension without separating them, suggesting even an

unconventional psychotherapy (H.Vlachos, 1998; J.C.Larchet, 2001). And the latter is less known and valued by classical and modern psychotherapies. The therapeutics of spiritual diseases starts from the profound human roots and suggests practical "solutions" aiming the awareness of the psycho-spiritual diseases and their healing by initiating and "deepening" the relation with God.

4. Conclusions

Man's spiritual dimension cannot be studied by experimental psychology, but it can enrich the vision on man limited by the scientific criteria. From the beginning, from its debut as science, psychology selected only those psychological processes that can be observed and measured (perceptions, attention, behaviour, memory, etc.) and left aside the psychological phenomena that are more subtle or less visible. This step generated in time the conception that *what is not visible does not exist*, which removed in a way the recognition and value of the more profound psychological and spiritual life. Viewing the *spiritual invisible* is an act of faith that indicates the *presence of the invisible,* and Holy Spirit is the one that assists this view (Patapievici, 2005, p. 447).

Scientific psychology can enlarge its perspectives of approaching man by opening different spiritual spaces, which allow him to see more clearly his limits, admitted by some famous psychologists:

> "But how much of the real psychology of man can be lived and noticed by measurable and numerically expressed deeds? [...] Those who enter more deeply the essence of psychology and ask for more from psychology as science, that is do not consider that it should obey some struggling existence within the borders of the methodology of natural sciences, must have realised that they would never and nowhere succeed in experimental methodology to account for the essence of human soul, and not even sketch an image relatively precise of the complicated soul phenomena." (Carl Gustav Yung, 1994, p. 117-118)

The holistic approach of man, extending and accepting even other discourses on man do not randomly become today the desiderata of contemporary and future psychology. The psychology of the "fallen man" (from the relation with God) can become irrelevant for the researchers who want to know the psychology of the "new man," renewed by spirit, where the psychological faculties obtain another normality that the one defined by the scientific paradigm.

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SPIRITUALITATEA CREŞTIN RĂSĂRITEANĂ ŞI PSIHOLOGIA EXPERIMENTALĂ: DILEME ŞI INTEROGAŢII ÎN CONSTRUIREA UNUI DIALOG

(Rezumat)

Societatea secolului al XIX-lea a câştigat o *ştiinţă despre om* care a însemnat dezvoltarea şi progresul lumii. Acest câştig a adus şi o mare pierdere: negarea sufletului, a spiritului şi a vieţii spirituale, a legăturii cu Divinitatea. Ea s-a reflectat în crizele morale şi valorice ale omului modern şi postmodern. Ce a pierdut psihologia experimentală şi ce poate recupera prin dialogul cu Spiritualitatea creştin răsăriteană sunt aspectele dezvoltate în demersul de faţă.

MANAGERIAL CHALLENGES OF THE TEACHER: ACKNOWLEDGING AND SOLVING THEM (I)

BY

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Abstract. The paper identifies several managerial difficulties of the teacher depending on his/her activities: prognosis, prediction, decision, design, planning, and organization in class. These difficulties are: *risk, uncertain, random, exceptional, correction, improvement decisions, prognosis difficulties, involuntary influence, managing by punishments or rewards, poor regulation, inadequate counselling of the educational process*. The paper emphasizes the methods and techniques to overcome these difficulties such as: *system analysis, comparative analysis, causal analysis, roles analysis, operational analysis, risk analysis, case analysis, contextual analysis, analysis of task*.

The methods used in the development this study are: scientific documentation, systemic analysis, longitudinal observations of teachers participating in POSDRU "Student-Centred Education" between 2010 and 2012.

The study formulates conclusions on managerial efficiency: being proactive, beginning with the end in mind, win-win mentality, communicating empathetically, cooperating creatively, and learning continuously.

Keywords: managerial difficulties of the teacher; systemic analysis; win-win mentality; continuous learning.

1. Introduction

In a postmodern vision on education, the teacher owns and puts into work not only training and educational-formative **prescribed teaching roles**,

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but also managerial ones: prognosis, prediction, decision, design, planning, organization, leadership, communication, coordination, evaluation and counselling of the educational process (Joiţa, 2000).

In each of these components of the management process or in their interaction, difficulties, dysfunctions, barriers and bottlenecks may occur.

2. Deciding Teacher

I. Current management (see Drucker, 1994; Dobre, 2000; Zlate, 2004) considers decision to be the primary function of the management process because it harmonizes goals with material resources and people, becoming the engine of the activity. Pedagogy and educational management highlight the need for the teacher to become **deciding teacher** highlighting the need for forming a managerial culture, of his/her formation as a manager in order to optimize the educational process.

The main instrument of the deciding teacher is **decision**. She/he makes decisions in all managerial activities of prognosis, foreseeing, design, planning, management, evaluation and counselling in the educational process.

The deciding teacher is in a position to take multiple categories of decisions (Joiţa, 2000):

➢   *tactical* implementation of educational strategies and *operational* current;

➢   *certain,* which depend on the teacher to a high degree (*e.g.* operationalising objectives) or **risk,** rapid and **uncertain** that do not depend entirely on the teacher, for example, new measures of educational reform

➢   *individual*, concerning teacher or student or *group* or involving the classroom, an educational group

➢   *prognosis, design, planning, programming, organization, control and evaluation of all activities,* through which certain activities are foreseen, prepared, evaluated and corrected

➢   *periodical,* on *repetitive* activities, *random,* taken in unexpected situations, or *exceptional* involving special *event .*

➢   *for correction, improvement, prevention* of learning difficulties in students, in their behaviour, to adapt to the demands of the class.

The decisions that can turn into the teacher's managerial barriers are the ones considered *risky,* even *uncertain, random, exceptional, for correction, for improvement.* Managerial science (Drucker, 1994; Joiţa, 2000) shows that the decision-making process consists of several steps that ensure efficiency:

1. *identifying, establishing and defining the problem*;
2. *establishing goals and operational objectives*;
3. *informing, documenting and analysing various pieces of information about the current problem*;

4. *drawing up possible solving options*;
5. *choosing the optimal action*;
6. *communication and transmission of the decision*;
7. *implementation of the set measures*;
8. *continuous control, comparing results obtained at the end of the developed project*.

In the same context, Iosifescu (2000), considers the decision-making process to be a **problem-solving process** with its specific stages: defining the problem, developing, selecting and implementing alternative solutions.

In educational practice the teacher is tempted to skip some steps and go directly to solutions that may not always lead to the best results. The teacher's insufficient managerial training, the bureaucratic burden on the teachers, poor interaction among teachers, students and parents are just a few of the causes of the difficulties arising in the managerial process of problem solving in education.

The best **decision-making methods and techniques** considered by Joiţa (2000) are: *system analysis, comparative analysis, causal analysis, roles analysis, operational analysis, risk analysis, case analysis, contextual analysis, task analysis.*

Mihuleac and Nicolescu (1999) present the following **methods** to be necessary in order to achieve educational efficiency: managing through alternatives, deviations analysis, decision tree, role plays, decision table, optimality rule, etc.

To become a good deciding teacher he/she must meet certain requirements of the decision-making activity:

a) make a *system analysis* of all the components of the field in which he/she wants to take decisions: classroom, school, education system;

b) his/her analysis has to be *comparatively* reported to other similar systems, another parallel class of students, another school, another educational system;

c) the teacher cannot analyse whether the results are good or bad unless he/she considers *the causes* that led to these results;

d) other questions that the teacher has to make explicit are: what *roles* are involved: teacher, student, parent, inspector, to which *risks* do certain decisions lead, in what *context;* what *tasks* involve certain decisions ?

3. Prediction Activity

The second managerial activity of the teacher possibly generating difficulties, dysfunctions, barriers and even jamming is **prediction which consists in prognosis, the design and programming of the educational activity.**

Prediction performs anticipating future activities and results based on empirical and scientific analysis of the evolution of education. **Prediction** has

several objectives: *anticipating* problems over a period of 2-4 years, *preparing* the unit of action, *outlining activity renewal directions*, anticipating the consequences of the changes introduced, structuring management policy for each curricular cycle. The beginning of a new curriculum cycle, and a new school/ university year is an important component of educational prediction because the teacher must study curriculum documents such as: curriculum frameworks, with objectives framework, with the aims, contents, endpoints, performance in order to achieve prediction of the whole year.

Therefore, **educational prognosis** may include: a. *outlining* the framework-objectives, the formation and development of students for the stage according to curricular documents; b. *analysis of framework-objectives - of the initial situation highlighting strengths and weaknesses, critical or of development; c. shaping a perspective line on the long run up to 2 or 3 years.*

Design and planning are the most important and common forms of prediction specific to educational management because they give answers to problems indicated by the managerial foresight. **Design and planning** are achieved by covering complex steps (Joița, 2000):

a) *initial evaluation* of human, financial and material resources by setting up a certain diagnosis of them;

b) *setting goals,* operational ones, the contents, the methodological directions, the time required;

c) evaluating *critical issues,* types of *decisions* required, variants of settlement;

d) establishing *performance criteria* on the objectives and methods of control.

A managerial project, according to Iosifescu (2000) must meet certain **requirements**: - suitability to established goals and objectives – realistic initial assessment- systematization and conceptual clarity – operationalisation – conceptual unity – continuity among the actions – flexibility – optimal use of time resources – compliance with pedagogical scientific and managerial basis – developing a methodological alternative – establishing assessment criteria.

By **programming** the means to achieve specific objectives, operational derivatives are given in sequences: in class, in concrete activities, on defined topics and actions. A manager teacher can compile programs following objectives such as resource efficiency, correlating the school activity to off school and the classroom ones, information system reorganization, supporting differentiated treatment of students to develop their creativity.

Prognosis, design and programming can be achieved by **methods** such as:

a) *management through project* with steps including establishing the topic, the objectives, the strategies, the actions, the costs, the time;

b) *management through operational objectives* that need to be explicitly tailored to students needs and their possibilities;

c) *comparison* to other plans and projects;

d) individual and group *reflection method*;

e) *scenario method*;

f) *creative methods and techniques*.

Prediction is one of the most difficult managerial activities of the Romanian teacher having multiple and different causes:

1. lack of consistent and un-contradictory information of the teacher, on the educational market;

2. contradictory educational legislation among its diverse components: objectives, financial resources, human resources;

3. multiple changes, unrelated, caused at the level of objectives, contents, methods, educational evaluation;

4. disunity between management levels: the ministry, school inspectorates, schools/universities;

5. lack of class teacher training in using methods to draft a correct and efficient managerial project.

4. Activity Organization

The term organization comes from the Greek organon which denotes a means of achieving knowledge, research. With this significance Aristotle's works on logic were invested, as well as Francis Bacon's Novum organum. Thus the meaning of the term used has become the logical and theoretical tool for scientific research. Therefore from the etymological meaning of the term organon, the concept of organization designates all actions designed to lead to *rational and efficient* use of human, material and financial resources of processes, including those belonging to the educational space.

In the educational and classroom management, organization can be *actional and structural* (Iucu, 2000). Actional organization refers to all activities of the teacher-students relationship, as well as to the various components of the educational process:

a) teaching-learning-evaluation;

b) formal, non-formal, informal;

c) objectives, abilities;

d) contents;

e) teaching technology;

f) work style.

The teacher sets an *optimal ratio* between the teaching-learning and assessment, harmonizes the formal activities with non-formal and informal, derives and operationalises concrete objectives based on specific goals and framework objectives of the curriculum, organizes multi and interdisciplinary contents, chooses the most effective techniques, methods and procedures of teaching and assessment and most effective working styles with the students.

His/her actional organizational role meets difficulties in adjusting to the peculiarities of age and the needs of individual students, which implies a good knowledge of pupils and good class resource management.

The most up-to-date solutions of actional organization are those that combine pedagogical criteria with the praxeological and managerial ones through a situational approach to the lesson, respecting the principles of rationality as well the principles of creativity, efficiency and complicity. Therefore *actional organization* goes through the following steps: redefining general framework objectives; defining specific objectives; establishing a set of actions; developing organization methods: teaching-learning-assessment; establishing concrete operations and actions; filtering objective requirements through student peculiarities.

Structural organization refers to direct or indirect participation of the teacher to:

1. formation, evolution and regulation of *roles* in the classroom;

2. *formal but also informal structure* building in groups of students;

3. drafting or changing the *structure of communication* in the classroom;

4. construction *of influence and leadership structure* of the classroom.

Structural organization engaged in achieving class resource efficiency requires the teacher complying to institutional demands : knowing the rules of the organization and functioning of the school, internal regulations, the formal organization of the school and class; knowing and using the existing information system in that particular school; promoting the initiation of students in widening communication relations and their involvement in the organization of activities; knowing and using hierarchical relationships in school.

One of the most effective theories on effective institutions is the one called **learning organization.** Peter Senge (1990) describes this organization as follows: the organization where "people continuously develop their capacity to create the results they truly desire, where new patterns of thinking are created and expanded, where the collective aspirations are consensual and where employees continually learn how to learn together." Learning organizations are characterized by **systemic thinking, personal mastery, mental models, team learning.** Such an organization has a systemic thinking, considering all its components, their future evolution and forming strategic action schemes. The organization promotes personal mastery, creates opportunities for the development of the creative potential of its employees, it stimulates the uniqueness of the employees in the context of the organization. Through its creative work organization it generates specific mental models that can be applied to each employee and which in turn will lead to new mental models in the evolution of the organization. Team learning puts together individual skills and experience, but in the end it is not their sum but their interaction, interaction that will lead to new knowledge and skills of the organization. School is one of

the best examples of organization that could teach creativity through collaboration and support of its members. In applying the theory of learning organization the teacher encounters the greatest difficulties in school because teacher culture in Romania does not include enough collaboration among teachers, students and parents, so that they could learn from each other in an organized manner.

5. Conclusions

Looking at management as a system according to the interaction of its components: prognosis, prediction, decision, design, planning, organization, leadership, communication, coordination, assessment and counselling, identifying managerial difficulties in time and overcoming them is the way that leads to managerial success.

E. Joiţa (2000), shows that successful manager teachers:

- aim at rational goals
- address the problems wholistically
- better identify the unsolved or difficult issues
- rationalise material, teaching, psychological and time resources
- look for varied information
- project their actions on different terms and at different levels
- choose the most direct and economical from several organizational variants
- interact with their partners, involve them in taking decisions, etc.

S. R. Covey (1995) identifies **seven principles or steps of efficiency and success:**

1. being proactive, being interested, increasing the circle of influence;
2. beginning with the end in mind, specifying intents and purposes, specifying the optimum leading mode, ordering the factors and principles, acting with conviction and faith;
3. giving priority to priorities, planning their importance, managing your time, identifying roles, creating versions of programs;
4. thinking win-win;
5. communicating empathetically, seeking to understand first, then to be understood;
6. acting synergistically, cooperating creatively, reporting to group action, to interdisciplinary approach, appreciating partners;
7. learning continuously, renewing other dimensions of knowledge, regulating the activity, admitting improvement in an upwards spiral.

The proactive attitude focused on searching for and identifying problems is more effective than the reactive one, focused on responding to the

reality challenge, because it involves preparation for problem solving and for assembling mentally for achieving success. Not letting yourself be surprised by the variety and difficulty of educational problems involves preparing for the problematic situation, even more than that, anticipating possible problems and preparing individuals mentally – enabling them to solve these problems. Being proactive is one of the most important conditions of creativity in general and the first stage of modern, creative management, in the classroom inclusively.

Clearly defined goals and objectives, according to previous problems and successes, present requests, future aspirations make up the second step to achieving managerial success. The aims and objectives of a certain activity trigger already built psychological assemblies and adapt them to the requirements of educational reality. Modern pedagogy attaches great importance to educational outcomes, according to research issues and pedagogical guidelines of the authors Bloom, Kratwooll, Simpson. The classification of educational goals according to these criteria, applying them to all levels of education, promotion and operationalisation is one of the directions of the educational reform after 1989 in Romania.

Establishing general, medium and specific, cognitive, affective, psychomotor and volitional character objectives can be applied in practice both in terms of teaching and learning. The educational activity and counselling lessons are deficient with regard to the issue of educational goals and objectives. The Romanian educational crisis is also a crisis of ideals, aims and educational goals. Knowing how to set your goals and objectives is achievable starting from the crisis of goals and objectives.

Principle 3 – prioritising priorities – involves thorough organisation and planning activities, training teachers in effective time management in order to prioritise activities according to their importance in time. The Latin spirit of the Romanian education is an obstacle in terms of organising activities, therefore it is necessary to focus on the development of the spirit of discipline and disciplining of the educational process.

Principle 4 introduces us to the issue of conflict resolution, inevitable in any domain of activity, the more so in educational activities that can be solved most efficiently through the win-win formula. All the other forms of resolving conflicts win-lose, lose-win or lose-lose may not be as successful as the win-win formula. The two sides are: teachers and students most often, but also students and parents, teachers and teachers, students and pupils, teachers and parents, etc. In a possible conflict and probably between those particular parties, the assured formula for success is the win-win one, where both sides gain from the negotiations, provided that both parties give in.

The mental development of the concept of success, its staged design, its timely planning, the organisation of factors and forces responsible for success, coordination and management tailored to the situation - all these are but stages of the management of success which, through their efficiency, becomes successful management (Tiron, 2011)

1. Emphasize the role of **adviser and guide** of the teacher/magister in discovering knowledge.
2. **Personalizing** education, because both maieutic and the current heuristic strategies concentrate on the student with his interests, necessities, skills, according to the ancient goal: know yourself!
3. **Searching for the truth of mankind, through the action upon oneself**: consequently, if we want to know the truth and to develop the wish for the truth in ourselves, we must start by working upon ourselves
4. *Combines creativity with morality: responsibility, recognition, evaluation, virtue.*

Current education must still work on the last meeting point between creativity and morality because if in ancient times the moral goals of education were well stated, in current education they have been overshadowed by scientific and intellectualist goals. Not to mention virtue…

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DIFICULTĂŢI MANAGERIALE ALE PROFESORULUI: CUNOAŞTEREA ŞI GESTIONAREA LOR

(Rezumat)

Lucrarea identifică mai multe dificultăţi manageriale ale profesorului în funcţie de activităţile sale de: prognoză, previziune, decizie, proiectare, planificare, organizare, conducere, comunicare, coordonare, evaluare şi consiliere în clasa de elevi. Aceste

dificultăţi sunt: deciziile *de risc, incerte, aleatorii, de excepţie, de corectare, de ameliorare, dificultăţi de previziune, influenţa involuntară, conducerea prin pedepse sau recompense, reglarea deficitară, consilierea neadecvată a procesului educaţional.* Lucrarea pune in evidenţă metodele şi tehnicile de depăţire a acestor dificultăţi cum ar fi: *analiza de sistem, analiza comparativă, analiza cauzală, analiza rolurilor, analiza operaţională, analiza riscului, analiza de caz, analiza contextuală, analiza de sarcină.*

Metodele folosite în elaborarea lucrării sunt: documentarea ştiinţifică, analiza sistemică, observaţiile longitudinale ale profesorilor participanţi la proiectul POSDRU "Educaţia centrată pe elev" între 2010 şi 2012.

Lucrarea formulează concluzii de eficienţă manageriala care sunt: a fi proactiv, a începe cu finalul în minte, a gândi în termeni de câştig-câştig, a comunica empatic, a coopera creativ, a învaţa continuu.

THE FASCINATION OF THE PHYSICS CLASS

BY

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Abstract. Probably the oldest science studied by mankind, physics still continues to impress us with the information that the scientists gather daily. Using information obtained by our predecessors, we have managed to develop new technologies that have enabled us to enrich our knowledge, thus forming a circular structure, where the improvement of one aspect inevitably leads to the development of the other. An important step is the early introduction of information, i.e. the descriptive presentation of the phenomenon, so as to impress. The world is fascinating and through physics this fascinating complex can be explained and understood, so if this science describes a fascinating thing, why studying it could not be fascinating? Presenting in an impressive way some daily utilities of the concepts that pupils study could bring extra motivation in learning, knowing that motivation is the key factor in the process of learning.

Keywords: physics; education; teaching methods.

1. Introduction

Step-by-step during the human evolution this science, physics, has managed to change, or to supplement people's perception of what surrounds them. Living in a society of extremes, today's pupils grant limited importance to activities that are monotonous, such as learning. Changing their attitude towards physics and improving their motivation to learn this science can be achieved by amplifying the idea of "making them curious about", turning it into "impressing them." Presenting everyday applications of the content they study in the

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classroom in an impressive way could add extra motivation. The teachers' pedagogical skills may allow the use of these impressive aspects for "advertising purposes", thus improving the motivation to learn.

2. Examples of School Activities

These pupils' first encounter with physics takes place in the sixth grade, an age where the need to know makes them turn to various sources of information to saturate this need. Today almost everyone has a mobile phone, a digital camera or a computer. The inquisitive nature of children makes them ask a multitude of questions, about how things function, or terms used in describing the physical properties of those devices. Quite frequently the people surrounding them cannot provide coherent and complete answers to the questions encountered, thus creating prerequisites for incomplete or incorrect acquisition. So, whenever the physics teacher (and not only) meets an opportunity to establish a link between the information made available to pupils according to the school curriculum and daily use of such information, she/he should take it. Returning to physics, one of the first lessons taught to pupils in this grade is about multiples and sub-multiples, during which teachers can present a first link between mathematics and physics, and the usefulness of mathematics. Using the support provided by other disciplines (some multiples and sub-multiples being previously taught in the math classes), physics teachers can focus on the daily utility of that content. Thus she/he could lead the discussion by asking pupils about daily situations where they heard formulations that contain these prefixes, having the possibility of addressing such lesson sequences.

MEGA-PIXEL   GIGA-HERTZ   TERA-BYTE

Fig. 1 – Notions that could be described during a lesson about multiples
and sub-multiples.

Using physics classes to explain those issues encountered by pupils in daily activities, such as those related to image resolution, CPU frequency or a memory storage capacity should spark the pupils' interest for this science. Presenting this information I was able to amaze the pupils attending my class, as they previously did not know anything about the applicability of this science. During this lesson one may present elements of nanotechnology, when talking about submultiples.

Another example can be built during the lesson that presents magnetic interactions. This lesson, which through the interactions it describes is exciting enough, can be improved by describing new applications of the phenomenon. Thus, besides the famous compass, a broad category of modern practical applications on magnetic interactions, such as those regarding digital memory storage or ferrofluids can be brought into discussion. During such lessons pupils will learn that magnets can be found in another aggregation state, not only solid state and they might even engage in a laboratory experiment where the teacher and the class may create a ferrofluid.

Fig. 2 – Necessary materials for ferrofluid experiment.

This lesson has had a powerful impact on pupils. The fact that they could build, only by mixing, a liquid magnet, using materials most of them use for other purposes was something impressive. A slightly difficult part was that some of them got a bit dirty during this experiment.

In the eighth grade, during the lesson discussing Pascal's law and its applications, one can make a connection with a relatively new application - robot construction. Building a robot requires a great deal of knowledge in many areas of physics, but also from the point of view of other disciplines (in order to make a functional robot, in addition to programming it, one should identify how to make the robot perform those actions and this is where classical mechanics with its laws and Pascal's law come in use).
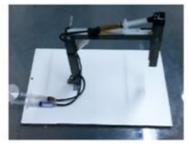

Fig. 3 – Building a crane.

Showing pupils that using four syringes, five screws, a piece of U shaped building material, duct tape, a piece of hose and water you can build

something that looks and moves like a crane sparked their interest mainly through its simplicity and efficiency. Presenting the main ideas that imagination is the limit to what we can achieve and that physics traces the rules by which we can work, this lesson was a success.

In order to form a more accurate conclusion on the impact of activity on the pupils, each activity was concluded with a satisfaction test as the one below. Analyzing the answers given by pupils I could analyze the outcome of such activities and formulate an opinion about the degree of achieving the goals pursued.

Satisfaction test

1. What grade would you give to this activity?(from 1 to 10) ☐

2. Do you consider important the concepts taught in this course?

no   indifferent   some   important   very important
☐   ☐   ☐   ☐   ☐

3. Would you want to participate to more activities of this kind?

yes ☐   no ☐   indifferent ☐

4. What would you change about this activity?

Fig. 4 – Satisfaction test.

3. Conclusions

Integrating as many current applications of knowledge taught in classes can enhance pupils' interest toward study. Because the Universe is not divided in study subjects it is difficult to understand the usefulness of studying certain information, while integration into the complex from which it was drawn (like a Lego in construction) could lead to greater motivation, i.e. an interdisciplinary approach could improve the quality of learning. Teaching knowledge in such attractive ways can steer pupils to studying natural sciences. Presenting mathematics as support in studying natural sciences, the complementarity of these study subject in the journey to understand the world may determine the allocation of extra time for studying them, thus leading to a better understanding of the concepts, of the world, and in my view to a

positive attitude to these study subjects. In most situations where I wrongly assumed an interaction between a pupil and a certain element/situation presented in class, this caused the pupil to interact, and then submit the interaction to me. So whether the interaction was prior to discussion, or whether it occurred thereafter, the result of such an approach can only be positive.

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FASCINAŢIA ORELOR DE FIZICĂ

(Rezumat)

Probabil cea mai veche ştiinţă studiată de către omenire, fizica continuă şi în prezent să ne impresioneze cu informaţiile pe care oamenii de ştiinţă ce îşi desfăşoară activitatea în cadrul acestui domeniu le adună din multitudinea de experimente pe care le desfăşoară. Utilizând informaţiile obţinute de către predecesori am reuşit să dezvoltăm tehnologii noi, tehnologii ce au permis îmbogăţirea bagajului de cunoştinţe, formându-se astfel o structură circulară, în care avansul unuia determină inevitabil dezvoltarea celuilalt aspect. Pentru a creşte randamentul acestui proces, un pas important îl reprezentă introducerea precoce a informaţiilor ce prezintă un caracter general, adică prezentarea descriptivă a fenomenului, astfel încât acesta să impresioneze. Lumea este ceva fascinant, iar prin intermediul fizicii acest complex fascinant poate fi explicat şi înţeles, adică dacă această ştiinţă descrie ceva fascinant, de ce studierea ei nu ar putea fi fascinantă? Prezentarea într-un mod impresionant a unor aplicaţii cotidiene ale noţiunilor pe care aceştia le studiază ar putea aduce un plus de motivaţie.