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BABEŞ-BOLYAI



# PSYCHOLOGIA PAEDAGOGIA

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1/2013

**STUDIA  
UNIVERSITATIS BABEŞ-BOLYAI  
PSYCHOLOGIA-PAEDAGOGIA**

**1/2013  
June**

## **STUDIA UNIVERSITATIS BABEŞ-BOLYAI PSYCHOLOGIA-PAEDAGOGIA**

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**YEAR**  
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**ISSUE**

**Volume 58 (LVIII) 2013**  
**JUNE**  
**1**

**S T U D I A**  
**UNIVERSITATIS BABEŞ-BOLYAI**  
**PSYCHOLOGIA-PAEDAGOGIA**

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**Desktop Editing Office:** 51<sup>st</sup> B.P. Hasdeu, Cluj-Napoca, Romania, Phone + 40 264-40.53.52

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## STRENGTHS AND DIFFICULTIES OF NATIVE AND NON-NATIVE SPEAKING ENGLISH TEACHERS: PERSPECTIVES FROM THE ENGLISH LANGUAGE CLASSROOM IN ISRAEL

ELIZABETH KARVONEN\*, VASILE CHIS\*\*

**ABSTRACT.** Native English speakers are often assumed to be the most desirable English teachers, due to their fluency and superior knowledge of the language. However, recent research has shown that this is not necessarily the case, especially regarding novice teachers in their first year of teaching. This research recorded and analyzed the experiences of thirty novice teachers, teaching English as a foreign language (EFL). All teachers were graduates of the same training program, yet when asked to rate how they coped during their first year in the classroom in various spheres such as planning, assessment or classroom management, the native English speaking teachers showed that they coped less well than their non-native speaking peers in all spheres. This article discusses the topic from various angles and identifies fundamental reasons why the native speaking English teachers' apparent advantage might also prove to cause specific difficulties.

**Keywords:** *Teaching English, Native English Teachers, Novice Teachers, Non-native English Teachers*

**ZUSAMMENFASSUNG.** Englische Muttersprachler sind oft, aufgrund ihrer Geläufigkeit und die herausragenden Kenntnis der Sprache, als die wünschenswerteste Englisch Lehrer angenommen. Allerdings haben die jüngsten Untersuchungen gezeigt, dass dies nicht unbedingt der Fall ist, insbesondere im Hinblick auf Berufseinsteiger in ihrem ersten Jahr der Lehre. Diese Untersuchung erfasst und analysiert die Erfahrungen von dreißig Berufseinsteiger, die English als Fremdsprache unterrichten (EFS). Alle Lehrer waren Absolventen der gleiche Ausbildungsprogramm. Wenn sie verschiedenen Bereichen, wie zum Beispiel die Bewältigung der Planung, Beurteilung oder Klassenraum-Management, während ihres ersten Jahres im Klassenzimmer bewerten mussten, zeigten die

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einheimischen englischsprachigen Lehrern, dass sie weniger gut verkraftet als ihre nicht-muttersprachlichen Kollegen in allen Bereichen sind. Dieser Artikel beschreibt das Thema aus verschiedenen Perspektiven und zeigt die Hauptgründe, warum die muttersprachlichen Englischlehrer' scheinbare Vorteil zu besonderen Schwierigkeiten führen kann.

**Schlüsselwörter:** *English unterrichten, Englische muttersprachler Lehrer, Berufeinsteiger Lehrer, nicht-muttersprachler Lehrer*

### **Introduction: The native speaking English teacher – non-native speaking teacher debate**

The debate regarding teachers of English as a foreign language (TEFL) who speak the language naturally as their native tongue versus non native speaking teachers is not new, although it has possibly become more topical and complex in recent years, due to the growth of the global village and consequent widespread acceptance of English as an International language.

The differentiation between the two 'types' - native English speaking teachers (NESTs) and non-native English speaking teachers (non-NESTs) – was highlighted by the Hungarian TEFL expert and researcher Peter Medgyes towards the end of the 20<sup>th</sup> century. Medgyes (1992) stated then that the native English speakers' advantage is considered to be *“so substantial that it cannot be outweighed by other factors prevalent in the learning situation”*. He reported on a poll taken amongst English language teaching specialists in London, where two thirds said they would choose to employ native English speaking teachers (NESTs) to non-native speakers (non-NESTs), even if all candidates had similar qualifications. At the same time, a point also raised was that language competence is not the only criteria for teacher success and considered how the disadvantage of non-native speaking teachers can become an advantage, since their pedagogical skills may be more developed.

It should be mentioned that it is becoming harder to differentiate between a NEST and a non-NEST. Whereas twenty years ago native English speaking teachers were an 'attraction' in countries where English is not the native language, as traveling has become easier and societal norms have changed regarding young adults globetrotting independently, there are now considerably more native English speakers traveling and teaching English around the world. Also, as world populations have become less static, there are more local teachers who have spent extended time in English-speaking countries and so have a high level of English language proficiency even if they are not native English speakers per se. As such, the difference between NESTs and non-NESTs has blurred somewhat.

Megyes (2001) analyzed and compared the teaching styles and pedagogical techniques used by NESTs and non-NESTs in the EFL classroom, coming to no clear conclusion regarding the advantage of one over the other. One point that was clear, though, was the disparity between the comprehensive teacher-training received by the non-NESTs compared with the NESTs, many of whom had no training at all or had undergone a minimal preparatory training course in TEFL, lasting a few weeks only. Therefore, although the NESTs had a superior knowledge of the target language, in most cases this was purely intuitive and they had a limited amount of 'content knowledge for teachers'. The phenomenon of teachers who lack even basic training is explained by Arva et al. (1999), who drew attention to the common employment of NESTs for conversation practice only, with the non-NESTs holding real responsibility for the pupils' progress. This might give some legitimacy to the NESTs being employed as teachers despite having less training.

In order to compare the skills and abilities of native and non-native speaking teachers of English in a valid manner, however, it is necessary to ensure that all have undergone a similar or at least adequate training program.

Arva et al. (1999) mention the positive status given to NESTs both due to their colloquial knowledge of the language and awareness that they represent the culture of an English-speaking country. In addition they note that EFL pupils are obliged to use English in lessons given by NESTs, unlike those given by non-NESTs where the pupils' first language (L1) may be used in class to a greater extent. This connects to the accepted feeling that English 'belongs' to the native speaker more than to a person who has learnt the language formally in a classroom setting. In an essay discussing different types of English and who 'owns' the language, Nayar (1994) states: "...correct, good and authentic English language really belongs to the native speakers". Anchimbe (2006) also reiterates the desirability of the native English speaker as an EFL teacher. Given these views, it is not surprising that many NESTs walk into the classroom assuming that they will be experts in teaching. For this reason the research findings presented here are particularly interesting, as they appear to negate commonly accepted assumptions.

## **Method**

The research presented here is part of a comprehensive research project carried out on novice English teachers in Israeli schools in the years 2010 - 2012. All were graduates of the same fast-track academic retraining program for TEFL. The data was collected through ethnographic research methods, within an interpretivist - constructivist paradigm (re: Mackenzie & Knipe, 2006).

In all, 31 teachers completed questionnaires about their experiences at the end of their first, induction year of teaching (the '*staj*'). Of these, a group of 14 novices were followed closely throughout the year through weekly meetings

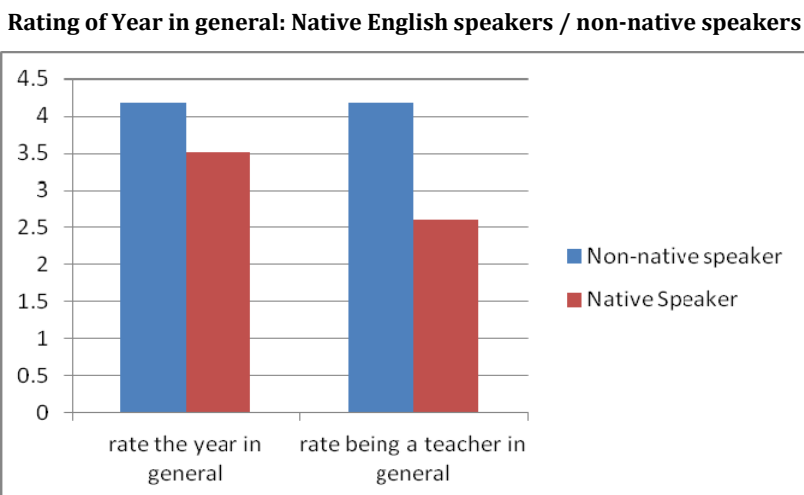


led by the researcher. The data regarding their progress, successes and difficulties was collected in a variety of ways to enable potential triangulation of the findings: through systematic observations as recorded in the researcher's journal, through their own diary entries (more than 100 individual entries were used in the research), through informal e-mail correspondence between them and the researcher, through personal, in-depth interviews with ten of the participants and also focused small-group discussions. The interviews were all recorded and relevant excerpts quoted in the research. In addition, questionnaires were given to 40 fresh graduates before beginning their '*staj*' year. This was in order to gauge attitudes and provide the option of comparing these initial, pre-service attitudes with novice teachers' attitudes after a year's experience in the field. The findings were then divided and analyzed according to different variables, one of which was whether the novices were NESTs or Non-NESTs. After this analysis, a second stage of research was carried out focusing on the common initial training program the novices had received prior to beginning to teach.

## Findings

In the questionnaires, the novices were asked to rate the first teaching year as it was perceived in general on a scale of 1 – 5, with 1 being the lowest score. Whilst the NESTs rated the year in general (the overall mean average) as 3.52, the non-NESTs gave it a rating of 4.17. On a similar vein, NESTs gave the item 'being a teacher' a rating of 2.6 while non-NESTs rated it 4.17, a far higher score. The results are shown in Fig 1.

**Fig. 1:** Comparison of Native English Speaking Teachers and Non-Native speakers after their first year of teaching (rated on a 1 - 5 point scale. N=31)

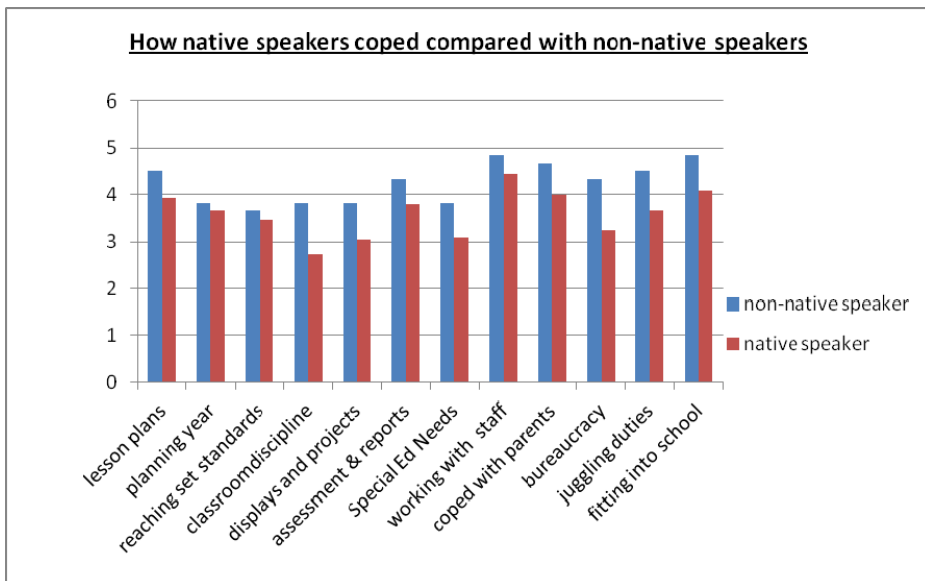


It can be seen from Figure 1 above that in general terms, at the end of their first year of teaching the non-native speakers of English rated the year more highly than the native speakers. The non-NESTS clearly perceived both their experiences working in the school system and the teacher's role within it with more satisfaction than the NESTs' perception of the same. The question that then needed to be asked was whether this reflects on their actual success as teachers or whether the NESTs simply had higher expectations of themselves and their teaching and consequently a higher level of dissatisfaction. Answers were found from analysis of further surveys in the questionnaire and from the qualitative data – interviews and journal entries.

A second survey asked the teachers to gauge how well they felt they had coped in various spheres of teaching, such as planning, assessment, classroom management and so on. They graded themselves on a scale of 1 – 5, where the levels were worded as follows: (1) I didn't do this well at all, (2) I found this difficult, (3) I just about managed, (4) I coped well most of the time, (5) Fine. I succeeded easily.

When the questionnaire answers were divided into NESTs and non-NESTS the results showed that in all spheres the non-NESTS coped better than the NESTs (Fig 2).

**Fig 2:** How native English speaking teachers (NESTS) coped in different spheres compared to non-native speakers (non-NESTS (1 - 5 point scale))



These statistics were reinforced by comments made in the novices' diaries and in the interviews with them, where it could be seen that the majority of difficulties seemed to be experienced by novices who were native English speakers.

Throughout the year it became apparent that many of the discipline problems especially were caused by either a lack of Hebrew (the pupils' mother tongue) or knowledge of Israeli culture. The fact that native speakers of English have excellent language skills could not compensate for this lack. One novice, Susan, explained the situation thus:

*"The hardest thing for me was...I didn't know the school lingo. I didn't know words like "I need to blow my nose". There are so many basic phrases... I just didn't understand what was going on."* (Susan, interview excerpt. Minute 2.35).

Since being a native English speaker usually corresponds with being an immigrant to Israel, often there were also difficulties due to a lack of cultural background. This is illustrated well by the following comment:

*"For example - what's a 'mechanech'? (home-room teacher). We don't have home-room teachers (in JH schools) in America"* (Susan's interview. Minute 6.26).

In addition, the native English speakers seemed to have more difficulty with teaching grammar. The following quote is one of the many examples quoted by the novices on this topic:

*"...By the way we were never taught how to teach grammar which is a shame.... Because I'm a native speaker they assumed I knew these things which I don't. I had to teach myself what the heck is present progressive... I had to learn grammar from the internet."* (Annie - interview transcript, minute 34).

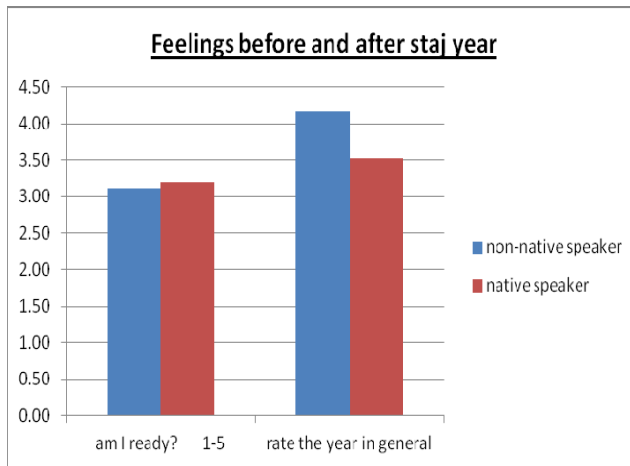
This connects with an entry in the Researcher's journal, which also gives a reason why native-English speakers are less prepared for the field; this time with respect to teaching children on different levels:

*"This isn't really connected to the 'staj' per se, but today a couple of 2<sup>nd</sup> year students were speaking with me about their experiences during the recent teaching practice week and said something fascinating: **"We have hardly been taught anything about heterogeneous teaching or how to manage classes on different levels. The only two courses which have shown us how to work individually with pupils are the two writing proficiency courses we have done"**. In other words- all the didactics courses that supposedly teach classroom management or dealing with special needs do not actually do so, whereas the courses aimed at teaching content (English proficiency) in fact provide them with good modeling for managing a class on different levels"* (Researcher's journal: 6.4.2011).

To gain a wider understanding of these unexpected findings regarding native speaker teachers, a comparison was then made between the expectations and actual experience of both native and non-native English speakers. The questionnaires

filled in by new graduates before beginning their *staj* year included the question: In general, do you think you are ready to go out and begin your teaching career? The results of this question were compared with novice teachers' rating after their first *staj* year. The results are shown in Fig. 3.

**Fig. 3:** Feelings before and after *staj* year – native Speakers / Non-native speakers (rated on a 5 point scale)



As can be seen, before the *staj* year, the feelings of readiness were similar, with the native English speakers showing slightly more confidence (3.2 on a 5 point scale compared with 3.1). At the end of the year, the Native English speakers on average rated the year as 3.52, compared with the non-native speakers who clearly felt they succeeded better and gave it a 4.17. In other words, the non-native speakers fared much better than they had anticipated, compared to the native speakers of English.

The comparative success of the non-native speakers of English compared to the native English speakers was an interesting discovery. Reasons for this will be discussed in the next section.

## Discussion

According to the findings, the common assumption that native English speakers are 'better' English teachers could be seen to be false – at least during their first year. All data sources – from the novice teachers' answers to the questionnaires to analysis of their personal diaries, the researcher's journal and correspondence throughout the *staj* year – all showed that NS teachers found it

harder in the classroom than their non-native speaker counterparts. When interviewed, they also expressed far more frustration and uncertainty regarding their work, as well as more disillusionment. These difficulties were due to a lack of knowledge of Israeli school and cultural norms, lack of proficiency in Hebrew and also a lack of 'English knowledge for teachers'. There were many examples showing that the NESTs were simply lacking in knowledge of HOW to teach English, a problem that native speakers of a language have, compared to others who have learned the language in a formal classroom setting. Because they have acquired the knowledge intuitively, they do not know how to impart that knowledge to others in a systematic manner.

A recent study by Haim (2010) states that *"Pre-service education programs should be designed in such a way as to help prospective teachers acquire a deep, well-organized knowledge of the various aspects and domains of their subject matter, as well as how this knowledge is incorporated into classroom practice."*

This emphasizes that it is not enough for teachers to know and use the English language well themselves, but they must learn to understand the underlying principles of the language and how to teach it in schools. This is particularly true in Israeli schools, where English is taught in a communicative manner, all aspects of the language combined, without separate conversation classes taught specifically by NESTs. Every teacher has complete responsibility for the pupils' progress in all spheres. NESTs form a large proportion of English teachers in Israel and need the same knowledge base as non-NESTS.

A comprehensive collection of necessary topics and skills that all EFL teachers should have is given in Penny Ur's classic work 'A Course in Language Teaching' (Ur, 1996). These include: (1) The teaching process: how to prepare, present, practice and assess), (2) What needs to be taught: vocabulary, grammar, functional language, (3) Teaching the four skills: reading, writing, listening and speaking, (4) Classroom management and lesson planning and (5) Learner differences: age, level and ability.

Since all novice teachers studied in this research had graduated from the same training-program, which officially covered all these topics, the question arises as to how the NESTs could be so ill-equipped with classroom skills and teaching techniques when they had, in fact, received the same training as the non-NESTS.

An answer was found in the continuation of the researcher's journal excerpt from 6.4.2011 quoted previously. To quote:

*"If this is the case, then those students who have English as a Native language are at a great disadvantage, since they are exempt from taking these 'proficiency' courses – as their English is already of a high standard. However, this also means they are missing out on apparently successful modeling of what to do when teaching language."* (Researcher's journal, 6.4.2011)

To clarify matters further, it should be emphasized that while the non-native speakers had spent years of their childhood sitting in English lessons and therefore experiencing a variety of different teaching methods, the native speakers had experienced none of this. From interviews with college staff in the teacher-training program during the second part of the research it also became apparent that the native speakers were exempt from participating in English proficiency classes in the college. Although often expected to present a paper or report to prove they were on the required level of proficiency in lieu of participating these courses, this was no substitute for taking part in lessons, which not only helped develop English proficiency but also held a 'hidden agenda' of preparing the trainees to teach, modeling different techniques and giving ideas that they could use in their classes afterwards. While the program offered a variety of didactic-based courses such as teaching literature, the heterogeneous classroom or assessing the EFL learner, which were all taken by native and non-native speakers alike, these tended to be taught in a more academic and formal manner than the proficiency courses and gave fewer tools for the classroom. This all led to a situation whereby, while the native speakers undoubtedly had superior English skills themselves, they often lacked the ability to explain and teach the language to others.

It should be remembered that this research studied novice teachers only. The fact that native speakers of English have more difficulties at the beginning of their professional career does not necessarily mean that this will be the case after several years' experience. Although their higher level of English might be overshadowed by lack of techniques and problems of acclimatization at first, it could be that once they have honed their teaching skills more and become familiar with Israeli school norms and culture, they will then be free to utilize their superior English skills and become exceptional teachers. It would be interesting to carry out a further piece of research in a decade or so, to see what actually happens to these teachers.

Whatever happens in the future, though, it is clear that any teacher-training program should ensure that native English speakers receive enough 'English knowledge for teachers' to give them sufficient tools and skills to know what to do in the classroom.

## **Conclusion**

This research examined the experiences of novice English teachers in Israel. It showed that native English speaking teachers found it harder to cope in the classroom than their non-native speaking peers. Despite all being graduates of the same college training program, it became apparent that the native speakers had received less real preparation, for while fluent in the language, they had

no experience learning English as a foreign language themselves and therefore lacked techniques for teaching the language in a classroom situation. They were also exempt from participating in English proficiency courses during their training, which again led to them having fewer classroom skills. Many native speakers were also not fluent in Hebrew (the students' first language) and unfamiliar with the local culture, which also made it harder for them to cope.

For these reasons, it is important that teacher trainers and administrators of teacher-training programs for English teachers beware of being 'blinded' by native English speakers' high level of proficiency in the language and should ensure that they receive adequate training in order to become efficient teachers in the field.

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## A NEW EDUCATIONAL PROGRAM FOR IMPROVING POSTURE AND QUALITY OF LIFE AMONG STUDENTS

IRIS GIL \*, MUŞATA BOCOŞ\*\*

**ABSTRACT.** Drawing on the emergent appreciation in recent years of the positive effect of health and body movement on the *quality of life*,<sup>1</sup> this research examined the correlation between correct posture and educating for correct posture, and Israeli students' *quality of life*. Examination of education for correct posture was conducted in 14 classes in which subjects, following verbal instructions, performed exercises derived from both Feldenkrais and the new MAP method. These methods are suited for adolescents and adults. Correct posture was assessed by a vertebral column curvature-measurement device, and by an open-ended survey. *Quality of life* was evaluated by both open and close-ended surveys. The results indicate that *quality of life* and posture can be improved by these educational programs. Partial correlation was found between posture and *quality of life*. These findings support the understanding that there is a correlation between posture, or health in general, and *quality of life*, and therefore constitute a foundation for further studies with a focus on the design of educational programs for posture improvement.

**Keywords:** *Posture, quality of life, Feldenkrais, MAP*

**ZUSAMMENFASSUNG.** Ausgehend von der aufstrebenden Aufwertung von der positiven Wirkung der Gesundheit und der Körperbewegung auf die Qualität des Lebens, in den letzten Jahren, diese Forschung untersucht die Korrelation zwischen korrekter Haltung und Erziehung für richtige Körperhaltung und israelischen Studenten Lebensqualität. Untersuchung der Bildung für richtige Körperhaltung wurde in 14 Klassen durchgeführt, in denen die Teilnehmer, nach verbalen Anweisungen, abgeleitete von Feldenkrais und der neuen MAP-

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<sup>1</sup> Pereira, Ligia M. et al., "Comparing the Pilates Method with No Exercise or Lumbar Stabilization for Pain and Functionality in Patients with Chronic Low Back Pain: Systematic Review and Meta-Analysis," *Clinical Rehabilitation*, 26 no. 1 (2011); Maher, G., "Effective Physical Treatment for Chronic Low Back Pain," *OrthopClin North Am*, 35 (2004).



Methode Übungen durchgeführten. Diese Methoden sind für Jugendliche und Erwachsene geeignet. Die richtige Körperhaltung wurde von einer Wirbelsäule Biegung-Messgerät und durch offene Erhebungen beurteilt. Die Lebensqualität wurde durch beide geöffnet und geschlossen Umfragen ausgewertet. Die Ergebnisse zeigen, dass die Lebens- und Haltungqualität von pädagogischen Programmen verbessert werden kann. Teilweise Korrelation wurde zwischen Körperhaltung und Lebensqualität gefunden. Diese Ergebnisse unterstützen das Verständnis, dass es eine Korrelation zwischen Körperhaltung oder Gesundheit allgemein und die Qualität des Lebens gibt und bilden daher die Grundlage für weitere Studien mit einem Schwerpunkt auf der Gestaltung von Bildungsprogrammen für die Körperhaltung Verbesserung.

**Schlüsselwörter:** Haltung, Lebensqualität, Feldenkrais, MAP

## 1. Background

Man's pursuit for the meaning of *quality of life* is as ancient as Aristotle's adage on human goodness and Maimonides's proverbial "A healthy mind in a healthy body."<sup>2</sup> Today we can determine that *quality of life* is the subjective feeling at any given moment based on the perception of all aspects—health, professional, marital, social, economic etc—of the individual's life, in relation to the society of which he or her are part, and to his or her past and projected future.<sup>3</sup> It is commonly accepted that in order to preserve *quality of life* one needs to maintain a healthy body,<sup>4</sup> of which one of the parameters is the preservation of correct posture.<sup>5</sup> By maintaining the body's proper pose, without overloading the joints and while using the relevant muscles correctly, one can prevent skeletal, muscular, cardio-vascular and neurological problems, reduce medical expenses and monetary loss due to absence from the workplace, and prevent emotional distress related to concerns such as self image.<sup>6</sup>

While Bandura<sup>7</sup> and Seligman<sup>8</sup> have noted that *quality of life* is commonly used to describe one's life in a particular situation while referring to various

<sup>2</sup> Levene, L., *Know More. The Great Philosophers* (Tel Aviv: Agam Publishing Ltd., 2011).

<sup>3</sup> Bandura, A., "A Social Cognitive perspective on Positive Psychology," *Revista de Psicología Social* 26, no. 1 (2011); Seligman, M., "Positive Health," *Applied Psychology* 57, no. 1 (2008).

<sup>4</sup> O'Boyle, C.A., H. McGee and C.R.B. Joyce, "Quality of Life: Assessing the Individual," *Advances in Medical Sociology*, 5 (1994).

<sup>5</sup> Lmiolek, M., "Spine Mobility and the Quality of Body Posture in 11-Years Old Handball Players Compared to Their Peers," *Medsportpres*, 5 (6) no. 24 (2008).

<sup>6</sup> Marshall, M., A.C. Harrington and J.R Steele, "Effect of Work Station Design on Sitting Posture in Young Children," *Ergonomics*, 38 (1995).

<sup>7</sup> Bandura, A., "A Social Cognitive perspective on Positive Psychology," *Revista de Psicología Social* 26, no. 1 (2011).

<sup>8</sup> Seligman, M., "Positive Health," *Applied Psychology* 57, no. 1 (2008).

factors such as age, family status, political status, health etc, Feldenkrais stresses unity between the mental and the physical, i.e. emotional, intellectual, sensory and motile, states of being as conducive to high *quality of life*. Of these, Feldenkrais stressed motility as that which, by altering the other states, determines one's measure of *quality of life*.

To create this balance, Feldenkrais formulated an innovative educational method based on philosophical and practical-physical approaches.<sup>9</sup> To his method, improving and perfecting motility results in posture improvement, both in static situations such as sitting and standing, and in dynamic situations, such as walking and running. Improvement and perfection of these abilities are contingent on neural and behavioral changes that occur while exercising in accordance with unique techniques.

Other, more conventional methods for posture improvement are based on the strengthening of certain muscles.<sup>10</sup> Accordingly, control over the pelvic floor provides the basis for organizing posture, which in turn, improves functional abilities, links body and mind, and leads to the improvement of *quality of life*.

To unify the advantages of the Feldenkrais method with more conventional methods we conceived the Motion and Posture (MAP) method. To test this method, we chose Feldenkrais classes in which posture muscles (abdominal, pelvic and back) are strengthened.

Subjects were instructed to perform: 1. Strengthening those muscles by regular Feldenkrais exercise; 2. Selecting Feldenkrais classes that work the muscles merely by positioning the body in sitting position, walking on all fours or standing on two.

The literature shows that employment of the Feldenkrais method improves *quality of life*. Yet there is no evidence as to a linkage between implementation of the Feldenkrais method, or any other aforementioned method, and posture improvement. The primary goal of this study was to examine the nature of the connection between body posture and *quality of life* while focusing on two key issues:

1. Whether and in what manner does practicing the Feldenkrais method improve *quality of life* and body posture?

2. Whether and in what manner does practicing the MAP method improve *quality of life* and body posture?

Thus, the research hypotheses were:

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<sup>9</sup> Feldenkrais, M. *Practical Ability Improvement* (Tel Aviv: The Feldenkrais Institute, 1967).

<sup>10</sup> Sarig, Y. *A Collection of Lectures*. The National Training Center for Bone Building. Tel Aviv, Israel, 2002.

*Hypothesis 1.* Combined employment of the MAP and Feldenkrais programs will improve *quality of life*—in the overall sense of wellbeing, in terms of the physical condition of the back, and in both emotional and financial terms.

*Hypothesis 2.* The general posture and spinal column curvature angles (e.g. Kyphosis and Lordosis) will improve through employment of both MAP and Feldenkrais programs.

*Hypothesis 3.* The correlation between improved posture and improved *quality of life* will be positive.

*Hypothesis 4.* Findings will differ between the two research groups.

## **2. Methodology**

### **2.1. The Research Approach**

Due to the fact that the research involves professional practice, and that some of its goals are to examine, develop and promote the researcher's fields of interest, a pragmatic paradigm was found most suitable. Accordingly, an integrative methodology combining both quantitative and qualitative approaches and tools was selected. The quantitative research consisted of an experimental part and the qualitative kind emphasized action research.<sup>11</sup>

### **2.2. The Research Population**

The research population included 243 students, aged 18-28, from the "Technion. Israel Institute of Technology." 70% of the students were female. The students were examined during the course of their academic studies. Considerations for selection were: subjects aged 20-30 are mature enough to understand instructions for the practice and application of methods in and outside the classroom; subjects are young enough to show a significant effect of the intervention program on both their physical status and *quality of life*.

### **2.3. Research Tools**

#### **2.3.1. The quantitative research tool**

In order to ascertain the connection between the program and improvement of physical status and *quality of life*, all subjects were measured at two points in time—at the beginning and at the end of the semester. A small group of students (N=79, 32.5%) were also measured in the middle of the semester.

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<sup>11</sup> Bocoş, M., *The Theory and Praxis of Pedagogical Research* [Teoria și practica cercetării pedagogice] (Cluj-Napoca: Editura Casa Cărții de Știință, 2007); Bryman, A., *Mixed Methods*. 4 Volumes (London: Sage, 2006); Creswell, J.W., *Research Design*. 3<sup>rd</sup> ed. (Lincoln, Nebraska: University of Nebraska Press, 2009).

*The Measures*

*Quality of life survey (SrS-22)*-Primary tool for checking the *quality of life*. This survey included 22 items related to back and spine health and its effect on *quality of life*.

*Digital Inclinator*-The spinal column was measured by two sub-measures during each measuring point: (a) Kyphosis was measured in upper (C7) and lower (T12) points. An absolute gap was calculated between these points. (b) Lordosis was measured in upper (T12) and lower (L5) points followed by the calculation of an absolute gap between these points.

2.3.2. *The qualitative research tool:*

*“Class Effect” Survey*-This open-ended survey was designed specifically for this study and contained five open-ended questions pertaining to the processes and effects of the research program. The questions were related to both theoretical learning procedures (understanding the learned material) and practical learning procedures (changes in movement and movement habits). The questions prompted the subjects to share emotional and experiential dimensions. The main goal of the survey was to address the need, raised in the qualitative data gathering, for the subjects’ description of processes experienced in the immediate time period after the exercise class and throughout the entire program<sup>12</sup>.

**2.4. Stages of the Research**

**Table 1:** Stages of the Research

Stage	Goal	Research Question	Research Tool	Analysis Method
1 Early March 2012	To examine subjects' position regarding <i>quality of life</i>	What are the subject's position regarding <i>quality of life</i> prior to the intervention program?	<i>quality of life</i> questionnaire (SrS-22)	quantitative statistics
2 Early March 2012	To examine the vertebral column arches in the upper and lower back	What are the physiological data of the subjects prior to the intervention program?	Digital Inclinator	quantitative statistics
3 March-June 2011/2012	Implementing the study itself	Could body posture improve by practicing the Feldenkrais method and the MAP method?	Intervention programs	
4 March-June 2012	To examine the effect of a single class on the vertebral column arches	Could body posture improve by practicing the Feldenkrais method and the MAP method, even at a single lesson?	Digital Inclinator	quantitative statistics

<sup>12</sup> Shkedi, A., *Words of Meaning* (Tel Aviv: Ramot, 2007).

Stage	Goal	Research Question	Research Tool	Analysis Method
5 March-June 2012	To examine the development procedures those are affected by the programs.	Is there and what are the implications of the intervention program on the lives of the subjects in the immediate term after classes and as a cumulative effect.	“Class Effect” questionnaire	qualitative content analysis
6 June 2012	To examine subjects' position regarding <i>quality of life</i>	What are the subject's position regarding <i>quality of life</i> after the intervention program?	<i>quality of life</i> questionnaire (SrS-22)	quantitative statistics
7 June 2012	To examine the vertebral column arches in the upper and lower back	What are the physiological data of the subjects after the intervention program?	Usage of a Inclinometer device	quantitative Statistics

## 2.5. Data analysis

*Quantitative*-Analysis of Variance with repeated measures was conducted in order to test the difference between the initial status of the subjects before the intervention program and their status at the end of the program. The Pearson test was applied to test the connection between variables.

*Qualitative*-The qualitative analysis was employed to further prove the validity of the theory and the educational program presented in the study, thereby strengthening the qualitative findings. Moreover, it is possible that the qualitative findings will indicate a correlation between posture improvement programs and the enhancement of the *quality of life*.

## 3. Findings

### 3.1. Findings emerging from the quantitative data

*Hypothesis 1*: Combined employment of the MAP and Feldenkrais programs will improve *quality of life*—in the overall sense of wellbeing, in terms of the physical condition of the back, and in both emotional and financial terms.

Findings emerging from analysis of the *quality of life* survey (SrS-22) results: The independent variable in this analysis was “group type” (Feldenkrais vs. MAP) and the dependent variable was *quality of life*. First, general improvement of *quality of life* was examined, followed by the examination of improvements in each of the sub-domains of *quality of life*.

Results show a significant improvement in the general *quality of life* among subjects in both groups between pre-intervention (M=3.57, SD=0.43) and post-intervention (M=3.66, SD=0.48) ( $F(1,137)=13.819$ ,  $p<0.001$ ,  $\mu^2=0.092$ ). General *quality of life* of both groups improved significantly after intervention.

**Table 2:** Means and standard deviations of general *quality of life* and sub domains of *quality of life* among the groups

Measure	Pre intervention		Post intervention	
	Feldenkrais (N=39)	MAP (N=100)	Feldenkrais (N=39)	MAP (N=100)
<b>General quality of life</b>	3.63 (0.41)	3.54 (0.44)	3.69 (0.46)	3.65 (0.49)
<b>Back Condition</b>	3.75 (0.74)	3.83 (0.77)	3.90 (0.76)	3.97 (0.71)
<b>Emotional Condition</b>	3.64 (0.47)	3.54 (0.48)	3.83 (0.49)	3.79 (0.57)
<b>Physical Condition</b>	3.87 (0.57)	3.85 (0.53)	3.89 (0.55)	3.89 (0.53)
<b>Financial Condition</b>	1.31 (0.98)	1.10 (0.48)	1.23 (0.91)	1.34 (1.04)

*Hypothesis 2:* The general posture and spinal column curvature angles (e.g. Kyphosis and Lordosis) will improve through employment of both MAP program and Feldenkrais programs.

Findings emerging from analysis of the Digital Inclinator results: The independent variable in this analysis was “group type” (Feldenkrais vs. MAP) and the dependent variables were absolute gaps of Kyphosis and Lordosis between pre-intervention and post-intervention.

**Table 3:** Means and standard deviations of Kyphosis and Lordosis gaps between pre intervention and post intervention by groups

Measure	Pre intervention		Post intervention	
	Feldenkrais (N=69)	MAP (N=54)	Feldenkrais (N=69)	MAP (N=54)
<b>Kyphosis gap</b>	20.55 (7.87)	14.66 (7.18)	16.36 (7.11)	15.76 (8.29)
<b>Lordosis gap</b>	9.35 (8.40)	18.98 (8.26)	6.97 (4.89)	12.18 (7.84)

Results show that the Kyphosis gap did not change among subjects of both groups between pre-intervention (M=17.96, SD=8.10) and post-intervention (M=16.09, SD=7.62) ( $F(1,121)=2.395$ ,  $p=0.124$ ,  $\mu^2=0.019$ ). Nevertheless, a significant interaction was found between group type and difference in Kyphosis gaps ( $F(1,121)=6.997$ ,  $p<0.01$ ,  $\mu^2=0.055$ ). While no difference was found in the Kyphosis gap among subjects MAP, the Kyphosis gap decreases among subjects at Feldenkrais.

Results showed that among subjects of both groups Lordosis had decreased between pre-intervention (M=13.60, SD=9.59) and post-intervention (M=9.27, SD=6.85) ( $F(1,118)=27.293$ ,  $p<0.001$ ,  $\mu^2=0.188$ ). In addition, a significant interaction was found between group type and difference in Lordosis gaps ( $F(1,118)=6.323$ ,  $p<0.05$ ,  $\mu^2=0.051$ ).

*Hypothesis 3:* The correlation between improved posture and improved *quality of life* will be positive.

In order to examine this hypothesis, Pearson correlations were produced between improvement in Kyphosis/Lordosis and *quality of life* measures as presented in Table 4.

**Table 4:** Correlations between Kyphosis/Lordosis and *quality of life*

	General QOL	Back Condition	Emotional Condition	Physical condition	Financial condition
<b>Kyphosis Gap</b>	-.009	.080	.045	.004	.045
<b>Lordosis Gap</b>	.129	.066	.123	.137	-.036

As seen in Table 4, no significant correlations were found between improvement in Kyphosis or Lordosis and *quality of life* measures in the general sample.

*Hypothesis 4:* Findings not evident.

### **3.2. Qualitative Findings emerging from the Research**

This section presents the data obtained from the content analysis of surveys conducted in the current study. The qualitative data were gathered by the “Class Effect” survey. A total of 30 surveys were gathered from 17 students. 22 surveys were answered by students from the Feldenkrais group and 8 by students from the MAP group.

The first hypothesis of the study was that the Feldenkrais and MAP educational programs will affect and improve the subjects’ *quality of life*. According to Feldenkrais, good *quality of life* is conducive to the unity between emotion, sensation, thought and movement. Answers in the “Class Effect” surveys included multiple positive statements relating to the four components of *quality of life*. Some examples are: “more balanced,” “walking more upright,” “change in the general feeling,” and “improved self-confidence.” These statements are indicative of improvement in the *quality of life* experienced by subjects as a result of the correct posture educational programs, and therefore confirm the first hypothesis.

The second hypothesis, which examined whether these educational programs will improve the subjects’ posture, was also confirmed by analysis of the “Class Effect” survey. Typical participant answers point to improvement in their posture: “prolonged sitting with the back in upright position,” “balance between the knees,” “less flat-feet,” etc. Notably, most of the statements referred to the subjects’ typical, static position, i.e. sitting, and less to dynamic situations such as walking or running.

In contrast to the findings of the quantitative research, the qualitative analysis confirms the third hypothesis, i.e. a positive correlation between improvements in posture and *quality of life*. The subjects' answers show development in their understanding and perception of the methods' effects. Their initial references were mainly to the positive effects of a single class. Their statements throughout the survey and during the study itself referred to the program's overall positive physical and mental effects on their lives. It can, therefore, be concluded that there is a positive correlation between the two variables.

Based on the quantitative research, there were no differences found between the research groups. Thus the fourth hypothesis was not confirmed.

#### **4. Discussion**

The main research goal was to examine the connection between body posture and *quality of life*, from which two subsequent goals were derived: to detect a positive correlation between an educational program for correct posture and *quality of life*; and to locate a positive correlation between the said program and posture improvement. The educational program was implemented in two groups of subjects, while each group was instructed for movement and correct posture habits according to a different method. The first, in compliance with the established Feldenkrais method (improving motility and posture while creating changes in the *quality of life* components, i.e. movement, feeling, sensation and thought), and the second in accordance with the new MAP method (combining muscle strengthening while exercising the Feldenkrais method) developed by the author of the study. As differences were not found between the research groups, the following will refer to subjects as one group.

Drawing on the research literature,<sup>13</sup> for the purpose of this study *quality of life* was defined as the subject's current subjective feeling, based on perception of his or her physical and mental state vis-à-vis posture examined in terms of upper curvature (Kyphosis) and lower curvature (Lordosis). Accordingly, the following question arised: What accounts for improvements in the state of the subjects' backs as indicated in their verbal reports?

The back is the center of the body and relatively large in relation to other organs. It comprises multiple bones, joints, nerves, blood vessels and muscles. The back erectors are muscles at both sides of the vertebral column and sustain its

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<sup>13</sup> Bandura, A., "A Social Cognitive perspective on Positive Psychology," *Revista de Psicología Social* 26, no. 1 (2011); Seligman, M., "Positive Health," *Applied Psychology* 57, no. 1 (2008); Feldenkrais, M., *Practical Ability Improvement* (Tel Aviv: The Feldenkrais Institute, 1967).



upright position. These muscles provide support for the back and are significantly taxed when one pushes or pulls heavy loads, bends forward, arches the back or holds the vertebral column extremely straight.

In terms of motility, the back provides a variety of possible movements for different directions. This variety enables one to be resourceful when needed. From the perspective of quality of body posture, the spinal route is vital for correct posture, as it constitutes an intersection for all the muscular and neural connections and functions that connect and balance distant body parts. One can look at the back as a barometer that reflects one's emotional/mental state: is one standing straight or bent? Does it cause suffering and in turn require unnecessary expenditure of time and resources?<sup>14</sup>

As the human, natural inclination is to avoid back pain, one should be more aware of how the back is and should be used. Healing the back is like unraveling a ball of knotted twine. One should observe body movements carefully and patiently to locate the places most prone to self-inflicted harm.

In the methods presented in this study, we delineated ways to clear blockages obstructing paths toward smooth movement. We encouraged the rest of the body parts to operate and collaborate in new and in various manners. We reminded the body of what it can accomplish. Thus we eliminated the burden of over stimulation of the back while urging it to function in new and unfamiliar ways. This process is analogous to a journey for self-discovery in which one develops the ability to identify the subtle distinctions necessary for the determination of a desired course of action at any given moment.

To date (and to the best of my knowledge) correlations between posture status and emotional states are lacking in the scientific literature. Still, this does not indicate that such correlations do not exist. On the contrary, evidence presented in this study clearly shows a correlation between in subjects' sense of well-being and participation in the research underscores (correlations stress by Feldenkrais), though one should note that only several subjects referred to the emotional aspect.

Feldenkrais<sup>15</sup> expends its treatment to difficulties that may arise in expressing feelings. Contending that physical aspects are easier to control and more disposed to intervention as a means to improvement, perfection and control, Feldenkrais opines that after these are achieved emotional facets, which are harder to control and intervene with, will be rehabilitated and renewed. This is evident in subjects' positive statements such as "the back pains lessened" and "the classes really helped me."

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<sup>14</sup> Alon, R., *Back to Natural Movement in Feldenkrais Method* (Jerusalem: Honest, 1994).

<sup>15</sup> Feldenkrais, M., *Practical Ability Improvement* (Tel Aviv: The Feldenkrais Institute, 1967).

How did this process occur? During the research program subjects were exposed to a wide variety of movement options and had the freedom to choose that which they found most appropriate based on their own personal experiences. The subjects experienced activation of all body parts as a single cohesive and coordinated, mutually supportive unit thereby tapping its resourcefulness and refining its adaption and maneuvering skills. Subjects were encouraged to aspire for the harmonization of their movements. They acquired the wisdom to elude different situations and draw conclusions as to the necessary actions required to organize the complex parts of the organism.

During this physical process the subjects discovered the grace and pleasure derived from light and easeful movements, regained a sense of optimism and resilience, and healed their sense of physical self worth by way of which they could aspire for better *quality of life*.

This process, which provides verbal explanations and guidance for movement processes (thereby generating, within the re-education process, an improvement in everyday functions and inner resilience), encourages one to invoke an inner sense that is often more inhibited than not. This inner sense can locate and determine how to use one's body in the most beneficial way, while singling out potential harm and ways to avoid it. Due to the movement processes executed in this study's intervention program, one's ability for self-treatment improves and is manifest in the way in which the body expresses itself. This constitutes the improvement in one's personal *quality of life*. Notably, the ability for self-treatment is what others recognize most as a benefit of the overall process.<sup>16</sup>

## 5. Conclusions

As the research hypothesis predicted, the research found a positive correlation between the two main examined parameters: 1. Evaluation of the subjects' *quality of life* before the correct posture educational program, and at the end of the program; 2. Measurements of the subjects' vertebral column curvatures, i.e. their posture, before and after the program. Positive correlation was found between the improvement of *quality of life* and the improvement of the subjects' posture according to the qualitative research tool, and was not found according to the quantitative research tool.

This study is unique due to its introduction of an innovative educational program for improving posture (MAP) as well as its examination of the correlation between posture and the Feldenkrais method. This research offers a theoretical

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<sup>16</sup> Alon, R., *Back to Natural Movement in Feldenkrais Method* (Jerusalem: Honest, 1994).

basis for understanding the significance of correct posture in health and *quality of life*, while providing new guidelines for relevant practical exercise and guidance for adolescents and adults. As such it constitutes a point of departure for additional studies and professional development in the field.

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## DEVELOPMENT OF THE SELF-ASSESSMENT CAPACITY AND ITS INFLUENCES UPON HIGH-SCHOOL STUDENTS' SCHOOL PERFORMANCES

CRISTIAN STAN\*

**ABSTRACT.** As shown by the specialist studies in the field, the perspective built by the young adolescent upon himself/herself is stronger than most value judgments from the exterior. Unfortunately, however, this perspective sometimes includes, to a variable and difficult to establish proportion, elements that are not in accordance to the factual effective state and the student's actual potential. Considering these premises, we assumed that the development of the self-assessment capacity of the students, by means of a set of methods and techniques including self-grading, controlled self-grading and reciprocal grading will determine the growth of not only the accuracy of the student's self-evaluation, and self-esteem but also of his performance levels. In conclusion, it can be said that the development of the self-assessment capacity of students induces beneficial effects not only at the level of the objectivity degree or self-esteem, but also regarding the students' performance level.

**Keywords:** assessment, self-assessment, school performances, independent self-grading exercises, controlled self-grading and reciprocal grading .

**ZUSAMMENFASSUNG.** Genau wie Studien zeigen dem Fachmann, von dem jungen heranwachsenden Sicht auf sich selbst gebaut ist stärker als die meisten extern Werturteile. Leider ist diese Sicht manchmal in einem variablen Anteil und schwierig, Artikel, die nicht im Einklang mit den Tatsachen und den Status und das Potenzial der Schüler enthalten. Unter diesen Annahmen haben wir angenommen, dass die Kapazität Selbsteinschätzung der Schüler durch eine Reihe von Methoden und Techniken wie Selbst-Korrektur, Autokorrektur gesteuert gegenseitige Korrektur und kollektive Korrekturverfahren erhöht nicht nur Selbst-Schüler selbst, aber auch, und das Niveau der Leistung. Zusammenfassend können wir sagen, dass die Fähigkeit zur Selbsteinschätzung der Schüler positive Effekte zu induzieren nicht nur auf den Grad der Objektivität der Selbsteinschätzung und Selbstwertgefühl, sondern auch in Bezug auf die Leistung der Schüler.

**Schlüsselwörter:** Beurteilung, individueller Beurteilung, Selbstkorrektur, Peer-Korrektur, Auto-Korrektur.

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## **1. Introduction**

It is widely recognized fact that in the school the student is influenced not only by the evaluation conducted by the teacher but teaching his own self-evaluative approach. At the evaluation level the teacher always remains prisoner of personal perspective on the peculiarities of the context in which is objectified academic performance of students and has very limited means to estimate effective level of mobilization of each student in relation to the school task. The student is interested many times, even more than the teacher, by the his scholar evolution and used relatively frequently this aspect as an important referential in learning activity. Ignoring the student's self-evaluative approach is likely to turn into a conglomerate evaluation appreciative unable to interfere with the inner student. This forces us to rethink the structure of the educational process in a manner that includes in its composition student's self-assessment task (Stan, C. 2000, Chiş, V. 2001). Objectivity of self-assessment is able to lead not only to a better understanding of the external evaluation and optimization of the student's self-image but also increase the level of its academic performance. Moreover, we believe that the assessment of teacher can gain consistency and accuracy through a support greater student self evaluation.

## **2. Major research objectives and coordinates**

We mention from the very beginning the fact that the research aimed not only at an experimental verification of the validity of the means of development for the self-evaluation capacity of students but also at the consequences this optimization carries within the plan of school performances. Thus the premise of the current investigation is that the systematic training of the students in independent self-grading exercises, controlled self-grading and reciprocal grading determines the increase of the self-evaluation capacity and their school performance level. Referring to the problematic of the content sampling we mention that the experimental investigation of the self-evaluation-evaluation relationship in the teaching act was conducted in the case of the subject Logics, discipline that is taught throughout a school year in four high schools. The lessons upon which the experiment was based were those from the school syllabus for the discipline. Concerning the subjects' lots there were 4 groups (2 experimental groups and 2 control groups) from 4 distinct high schools, having both theoretical and scientific profiles. The total number of subjects was 119 students.

After the sampling operation, the experimental research included three distinct stages: the pre-testing stage, the stage of the psycho-pedagogical intervention and the post-testing stage. The pre-testing stage, developed in the first half of the

first semester was projected and organized so that it can allow the setting of the statistic comparability degree between the experimental and control lots from the point of view of the level of students' school performance and their self-evaluation capacity.

The pedagogical intervention at the level of the experimental classes materialized in making some systematic activities of independent self-grading (each student corrects their work), controlled grading (each student corrects their work supervised by teacher) and reciprocal grading (each student corrects colleague's work). The post-testing stage, developed in the second half of the second semester, had as objective the comparative monitoring of the school evolution for the students in the experimental and control lots in the performance level (of school results) and the formative level (development of the capacity to self-evaluate). The notations used throughout the ongoing of the experiment were:

- X – statistical average;
- Xna – statistical average of the anticipated school notes to be obtained by students after they are confronted to the school task;
- Xno – statistical average of the school notes given by teachers;
- T – T-test value;
- Dx – value of the difference between statistical average;
- E – experimental group;
- C – control group.

### 3. Presentation and interpretation of results

The data included in Table 1 reflect the average of the grades that students expect to get after they were confronted to the school task and illustrate, through test T, the fact that there aren't any statistically significant differences between the self-evaluation of the performance of the students in the experimental grades and that estimated by the control lot students, in both cases the p value being above 0.05.

**Table 1.** Data regarding the relation between self-evaluation of the performance – evaluation at the level of the 9<sup>th</sup> grade – pre-testing level

Lot	Xna	Xno	Dx	T	P
<b>E1</b>	9.34	8.59	0.75	4.384	P = .002
<b>N = 32</b>					p < 0.01
<b>C1</b>	9.23	8.26	0.97	3.008	P = .006
<b>N = 28</b>					p < 0.01
<b>E2</b>	9.01	7.85	1.16	6.574	P = .000
<b>N = 30</b>					p < .001
<b>C2</b>	9.24	8.09	1.15	5.544	p = .000
<b>N = 29</b>					p < .001

The incongruence of the self-evaluation with evaluation is shown in the table above by the statistically significant differences, ( $p < .001$ ), which exist between the average of the grades that students anticipated after confronting them to the school task and the average of the actual grades they got as a result of the didactic evaluation carried out by their teachers. This way, as in the situation presented above, we can notice the existence of an overestimation trend on behalf of the students of the grades they consider they would get in relation to the grades the teacher give, despite the fact that self-evaluation was accomplished after the confrontation to the actual school task.

The incongruence of the self-evaluation/grading, observed both in the case of the experimental classes and in the control ones, strengthens previous premise regarding the insufficient development of the self-grading capacity of students, these manifesting a constant tendency to overestimate the level of their school performance.

Synthesizing the previously mentioned premises, there are two main aspects: both the students in the experimental classes and the control lots manifest a constant tendency to overestimate their school performance and there are no significant differences between the experimental lots and the control ones from the point of view of the self-evaluation capacity, both categories showing errors in the self-grading process. Table 2 presents the results obtained after comparing the average of the grades got by the students in the experimental and control groups at Logics.

**Table 2.** Comparative data concerning the grades got by the students of the 9<sup>th</sup> grade - pre-testing level

Lot	Xno	Dx	T	P
<b>E1</b> N = 32	8.59			
<b>C1</b> N = 28	8.26	0.33	1.276	p = .207 p > .05
<b>E2</b> N = 30	7.85			
<b>C2</b> N = 29	8.09	0.24	0.953	p = .345 p > .05

The data presented in the table above proves, through the values of test T and the associated significance thresholds ( $p > 0.05$ ) the fact that the level of school performance in Logics for the students belonging to the experimental group is statistically comparative to that in the control group, which confirms the correctness of the sampling and the methodological validity of the investigation procedure.

We present further on in a synthetic manner the main conclusions of the pre-testing stage, conclusions which validate methodologically speaking the continuity of the investigation procedure:

- The average of the grades obtained as a result of the self-evaluation by the students in the experimental lots are statistically comparative to those obtained by the students of the control classes, both groups showing a tendency to overestimate their school capacities;
- The level of the effective school performance for students in the experimental group is similar to that of the subjects in the control group, the average of their grades being statistically comparative.

The investigation procedure continued with the stage of the experimental intervention when the students in the experimental lot performed systematic tasks with independent self-grading, controlled and reciprocal grading.

The main reasons that convinced us to use this category of self-grading tasks were, on the one hand the fact that this way students have the possibility of authentically practicing their self-evaluation capacity, and on the other hand our presupposition that the „negotiation” of the grade with the teacher offers the student the opportunity to validate or invalidate, through arguments, his/her own self-evaluation criteria.

We mention here the fact that the discussions between the students and the teachers within the independent/controlled self-grading procedure took place in the presence of the whole class as well as individually. For instance, the data obtained from the direct observation and the teacher discussions showed the fact that the majority of students invoke two categories of arguments in negotiating a higher grade to that obtained as a result of the teacher’s evaluation: on the one hand, the effort and the time invested in preparing for the task and on the other hand the level of the grades obtained by other students considered to be of inferior performance level to the questioned ones.

Confronted to this situation which showed the fact that acceptance or lack of acceptance by students of a grade is highly dependent with the effort and time invested in preparing the task or the grades obtained by same level or inferior level students, the teachers had the chance to explain the grades and to provide clear explanations to some of the difficulties students had in understanding the evaluation system and the grading criteria.

The conditions of the success and efficiency of independent/controlled self-grading are, on the one hand, the honesty of the two subjects in the educational couple regarding the manner in which self-evaluation and didactic evaluation is performed, and on the other hand, the clear argumentation the teacher brings regarding the correctness or lack of correctness in the self-grading procedure of the student.



The second direction of action that was at the basis of the pedagogical intervention having as objective the optimization of the self-grading-evaluation relation in the didactic act was represented by the accomplishment of reciprocal grading tasks at the level of the experimental classes.

The key to this type of tasks consisted in the fact that, especially in the case of written test, the students were asked to correct and grade reciprocally their colleagues' papers and afterwards their evaluation was subjected to discussion both with the authors of the test and with the teachers.

The application of the reciprocal grading task in the case of oral answers didn't prove to be very productive due to some difficulties referring to the students' capacity of carefully following the spoken presentations of their colleagues and of remembering the positive and negative aspects of these types of answers.

The utility in using the reciprocal grading system is justified by the observation that evaluation and valorization through grades and school performances of another person gives the student the chance of liberating himself from the empire of the personal perspective upon the self and the chance to report directly and relatively objectively the personal school performance to the reference system represented temporarily by the estimated level of school performances of a colleague or group of colleagues. The dispersion of the tests in view of reciprocal grading was deliberately made between the students considered by teachers to be of an appreciatively same level but also among different level students. Thus the reciprocal grading was performed not only among same-level students but also among students who had very good school performance and students having a „low-level” label.

At the basis of this heterogeneous means of spreading the written tests in view of grading and reciprocal evaluation stood mainly two reasons. The first refers to our intention of offering this way the students the possibility to correct and grade papers that are qualitatively distinct, a fact that can lead both to the diversification of the interpretative register of the school performance and the restructuring of the personal set of self-evaluation criteria. The second reason that determined the choice of the dispersion strategy previously mentioned was to observe the potential differences occur in the grading as a result of this particular mean of spreading the tests.

The information received after speaking to the teachers of the two subjects considered within the pedagogic intervention to optimize the self-grading-evaluation relation in the didactic act showed the existence, at the level of the students, of a certain evaluative inertia regarding the controlled self-grading. Thus, for instance, there was a tendency of the student to grade their colleagues in accordance to the labels „very diligent student” or „weak student” to which students belonged.

Confronted with this situation the teacher gave adequate explanations to students both regarding the error sources that can affect the process of didactic evaluation and referring to the means of diminishing their action. The post testing stage, developed in the second half of the second semester in the school year, had as objective the monitoring and highlighting of the performance and formative difference occurred at the level of the experimental classes reported to the control group, differences occurred as a consequence of the pedagogic intervention to optimize the self-grading –evaluation relation in the didactic act.

As in the case of the pre-testing stage, the students in the experimental and control lots took written tests with identical tasks. We further present, in Table 3, the data referring to the relation between self-evaluation and didactic evaluation accomplished by the teachers, relation that was registered for students in the 9<sup>th</sup> grade.

**Table 3.** Data regarding the self-grading/evaluation at the level of the 9<sup>th</sup> grade - post-testing level

Lot	Xna	Xno	Dx	T	p
<b>E1</b>	9.05	8.89	0.16	0.968	P =.341
<b>N = 32</b>					p > .05
<b>C1</b>	8.92	8.17	0.75	3.136	P =.004
<b>N = 28</b>					p < .01
<b>E2</b>	8.96	8.60	0.36	1.955	P =.061
<b>N = 30</b>					p > .05
<b>C2</b>	8.80	7.93	0.87	3.944	P = .000
<b>N = 29</b>					p < .01

The data referring to the self-grading/evaluation relation presented in the table above reflects in a comparative manner the fact that in the case of the experimental lots there is a full congruency relation between the self-grading procedure of the students belonging to these lots and the didactic evaluation made by teacher, the significance associated to T test being over 0.05. In other words, the students in the experimental classes managed, after they were confronted to the actual school task, to forge an effective ongoing self-grading procedure, adequate to the specific school situation, a procedure that allowed them to anticipate with accuracy the actual grades given by the teachers after the didactic evaluation. Not the same can be said of the students in the control lots, in whose cases significant differences persist between the self-evaluation grades and the actual grades, the value of the T test showing a significance threshold  $p < 0.05$ .

The existence of a congruency relation between self-grading-evaluation and didactic evaluation can be explained only at the level of the experimental lots, through the positive effects that pedagogic intervention in the case of these students had upon the development of their capacity of self-appreciation and self-evaluation. By correlating this observation with the existence of significant difference between the average of the grades and the average of the grades obtained after the self-grading procedure was completed in the control lots, the conclusion is that these students manifest an obvious tendency to over-appreciate their school potential, appreciation which, as shown by the level of the actual grades, is not in accordance to the educational reality. In contrast to the situation presented before, the students in the experimental classes have a superior self-grading capacity to the one of the students in the control lot. Thus, even if the average of the grades obtained in the self-evaluation procedure are ranked at a statistically comparative level for both students in the experimental lot and those in the control lot, the average of the self-grading procedure in the experimental lots is, by comparison to that of the students in the control lots, statistically similar also to the actual grade. Likewise, the control lot students show systematic difference from the point of view of the ratio between the grades obtained from the self-grading procedure and the teacher evaluation grades.

Therefore, even if the average grades of the self-grading procedure doesn't differ consistently from those of the control lot students, the average of the grades resulted from the self-grading differ from the average grades obtained by students in the control lot, while experimental classes register a closer result between anticipated and obtained grades. Unlike the students in the control lots, the experimental lot students show a higher evaluation capacity. In other words, even though the average grades of the self-grading procedure are situated at a statistically comparative level for those in the experimental lots and those in control lots, the average grade of the self-grading procedure by students in the experimental lot is statistically similar to the average grade of the actual grades, while in the case of the control lots there are major differences.

The second objective intended in the post-testing stage was the study of the effects that the optimization of the self-grading/evaluation procedure brought in the evolution of the students' grades. We can mention at this stage the fact that one of the initial hypothesis in the investigation procedure was that the optimization of the self-grading evaluation procedure can lead, through its formative valences, to more effective learning and implicitly to the increase of students' school performance. The specific means of verifying the previously mentioned premise was made in the statistic comparison, in test T, of the significance of the difference between the average grades obtained in the

written test by the students in the experimental lots and those in the control lots, knowing the fact that both at the sampling level and the pre-testing level the two categories obtained statistically comparative results. In this sense, table 4 shows the results obtained by the students in the experimental lots and the students in the control lots in the case of a written examination with identical tasks in Logics.

**Table 4.** Comparative data regarding the grades the level of the 9<sup>th</sup> grade - post-testing level

Lot	Xno	Dx	T	P
<b>E1</b> N = 32	8.89			
<b>C1</b> N = 28	8.17	0.72	2.466	p = .017 p < .05
<b>E2</b> N = 30	8.60			
<b>C2</b> N = 29	7.93	0.67	2.765	p = .008 p < .01

The data presented in the table above proves that, through the significance thresholds associated to the values of the T test ( $p < 0.05$  respectively  $p < 0.01$ ), the grades obtained by the experimental lot students are significantly higher than the grades of the control lot students. We consider that the main difference that were statistically registered between the experimental lot subjects' school performance and that of the control lot performance-difference that indicate superior school capacity of the experimental classes-represents an indicator that proves the positive influences that the optimization of the relation between the didactic evaluation and the self-grading procedure bring in the plan of the students' school evolution.

#### 4. Conclusions

Summing up the previously mentioned, we can observe the fact that the results students got indicate a significant increase of the school performance from a statistic point of view, in the case of the students belonging to the experimental lot by comparison to students who belong in the control lot.

Considering the fact that, both in the sampling operation and the pre-testing stage, the experimental classes of students and the control classes students registers school results that were statistically comparative, the manifestation of the increase in the performance level with experimental lots in the post-testing stage can be interpreted as occurring in the background of the self-grading-evaluation relation in the didactic act, which confirms the effects of the harmonizing

of this relation. In a synthesis of the previously mentioned facts, we can claim that the optimization of the self-grading-evaluation relation and the specific procedures carried out in this respect represent elements that can lead, on the basis of better self-appreciation and a more effective mobilization of the subjects' school potential, to the improvement of the school performance and a better self-appreciation capacity.

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## A COMPREHENSIVE ANALYSIS OF THE VIEWS OF TURKISH TEACHERS ON THE PROCESS OF INTERCULTURAL EDUCATION

SERTEL ALTUN\*

**ABSTRACT.** This study aims to analyse views of 10 teachers at selected private and national high schools in Turkey regarding an international project to develop intercultural sensitivity. Throughout the project, seminars and workshops by academic experts were prepared for the teachers concerning; intercultural awareness, culture and education, student-centered learning methods, learning styles, multiple intelligence theory, empathy, and teacher research. With the guidance of academics, teachers developed lesson plans, applied these to their classes, presented the results at national and international meetings and wrote articles about the process. While teachers were initially anxious about working with people from different countries and applying new methods, they appreciated the results. Moreover, they have stated that intercultural awareness should be incorporated into all classes. They emphasized, however, that, to be successful in such projects, teachers need fluency in English and a willingness to try new methods.

**Key words:** *intercultural education, lesson plans, teacher views*

### Introduction

In our changing world, the production of knowledge is growing due to a growing global population. This reduces distances between countries and cultures, brings people closer and makes cultures more easily shared. In the current era of so-called globalization, knowing other cultures, knowing each other and being able to communicate in a multicultural world is vital for prosperity and peace. In this context, intercultural studies gain importance since individuals must be well prepared for a multicultural world. From this point of view, both in the business and educational world, there is an increasing importance attached to

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the intercultural identity of individuals. According to Bhawuk and Brislin (1992), interacting with other cultures is necessary if one is to be effective in a different culture; one must be sensitive so as to understand those from other cultures, and be ready to modify one's behaviour out of respect for those cultures and for the people of those cultures. The most appropriate concept that summarizes these ideas is 'intercultural sensitivity'. According to Hammer (2003), intercultural sensitivity is the skill of experience and awareness of cultural differences. Chen and Starosta (1996) define intercultural sensitivity as possessing self-awareness, open-mindedness, and social convenience. According to literature, these four characteristics enable individuals to show the required sensitivity in accepting cultural differences during intercultural interaction and respecting these differences. According to Fantini (1995), an individual possessing cultural sensitivity is able to both enhance his understanding of his own culture and of other cultures and to develop empathy in his/her own context. In order to successfully keep up with the world, an individual should develop sensitivity to different cultures as well as to his/her own culture. Parekh (2002) states that individuals who possess intercultural sensitivity have a multiple perspective by noting other cultures besides their own culture.

As UNESCO (2006) states, learning about different cultures, respecting them, and getting across meanings by developing tolerance and empathy are among the goals of intercultural education. According to Bennett (1995), multicultural education is an approach to learning and teaching which is built on democratic values fostering plurality. According to Banks and Banks (2010), there are at least three dimensions of multicultural education; it is an idea, a movement, and a process. In the idea, it is defended that all students have equal rights at school regardless of gender, social class, ethnicity or cultural characteristics. The movement is reformist which anticipates the change of educational institutions in order to enable all students to have equal rights in learning. Because of the fact that goals can never be achieved by all means, multicultural education is a process. Educational institutions are responsible for developing individuals in this way: helping individuals to harmonize with social and economic development by bringing them knowledge and values for new changes and developments (Erden, 2006).

As with many other countries, the current educational objectives of Turkey include developing respect and sensitivity toward different cultures (MEB, 2006). However, for individuals to share this objective, the concept of intercultural sensitivity must be integrated into teaching designs. Above all, the teacher who implements such an aim should possess adequate knowledge about the subject. According to Byram (1997), the following items must be considered in order to integrate intercultural sensitivity into education:

- **attitudes:** developing interest, openness and curiosity towards other cultures;
- **knowledge:** general learning about the social and individual practice and outputs about the home and the target countries;
- **interpreting and relating skills:** displaying the ability to comment on a text or event from another culture, and relating these with one's own culture;
- **discovery and interaction skills:** displaying the ability to acquire knowledge about a new culture, to simultaneously communicate in line with cultural practices, and to apply these attitudes, skills, and knowledge within the border of interaction;
- **critical cultural awareness/political education:** being aware of critical thinking, practices and outputs in the home and the target countries and cultures.

Recently there have been numerous studies on developing the intercultural awareness of individuals in education. "Promote Education and Reciprocal Understanding through Multicultural Integrated Teaching, (PERMIT)" is among these, as a project, which aims to develop civil society dialogue between the European Union and Turkey. The PERMIT project was developed with the coordination of Yildiz Technical University, in partnership with the Academy of Sciences for the Developing World (TWAS) and Italian and Slovene Universities. The focus group of the project consists of subject teachers and their students in secondary schools. The main aims of the project were to:

1. define intercultural communication competence;
2. investigate evaluation systems;
3. investigate teaching approaches based on multiple intelligence theory;
4. help teachers develop their skills by supporting them in their bid to be innovative;
5. enhance the quality of education within the existing framework of programmes; and
6. raise teacher awareness regarding specific subjects that can be added to the existing programme, such as the history of interactions among civilizations, freedom of speech, human rights, gender equality, ethical attitudes, and environmental protection.

In the project, using Bennett's (1993) "Developmental Model of Intercultural Sensitivity (DMIS)" as the basis, teachers were given training on "concepts about subjects", "student-centred teaching methods and techniques", and "process evaluation" via online and workshop techniques. The teachers were able to prepare and apply lesson plans with the assistance of researchers, by means of both face-to-face and online communication.



Over the course of the study, the views of the teachers from Turkey about the project process were investigated by considering various factors. The aim was that the results of the study will guide teachers and educational institutions in developing intercultural sensitivity via education.

### Method

This is a case study, and thus, a qualitative study. The case study seeks to understand the reactions of the individual student, the classroom or the institutional system within the framework of its natural environment (Jaeger, 1988). In this case study, the “cases” are activities carried out during the PERMIT project. According to Jaeger (1988), unlike with quantitative studies, in qualitative studies the researcher is not only an exterior observer using specific methods, collecting data, and analysing them, but also someone who spends some time interviewing participants, and showing empathy for their experiences, forming a viewpoint that is used in analysing the data.

### Study group

The study group of the research was comprised of 10 teachers of various subjects at high schools in Istanbul, during the 2008–2009 and 2009–2010 academic years. Information about the teachers is given in Table 1.

**Table 1:** Demographic characteristics of the study group

	School Type	Gender	Subject	Teaching Experience
Ece	Private	Female	Biology	5 years
Özlem	National	Female	History	10 years
Meral	National	Female	English	6 years
Gamze	National	Female	English	5 years
Gülcan	Private	Female	English	3 years
Dilek	National	Female	Biology	8 years
Hülya	National	Female	Drawing	25 years
Murat	National	Male	Physics	10 years
Fikret	National	Male	Physics	24 years
Mustafa	National	Male	Literature	5 years

### Project process

During the project, teachers were trained in two phases; face-to-face and online.

### ***Face-to-face training***

During this process, teachers were trained in both national and international meetings. The content of the meetings is given in Table 2.

**Table 2:** Information about the national and international meetings

<b>National Meetings (One-day training sessions)</b>	<b>International Meetings (Three-day training sessions)</b>
Place: Istanbul Date: 25.09.2008 * Presentation of the project, *Presentation of training platform on empathy and multiple intelligence theory, *Presentation of the platform.	Place: Istanbul Date: 12-13-14.02.2009 * Conference on the concept “empathy”, *Conference on the application of “multiple intelligence theory” on education, * Presentation of teacher portfolios and how to fill them, * Training and workshop on learning plans.
Place: Istanbul Date: 08.03.2009 * Evaluation of the first international meeting, * Training on constructive teaching method, * Seminar on culture and education.	Place: Koper Date: 9-10-11.04.2009 *Presentation of studies on intercultural learning, *Presentation of the results of teacher and student questionnaires, *Presentation of lesson plans which were developed by teachers, *Presentation of the online learning environment for students.
Place: Istanbul Date: 09.05.2009 * Feedback of teachers on the application of lesson plans in classes, * Presentation of non-governmental organizations: ACEV and TGEV.	Place: Venice Date: 4-5-6.06.2009 * Presentation of teachers on the results of application of lesson plans in classes, * Seminar on the application of intercultural studies on education, * Informing teachers about the criteria of the articles that they were to develop.
Place: Istanbul Date: 20.06.2009 * Presentation of a non-governmental organization: BGEV, * Teacher feedback on the project.	

### ***Online training***

An online platform was developed to enable researchers, teachers and students to contact each other throughout the process. Articles on interculturality and related topics were sent to the teachers through this platform, with time periods allowed for reading and evaluating these articles; subsequently, feedback was provided by the researchers. The teachers also received support in order

to develop lesson plans through this platform. Furthermore, in this online environment teachers helped each other by sharing with their colleagues and researchers their classroom experiences from the application process. The most important function of the online platform was to enable teachers who were from the same subject area, but of different countries of origin to communicate with each other and develop new lesson plans. In short, the online environment appeared to be the place where teachers could develop themselves, share their experiences and get rapid feedback.

### **Expected outcomes/products from teachers**

The teachers were expected to develop three lesson plans. Before the preparation of these plans, they were given various theoretical and practical training. In this context workshops at national and international meetings on the topics "What is intercultural sensitivity?" and "How can it be adapted to educational process?" were arranged. Later, student centred instruction method and techniques were shown to teachers and sample lesson plans were presented to them for discussion. Meanwhile, "individual differences in learning" which are important for development of intercultural sensitivity were considered to some extent. Online articles on these topics were sent to teachers with a request for comments on the relevant application in their own courses along with feedback. Teachers from the same discipline worked together on the tasks. While communication was facilitated by computer, telephone, and in person, technology and group studies were taken into account in many parts of the process. Afterwards, teachers applied these lesson plans in their classes and presented the outcomes at national and international conferences. Finally, every teacher wrote a personal article about the results of the application of lesson plans, and the academics chose the ones that they liked the most to be published in the project booklet.

### **Collection and analysis of data**

The data were collected using the focus group method, which is a qualitative method that aims to obtain information about the psychological and sociocultural properties of the groups and sub-groups (who are only half-conscious or not conscious at all of these properties) and to learn about the behaviours and motivations behind them (Akşit, 1992, 2). The focus group in this study was comprised of 10 teachers from Turkey, who were asked open-ended questions about the project process. The thematic analysis technique was used for the analysis of the data. The data were divided into thematic sub-sets, and the teacher views that reflect these sub-sets were chosen from the whole data (Yıldırım & Şimşek, 2006).

## Results

The first problem of the study came with the question; “What are the basic aims of teachers in participating in the project?” In this context, teachers’ views were grouped under three headings, using the thematic analysis method; “achieving familiarity with different cultures and people”, “obtaining project experience”, and “developing professional and language skills”. The views of teachers are shown in Table 3.

**Table 3:** Views of teachers on their basic aims in participating to the project

<b>Titles</b>	<i>Quotations from teacher views</i>
<b>Getting to Know Different Cultures and People</b>	<ul style="list-style-type: none"> <li>• <i>I wanted to learn about the cultural characteristics of different countries, and how these cultural differences are reflected in education.</i></li> <li>• <i>Getting to know different people and cultures has always been among my interests.</i></li> <li>• <i>I wanted to work with colleagues from different cultures who teach the same courses.</i></li> </ul>
<b>Getting Project Experience</b>	<ul style="list-style-type: none"> <li>• <i>I haven't had a project study before and I wanted to have an experience like the ones (European Projects) I have heard about.</i></li> <li>• <i>I want to write on my CV that I have worked on a European project.</i></li> </ul>
<b>Getting Professional Development</b>	<ul style="list-style-type: none"> <li>• <i>I believe that this kind of a project would enable me to become more competent in my profession.</i></li> <li>• <i>I know that learning new educational concepts and applications would advance my professional skills.</i></li> <li>• <i>I knew that getting extensive training from experts would make a positive contribution to my professional development.</i></li> </ul>

The second problem came with the question; “What were the concerns of teachers in the project process?”, where the teacher views were grouped under six headings by thematic analysis: “students”, “language”, “curriculum”, “online communication”, “time management”, and “lesson planning”. The views of teachers are shown in Table 4.

**Table 4:** Views of teachers on their worries throughout the project process

<b>Titles</b>	<i>Quotations from teacher views</i>
<b>Students</b>	<ul style="list-style-type: none"> <li>• <i>Students had difficulty in application because of inexperience.</i></li> <li>• <i>English became a problem for students in research and communication with the students from other countries.</i></li> <li>• <i>Lack of motivation at the beginning of the project.</i></li> </ul>
<b>Language</b>	<ul style="list-style-type: none"> <li>• <i>Level of English for communication.</i></li> <li>• <i>Resources being in English.</i></li> <li>• <i>I believe that I cannot express myself in other languages.</i></li> </ul>

<b>Titles</b>	<i>Quotations from teacher views</i>
<b>Curriculum</b>	<ul style="list-style-type: none"> <li>• <i>The topics we chose did not have a perfect match with the national curriculum.</i></li> <li>• <i>Difference between the methods offered in the project and the ones we had before led to problems in application.</i></li> </ul>
<b>Online Communication</b>	<ul style="list-style-type: none"> <li>• <i>Many of the students did not have a computer at home.</i></li> <li>• <i>Level of English did not allow us to have sufficient communication with others.</i></li> </ul>
<b>Time Management</b>	<ul style="list-style-type: none"> <li>• <i>Applying the developed learning units and the national curriculum caused problems related to timing.</i></li> <li>• <i>We were required to follow the same subjects with other classes in the same discipline in order to use shared exams.</i></li> <li>• <i>Student centred methods required more time than the traditional ones.</i></li> </ul>

The third problem of the study was: “What contributed most to teacher success in the project?”, where the views were grouped under four headings: “time management skills”, “material development skills”, “English-speaking skills”, and “social skills”. The views of teachers are shown in Table 5.

**Table 5:** Views of teachers on their personal skills at the project

<b>Titles</b>	<i>Quotations from teacher views</i>
<b>Time Management Skills</b>	<ul style="list-style-type: none"> <li>• <i>I was good at time management given that while we had our own duties, we had to work for the project at the same time.</i></li> <li>• <i>Contrary to my former beliefs, I realized that I was very good at time management.</i></li> </ul>
<b>Material Development Skills</b>	<ul style="list-style-type: none"> <li>• <i>Developing materials in different areas enriched my learning environment.</i></li> <li>• <i>Materials that I used in the classroom attracted the attention of students and gave them encouragement in their studies.</i></li> <li>• <i>I developed creative and original materials.</i></li> </ul>
<b>English Speaking Skills</b>	<ul style="list-style-type: none"> <li>• <i>My ability to speak English helped me a lot both in intercultural meetings and online environment.</i></li> <li>• <i>I believe that the first requirement for being successful in the project is speaking English. You can contact with people easily and advance rapidly.</i></li> </ul>
<b>Social Skills</b>	<ul style="list-style-type: none"> <li>• <i>Due to my social skills, I was able to contact with people easily in all meetings, especially in national and international meetings.</i></li> </ul>

The fourth problem was; “What are the benefits to teachers from the project?”, where the views were grouped under six headings; “observed positive behaviours of students”, “foreign-language skills”, “method and technique skills”, “intercultural awareness”, “willingness to learn”, and “evaluation method”. The teacher views are shown in Table 6.

**Table 6:** Views of teachers on the personal benefits from the project

Titles	Quotations from teacher views
<b>Observed Positive Behaviours of Students</b>	<ul style="list-style-type: none"> <li>• Students who were timid in traditional methods became active when different techniques were used in the class.</li> <li>• Students started to use computer more for learning purposes.</li> <li>• Student motivation for the courses increased.</li> <li>• Student prejudice regarding people in other countries decreased.</li> <li>• Students expressed desire to learn different cultures increased.</li> <li>• Students started to work much more sincerely and collectively in the group activities.</li> <li>• Students can more readily see the importance of language proficiency now.</li> </ul>
<b>Foreign Language Skills</b>	<ul style="list-style-type: none"> <li>• I believe that my English writing and speaking skills have improved.</li> <li>• Even though I am an English language teacher, I was timid to speak English, but my willingness to speak English increased with this project.</li> <li>• I was not able to understand anything in English at the beginning of the project, but in the last meeting, I was able to understand the talks and ask questions.</li> </ul>
<b>Method and Technique Skills</b>	<ul style="list-style-type: none"> <li>• Before the project, I thought that student centred methods were hard to apply, but I realized that it was not the case. In my classes, I will use the new methods that I learned.</li> <li>• Different methods and techniques seemed abstract to me before, but when I used these methods and saw the outcomes, I realized that they were so concrete (i.e. collaborative learning).</li> </ul>
<b>Intercultural Awareness</b>	<ul style="list-style-type: none"> <li>• I started to look at people's lives in different cultures with more tolerance.</li> <li>• I am able to look at other cultures with empathy and without prejudice.</li> </ul>
<b>Willing to learn</b>	<ul style="list-style-type: none"> <li>• My desire to learn a foreign language increased and I will make a move towards doing just that.</li> <li>• I want to learn more about cultures and I will follow related projects to do that.</li> <li>• Particularly, I will seek out different methods and techniques which are applicable in classrooms.</li> <li>• I want to enrol in graduate programs on intercultural studies.</li> </ul>
<b>Evaluation Method</b>	<ul style="list-style-type: none"> <li>• I learned the importance of observation and process evaluation in evaluating student skills.</li> <li>• I saw the effect of getting students to reflect on new knowledge. I will use it in my classes.</li> </ul>

## Conclusion and discussion

The results at the end of the study can be listed as;

- The main aims of teachers in their contributions to the project were: learning about different cultures and people, gaining experience, developing vocational skills, and improving foreign language skills.
- The main concern of teachers throughout the project were: the level of students' knowledge, difficulty in using English (for teachers in public schools except the English-language teachers), disunity of intercultural sensitivity (subject to their curricula, problems in online communication, time management, formation of lesson plans.
- The main strengths of teachers in the project in their opinions were: time management, material development, using English (for teachers in private schools and the English-language teachers in public schools), and their own social skills.
- Positive results of the project from the teachers' perspective were; behaviour of students, ability to speak English, knowledge of different teaching method and techniques, sensitivity to different cultures, a desire to learn, and knowledge of alternative measurement and assessment methods in education.

The results obtained from the study can be interpreted within the framework of the study questions as follows: The aims of the teachers participating in the project were: getting to know new cultures and people, acquiring project experience and professional development. Teachers who work at private or state schools want to participate in such projects thanks to the administrative support of their schools and due to the prestige of participating. In addition, normally it is difficult for Turkish teachers to go abroad because of financial and bureaucratic problems. Bureaucratic problems include difficulties in obtaining permission for leave from work and obtaining a visa. European projects provide teachers with the opportunity to see different places and meet different people. Besides, participating in these projects is a privilege for teachers who want to transfer to the educational institutions involved, where the probability of development increases with the level of professional knowledge and skills. Teachers stated that one of their aims in participating was professional development. Since 2005 in Turkey, educational programmes of all courses have been modified by the National Ministry of Education so that teacher-centred programmes are replaced with student-centred ones. In light of this change, textbooks and workbooks are prepared and active learning methods are applied in classrooms instead of using the traditional ones. However, teachers are not given proper in-service training about the application process. In the European projects concerning teacher training, teachers are given adequate

training, which enables them to further develop. When the objectives and strategies of the PERMIT project are examined, it can be easily seen that teachers prefer it because of its basic characteristics developing their competencies.

The concerns and anxieties of teachers about the project process were; lack of student skills, language problems (for teachers in public schools except the English-language teachers), adaptation problems between the project and the school curriculum, difficulties in online communication, a perceived inability to deal with the expectations of the school, and having to prepare a new instructional unit. These concerns are to be expected from teachers participating in such a project for the first time. Their primary anxiety involved the language problem. Since all the materials used in the international meetings and online environment were in English, this is normal. In other words, the official language of the project was English. That is why teachers were required to know English in order to express themselves well and understand the activities. Thus, the concerns of teachers whose English proficiency was low was expected. Language, which has the power to affect learning positively, is a means of effective communication (Vygotsky, 1978).

The teachers stated that their strong points throughout the project were: time management, material development, speaking English (for teachers in private schools and the English-language teachers in public schools), and social skills. While teachers were engaged in the studies in the PERMIT project, they fulfilled their responsibilities at their own schools. Thus, they needed to have good time management to fulfil the requirements of both the project and their work. On the other hand, they were required to pay attention to the individual differences of students while preparing lesson plans. With this aim, they had to use different methods and techniques, and develop materials for student learning. It was observed that the teachers who had competency in material development were faster and more successful in preparing lesson plans and at implementation. Teachers who were good at social interaction were better at communication and getting help both in the online environment and at the international meetings. In the study conducted by Fretheim (2007) on the variables that affect the level of intercultural sensitivity, where the subjects were teachers and managers of an American school in South Africa, it was revealed that points of participants who knew at least one foreign language were higher than those of other participants.

The teachers stated that by the end of the project, students had developed their skills for empathy and getting to know different cultures, which is a result of working in an international communication-based project. Fantini (1995) notes that communicating with people from different cultures and working with them generates skills on getting to know ourselves and also having empathy for the other cultures. In the study done by Demir and Demir (2009), where they question



the perception of Erasmus exchange programmes on students' cultural change, it was revealed that foreign experiences lead to an increase in tolerance toward different cultures and respect for universal values. In the study of Westrick and Yuen (2007), where they investigated intercultural sensitivity of teachers in a high school in Hong Kong, it was found that there was a positive correlation between the educational level and a period of living in different cultures with intercultural sensitivity. Similar results were also attained by Fretheim (2007). On the other hand the opinions of teachers and students regarding intercultural topics can be correlated with Bennet's "Acceptance of Cultural Differences" step in his Intercultural Sensitivity Model. According to Bennet individuals at this step see individuals from other cultures with a high level of cognition and without considering intercultural differences. Positive attitudes on the part of teachers help to create the generation of positive student attitudes (Philippou, 1988, from Leung, 2001). The training and sharing in the PERMIT project enabled teachers to have an empathetic point of view towards other cultures which also leads to a positive effect on their students.

According to another result obtained from the study, the teachers stated that their English-speaking skills improved over the course of the project. The opportunity to listen to conversations, reading in the online environment, and face-to-face interactions (including body language) may have contributed positively to their English skills. Also, the atmosphere motivated some timid teachers to do their best in speaking English. Response to their talks may have also affected their motivation positively and contributed to their self-confidence. Dewey (1956) notes that social experience develops communication in society, enhances cognitive skills, brings a sense of responsibility to engage in correct behaviour, and thus, regenerates language and conceptions.

The teachers stated that student motivation increased during the work done on the project. In the teaching environments where intercultural aspects were integrated, students were able to study and actively participate in group discussions, as well as being asked to present the fruits of their labours to their friends. The opportunity for self-expression in such an environment might have a positive effect on student motivation regarding courses. Kim, Fisher, and Fraser (1999) note that student motivation increases as they learn in a cooperative environment, share their experiences with teachers and friends, and have discussions in the classroom. Another study from Caprio (from Hanley, 1994) reveals that students who learn by student-centred designs join the classes willingly, take more responsibility regarding their education and have more self-confidence. Mahoney and Schamber (2004) investigated the effect of teaching program based on Bennett's Intercultural Sensitivity Development Model on their intercultural sensitivity level where lectures were integrated with intercultural sensitivity. Results show that programs that aim to develop intercultural sensitivity should involve teaching methods at the analysis, synthesis, and evaluation levels in order to reach goals.

The teachers stated that they learned different methods and techniques applicable in classrooms and saw that students became more active in practice through the project. This finding is important in terms of the PERMIT project. On the other hand, the teachers pointed out that they learned a new type of evaluation method in the PERMIT project. They also said that in the applications they saw the importance of students reflecting on their own development during evaluation, which is another important finding of the project. According to Byram (1997), instead of tests and traditional examinations, evaluations in which intercultural aspects are integrated should be done by the portfolio approach which shows the development process of students. In other words, process evaluation is more important than product evaluation.

Lastly, at the end of the PERMIT project, teachers stated that they were willing to learn new methods and techniques, getting to know about different cultures, learning foreign languages and studying intercultural subjects as graduate students. This desire to learn and develop can be considered one of the project's positive contributions to the teachers.

The results obtained from this study can be used in a holistic manner, as follows: Teachers should know how to integrate the concept of intercultural sensitivity into their lesson plans. Thus, the schools they graduated from should offer some courses which address this concept. Also, teachers must be given a chance to try the applied designs, and to apply the in-service training on the subject given to them. We believe the findings of the study can contribute to the development of the empathy skills of students, respect for differences, cooperation, processing new information, and motivation in courses where interculturality is integrated with the programme. Thus, instructional plans should be revised and developed based on the findings of the study.

The suggestions for future studies developed from the results of this research study can be summarized as follows: Instructional designs with which intercultural viewpoints are integrated can be applied to different courses and to different groups, and then, opinions of teachers and students concerning the applications can be investigated, compared and analysed. Moreover, new projects could be extended to a broader range, so as to include more than four countries with different cultural characteristics.

This project, which has generated positive outcomes for both teachers and students in the cultural and pedagogical sense by integrating intercultural aspects into the instructional design, is implemented on the secondary school level. However, this does not mean it cannot be applied to other educational levels. On the contrary, students will be able to learn how to construct new knowledge as early as such teaching methods are applied, and thus, they will be able to learn to manage mental activities, and effectively convert them into habits in the future.

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RETRACTED PAPER



## **EFFECTIVENESS OF GROUP COUNSELING BASED ON ALTHOUGH APPROACH ON ELDERLY DEPRESSION**

**FATEMEH SALEHI\***

**ABSTRACT.** Seniors are an asset to society and investment in their health that will benefit each community. This study examined the effectiveness of group counseling based on although approach on reduction of depression in elderly. The population consisted of all elderly residents of nursing homes in the city of Amol, of which twenty were selected according to depression scores. Those who had higher scores were randomly divided into two control and experimental groups (ten in each group). The method of testing was pretest-posttest with control group. A depression test instruments used in this research to measure elderly depression of both group before and after the tests, the subjects in both groups responded to it. An organized set of activities executed based on experimental techniques, although the intervention was implemental. Using analysis of covariance and t-test, the main findings of this study indicated that the group consulting has significant impact on improving depression. This approach is based on the use of group counseling for elderly depression treatment as an appropriate model for seniors offered counseling.

**Keywords:** *Although the approach – Group counseling – Elderly – Depression scale.*

### **Introduction**

Aging is a process comes after deep physiological, psychological and sociological transformations [1]. According to the Census Bureau of Iran, the population of seniors of the world has been estimated approximately 590 million peoples and it is predicted that till 2050 this number increases about 2 billion elderly. In Iran like other countries the number of aged peoples is increasingly growing. In 2006 over than 7.27 per cent of Iranian population were above 65 years old. Considering the current population structure of Iran, this number will increase in future (Census Bureau of Iran).

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Aging is the period of change and loss and few seniors are able to adapt with occurred transformations. Most of elderly when face with specific events or a commutation of events exceed their tolerance, ability or coping skilled levels, experience a sense of hopelessness which ultimately leads to depression [2]. Depression is described as a emotional reflection certain individuals may experience in elderly. About 12 to 16 per cent of seniors suffer from depression, though 20 to 30 per cent of them sometimes report a symptom of depression [3]. Generally speaking, this rate is higher in care homes which is about 35 percent [4].

In fact, seniors living in nursing homes are more exposed to depression. In these homes, depression can be experienced temporary and due to chronic disease and seeing others' disabilities as well as high rate of death ( DSM-IV). To recognize an individual depressed, 5 symptoms out of 9 in a two-week period should be taken into consideration. The total 9 symptoms of depression are as: 1) depressed mood, 2) disinterested in doing works, 3) insomnia and oversleep, 4) lose weight or gain weight, 5) reduced energy, 6) psychomotor slowing, 7) inability to concentrate, 8) feeling guilty and 9) suicide thoughts [5].

Additionally, the organizational characteristics of nursing home are counted as fundamental factors. Seniors expect that as they took care of their children, they take care of them in elders as well. But when they continue their life in nursing home, and they are not satisfied with their children then they are ready to suffer depression [6]. It seems that more different studies on this subject would be beneficial in providing appropriate solutions for coping with aging and its related problems.

### **Review of literature**

Depression in seniors correlates more with suffering from different diseases, reduced recovery from illness, increased disability and pain, dysfunction, increased suicide and greater use of health services [7]. A broad range of effective treatments like medication and social- psychological treatments were used about the depression. All of treatments are applied for curing depression are used for normal people will be useful for curing elders' depression. These treatments as mentioned above are consisted of psychosocial treatments, psychotherapy, psychosomatic treatments involving psychotropic drug treatments and electric shock treatment. Therefore, based on age, degree of using these treatments may vary [8].

As Pour Ibrahim [9] mentioned, improving depression in elderly is highly dependent upon type and severity of depression symptoms, depression backgrounds like physical diseases, family conflicts, situational stresses, patient' s attitudes toward depression, and condition that refers to the socio-cultural impacts as well as applicability in treatment method.

### **Significance of research**

There are few studies on through approach treatment and researches that directly have addressed this topic in Iran. However, some of the existing researchers are referred to. It seems that greater studies on this subject will be influential in recommending proper solutions to enable elderly adapt with their new condition and its relevant problem.

According to what have been mentioned so far about the seniors' problems and needs, one of important challenges for elders in today's life is depression and lack of meaning and goal in life. Considering the increasing growth of elders population in Iran and significance of concerning and satisfying this population group as much as possible, the present research is dealt with this research question that whether group -based counseling approach is effective on reducing depression symptoms in elderly residents of nursing home in Amol or not.

### **Research background**

In a study, Sadeh Moghadam [4] showed that group treatment was effective on reducing elders' depression in Kahrizak nursing home.

Hasan Abadi [11] in a comparative study, investigated on rate of effectiveness of three group treatment methods( rational-emotional, although-humanistic, spiritual-religious) and showed that every three treatment methods increased self-esteem level of experimental group members compared to control group significantly.

According to Corey [12] we can use group counseling and psychotherapy as efficient as possible about although problems. This effectiveness has been appropriately approved in previous studies [13].

Of different treatments are identified for depression, the impact of although psychotherapy treatment on improving depression of last periods of life is noteworthy [9].

Concerning Shaafi Abadi [14], although treatment familiarizes individuals with their freedom in choice and responsibilities that have in choosing their actions, behaviors and ultimately their life and prohibit them from frivolity and nihilism.

As Visvari [5] said, group counseling in form of although method, illustrates a small replica of the real world within which participants experience way of living and action. Members of this group aim at exploring their own and interaction together about their although concerns.

Useful treatment, in addition to development of patient's skills [17], assists him/her to confirm the self by establishment and maintainance of supportive relations [15]. The although treatment of seniors requires therapist to be active and maintain the structure of treatment session since most of patients tend to flashback [16].



Margiotta [10] carried out a study on effectiveness of although treatment on depression of persons over 60 year-old and understood that training of although concepts has a outstanding impact on reducing depression after 60 years old. Margiotta also stated that though, the cognitive-behavioral and interpersonal psychotherapy approaches may be influential on decrease of depression, although treatment has a more paramount role in condition of life crisis.

According to Pour Ibrahim's study [9] on 90 peoples of seniors in Tehran nursing homes, it was confirmed that although group counseling and logo therapy lead to improving depression in elderly of private nursing homes. Other previously performed studies also approved the positive role of although psychotherapy such as logo therapy in mental health like depression and physical health like cancer [18,19,20,21,22].

### **Methodology**

The used plan in this research was an experimental one (pre-test, post-test with control group) which was selected according to research problem and research question. In this plan, both groups were measured twice. The first measurement was in pre-test and the second measurement happened in post-test stage. The statistical population consisted of all seniors living in nursing home of city Amol.

To select the sample, first the depression test GDS was administered among elders and 20 depressed seniors was identified. Then these 20 depressed subjects were divided into two 10 member group, control and experimental, randomly. However, participants needed to have the necessary requirements to enter the groups. These requirements included: 1) participants must aged 65-80 years old, 2) have no psychological disorders, 3) be able to participate in the research physically, 4) be interested in taking part in the research, 5) use no special medication for depression, and 7) had to receive score 15 or higher in GDS test.

### **Research instruments**

The used instrument in the present research was geriatric depression scale (GDS) contains 30 items which measure the influential measures in seniors' depression. GDS was developed by Besaviche to assess seniors. The answer have two choices, Yes and No, Yes is scored 1 and No is scored 0. Score from 0-9 means without depression, 10-19 average depression, and 20-30 severe depression. Compared to clinical recognition of depression, this questionnaire possesses a proper internal and external stability. Its reliability after retest method achieved 0.85 (Besaviche).

In Iran GDS was used by Pour Ibrahim [9] with 30 participants and after executing split half and Spearman Brown methods, its validity obtained as 96%.

### Data collection method

In the current study, GDS test and some although based group activities were held in eight 60 minute sessions in order to measure the degree of the training effectiveness through questionnaire and in two pre-test and post-test stages. This program includes organized activities based on the existential approach from May and Yalom's viewpoint. In this method, self-distancing processes were used to help a patient pull away from his/her problem and act more wisely. In process of changing attitude it is also attempted to encourage an individual to pull away and act more rationally.

In process of attitude change, it is aimed at encouraging patient to re-organize negative problems into positive possibilities. These processes will then be established through making a joyful environment in group, noting capabilities, achievements and members' values. The following table describes the objective and content of each session.

Session 1	Determining group purposes and rules and familiarization of group members with each other and with leader, describing the approach treatment and significance of meaning in life.
Session 2	Believe in self and identifying own characteristics and concerning spiritual freedom as one of aspects of the universe.
Session 3	Awareness about taking responsibility and its role in success and presenting a task.
Session 4	Identifying depression and study of its related effective factors specially in elderly.
Session 5	Learning the ability of go beyond the self , mocking problems and rescue from nihilism.
Session 6	Training the intention contrast technique for dealing with hopelessness and depression in elderly.
Session 7	Recognizing creative values and creative activities that cause or are perceived to give life meaning.
Session 8	Reviewing previous sessions and a brief summary and overview of the theoretical and experimental sessions and administration of post-test stage.

### Findings

The present research aimed at study of group counseling based on although approach effectiveness on reducing depression of seniors living in nursing home in city Amol. The obtained results of descriptive and analytical analyses are presented below.

**Table 1:** Descriptive indexes of scores of elders’ depression test in experimental and control groups

Variables	age		sex		Pre-test depression		Post-test depression	
	Sd.	mean	female	male	Sd.	mean	Sd.	mean
Experimental group	1.80	73.45	7	3	1.89	9.7	2.11	7.40
Control group	6.25	75.7	6	4	1.85	9.9	2.08	10.10

**Table 2:** Results of covariance analysis of comparing post-test scores after improving pre-test scores of depression test of elders in experimental and control group

Source of changes	Sum of squares	df	Mean of squares	F value	Sig.	Index of impact size
group	32.14	1	32.14	13.97	.002	.45
depression	40.16	1	40.16	17.44	.001	.51
error	39.14	17				
total	1647.00					

Since value of computed F for the impact of groups is higher than critical F in level of significance  $\alpha = 0.05$ , the null hypothesis assuming equality of means of post-test scores of subjects in both control and experimental groups was rejected with 95 % level of confidence.

**Table 3:** Results of independent T-test between means of pre-test and post-test variance of depression test for both groups

variable	groups	Mean of variance scores	Sd.	T	df	sig
depression	experimental	2.30	1.89	3.67	18	.002
	control	.20	1.03			

As the Table (3) shows, the obtained T value for comparison of mean of variance scores of pre-test and post-test in both group experimental and control group is ( $t = 3.67$ ) that is greater than critical t with degree of freedom 18. Therefore, with 95% level of confidence it can be concluded that the variance scores of depression pre-test and post-test in experimental group is more significantly higher than control group which indicates the effectiveness of group counseling based on although approach on reducing elders’ depression in experimental group.

## Conclusion and discussion

As it was mentioned before, the current research purpose was to measure the effectiveness of group counseling based on although approach on improving elders' depression. The achieved results showed that group although therapy greatly influences on reducing of elders' depression. This result therefore is in accordance with previous studies like Cho [18], Spek et al. [19], Fakhari et al. [20], and Yousefi et al. [21]. So, based on the previously performed studies in field of effectiveness of although approach and logo therapy it could be said that this method of treatment is an influential method in reducing elders' depression.

As Sadegh moghad [4] said, in fact elderly is a special period of life has found a special importance due to social and industrial development of the modern age. In the recent century, because of social, economic and medical advances, rate of mortality has been decreased and life expectancy has been increased, as a result number of elder population in different world's countries has been maximized. In future, we will encounter with crucial problems about elderly and solving them. Elderly depression is recognized as the second reason for seniors' inabilities in this period. It is the most prevalent mental problem of elders' that leave undesirable effect on their life quality [23].

Consequently, participating in group sessions of although therapy can work as a social activity is influential in reducing depression. Generally speaking, though participation in group sessions, seniors exchange their ideas, find meaning in life and take the responsibility of past experiences.

They will get aware that there is always a meaning in life and can search for a purpose in each event. Thus, it can be said that although approach has significantly aided signors and may play a noteworthy role in reducing their depression.

The current research also had a few limitations including the statistical population were among seniors living in nursing home which pose some limitations on generalization of the obtained results to other seniors are kept at home. It is therefore, recommended that an independent study perform to compare rate of elders' depression living in nursing home and those who are living at their home and family to measure the effectiveness of although approach on improvement of their condition.

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## IMPROVING THE QUALITY OF LIFE OF THE FULL EDENTULOUS PATIENT AFTER APPLICATION OF THE PROSTHESIS

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**ABSTRACT.** Full edentation is a serious dental condition, because it perturbs all the functions of the stomatognathic system, having consequences on the entire organism. With the entire therapeutic arsenal dental medicine has at its disposal these days, the number of cases of full edentation remains high. Complex oral rehabilitation through the application of prosthetic pieces means regaining oro-dental health, the positive modification of the self image and self esteem, by means of the reintegration of these patients into social life. The main objective sought through the prosthetic rehabilitation by means of total prosthesis was improving the patients' quality of life through reestablishing the deteriorated functions of the dento-maxilar apparatus and the restoration of the aesthetic.

**Key words:** *fully edentulous, prosthetic rehabilitation, oro-dental health, quality of life.*

**ABSTRAKT.** Der zahnlose Kiefer ist ein ernsthafter zahnmedizinischer Zustand, da es alle Funktionen des stomatognathen Systems stört, mit Auswirkungen auf den gesamten Körper. Trotz des verfügbaren therapeutischen Arsenal, bleibt die Gesamtzahl des zahnlosen Kieferkammes hartnäckig hoch. Die komplexe orale Rehabilitation, durch Anwendung des Zahnersatzes, bedeutet die Wiedererlangung des Mund- und Zahngesundheitszustandes, wie auch die positive Veränderung des Selbstbildes und des Selbstwertgefühls, durch die gesellschaftliche Wiedereingliederung der Patienten. Das Hauptziel der prothetischen Rehabilitation, mit Hilfe der Totalprothesen, ist die Lebensqualität der Patienten zu verbessern, durch die Wiederherstellung der beschädigten Kieferfunktion und Ästhetik.

**Schlüsselworte:** *zahnloser Kiefer, prothetische Rehabilitation, Mund- und Zahngesundheitszustand, Lebensqualität*

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## Introduction

The challenge launched in the previous article made me determined to follow up on the extent to which the perception of the quality of life has improved in fully edentulous patients after the application of the dental prosthesis. The onset of the edentulous state is a slow, evolving process which perturbs the physiological balance, contributing to the constant aging of the anatomical structures of the entire organism. Masticating, sounding affections, the alteration of the facial expression provoked by the edentulous state become overtly manifest in the case of the edentulous patient, with repercussions on the latter's psyche. [1]

By applying prosthetic pieces, we have aimed to restore the patient's pleasure in the masticating act, by restoring their ability to bite and chew food. Because of missing dental units, these patients have been deprived of the possibility of sectioning food, and the crushing of food has been done mainly with the help of the residual crests. [2] This led to an insufficient mechanical processing and insalivations of the food ball. Many a times, the endobucal examination of these patients has revealed the presence of traumatic lesions of a reversible or irreversible nature. In most cases, the patients have adapted their eating habits to their new condition.

By resorting to selected diets, many patients choose the foods they can ingest and thus deprive their organism of certain food principles. [7] Other authors call attention to the changes which have occurred in the diet. Also, in the specialized literature, there are cases described where totally edentulous patients prefer soft foods, with carbohydrate rich content, which nonetheless lacks fiber. These changes in diet have repercussions over the general health, bearing consequences on the metabolism.

In our practice, we have distinguished interesting situations in which patients have stated that they are not meeting with difficulties in feeding, that they have become used to feeding themselves without dental units, moreover, that they eat anything.

Physiognomic disorders perceived by the totally edentulous patients when they look at themselves in the mirror, or by their entourage, is the main reason for which most of these patients enter a dental medicine office, for oral rehabilitation. There are authors [6] who describe the shrinking of the vertical dimension of the inferior facial floor as corresponding to a "facial collapse".

The teeth, together with the lips, tongue, and palate, have an important role in the conformation of the phonetic channel. The disappearance of the dental elements modifies the position of the lips and tongue, and thus increases the free speaking space. [8] The entourage can no longer perceive correctly the articulation of the lingual and labial phonemes. The voice of such a patient is

unclear, hissing. Initially, the phonetic disorders are evident, then the sounding box of the mouth cavity compensates in some cases for the missing dental elements.

All the disorders mentioned (insufficient mastication, perturbed sounding, affected physiognomy) gradually contribute to the seclusion of the totally edentulous patient from society. There are patients with good capacity to adapt, who easily surpass the difficult post-extraction moments, then get used to the full edentulous state and treat it with sufficient indifference. Another category of patients become aware of the precarious state in which they find themselves and become inhibited, or even suffer, seeking to camouflage their infirmity. The psychic preoccupation with the infirmity generated by the state of full edentation can lead to a functional imbalance which translates into a state of "edentation psychosis". [10]

### **Work hypothesis. Objectives**

Prosthetic oral rehabilitation by means of full prosthesis aims to improve the quality of life of the patients through the restoration of the deteriorated functions of the dento-maxillary apparatus and the restoration of aesthetics.

In this study, I have set the following *objectives*:

- to analyze the patients' subjective appreciation of the masticating performances after applying the prosthesis,
- to track the extent to which the physiological modifications have corrected themselves after the application of the prosthetic pieces,
- to visualize the way in which the social life of the fully edentulous patient is improved after the application of the prosthetic pieces.

### **Material and method**

71 fully edentulous patients, orally rehabilitated through the application of full prosthesis have been included in the study. The patients have entered into the evidence of the Department of Oral Rehabilitation, Oral Health, and Management of the Dental Office in April 2010-February 2012. The patients have been examined, investigated, and treated within the project "PROMOTING ORAL HEALTH AND INCREASING THE DISADVANTAGED POPULATION'S ACCESS TO DENTAL SERVICES". Every patient had an observation chart drawn up, and has filled out/signed an informed consent form for the performance of a medical act, as well as a consent form for entering a study.

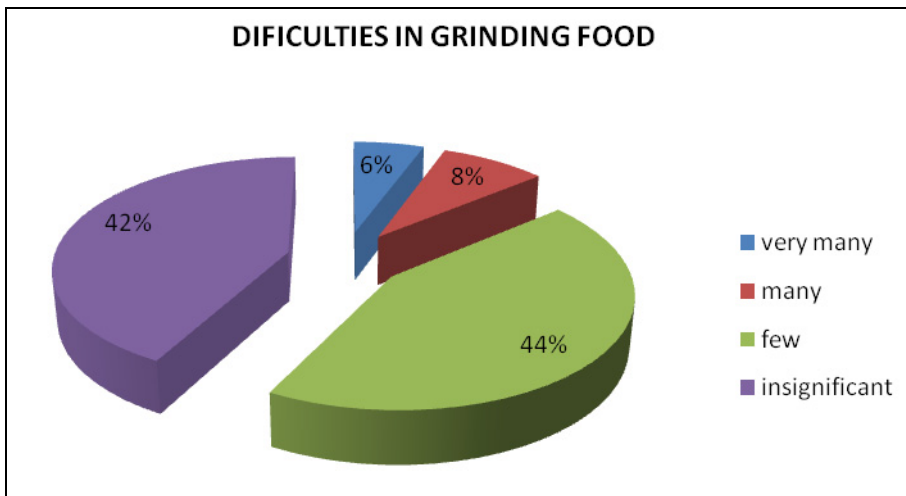
We have included in the study only cooperative patients who have had full prosthesis applied, and the inherent touch ups have been finalized three month ago. Uncooperative patients have been excluded from the study, as well as patients whose period of touch up of the prosthetic pieces has not become finalized.

The fully edentulous patients with prosthesis applied have filled out the same questionnaire as in the precedent study, made up of 23 items. Alongside the personal data, the interval passed from the time of the application of the prosthetic pieces, the questionnaire seeks to reveal whether or not the masticating, sounding, physiognomic, and psychic disorders induced by the edentulous state have improved as a consequence of wearing the prosthetic pieces. All the answered obtained have been included in a centralized table in order to be then subjected to a statistical analysis.

### Results. Discussions

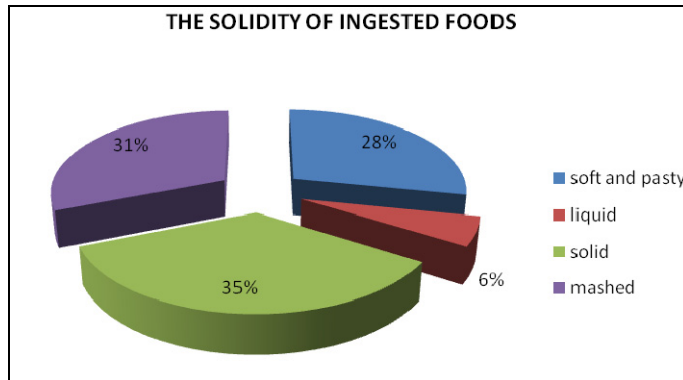
The patients who have entered the study are between 40 and 85 years old.

	Mean	Standard deviation	Mode	Minimum	Maximum
Age (years)	60.95	8.288	61.00	40	85



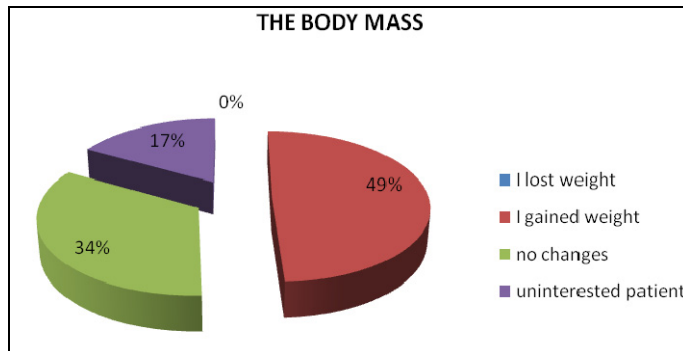
**Fig. 1.** Difficulties in chewing food

After the application of the prosthesis, through their answers, the questioned patients signal few difficulties (31 cases), or insignificant difficulties (30 cases) in the chewing act. Only 10 persons out of the total of 71 signal difficulties in the quality of the chewing act. This shortcoming is probably due to some unfavorable prosthetic fields, the time lapsed up to the application of the prosthesis, and last but not least to the fact that the majority of these prosthetic pieces have been executed within the process of professional training of our younger colleagues, the students.



**Fig. 2.** The consistency of the ingested foods

The consistency of the ingested foods does not differ too much before or after the application of the prosthesis. In both cases, the patients predominantly consume soft, pasty, or ground foods. But, whereas before the application of the prosthesis no patient has signaled the consumption of solid foods, after the application of the prosthetic pieces, there were patients who have stated that certain solid foods have begun to be included in their daily diet. Certainly, beyond the quality of the therapeutic act, in these cases, we are dealing with patients who fully consent and strictly observe all the recommendations made by the doctor.

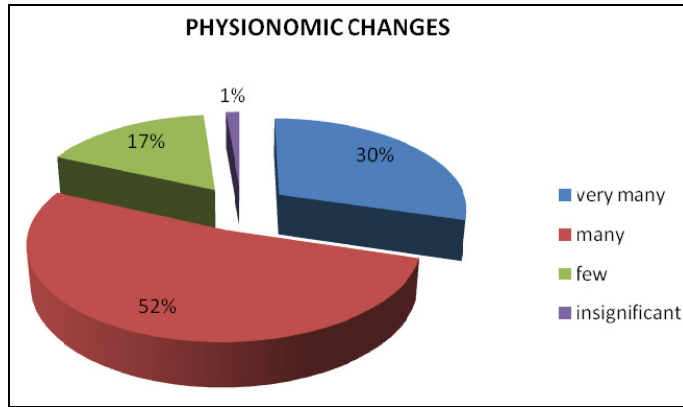


**Fig. 3.** The influence over the body mass

The patients' answers to this question reveal the fact that 35 patients out of the 71 total have gained weight after the application and after the period of accommodation with the dental prosthesis.

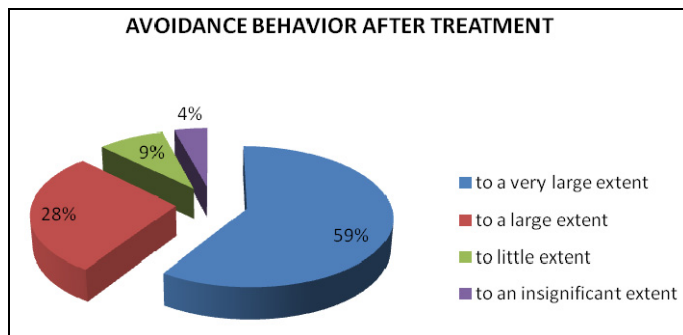
The nutritive needs for the persons aged over 50 vary according to the general state of health, their level of physical and intellectual activity, as well as their degree of individual education.

According to other studies, the calorie consumption (for people 50-65 years old it is 1800-1900 kcal for women and 2000-2300 kcal for men) becomes reduced at 65-75 years to 1300 kcal for women and 1800 kcal for men. For partially or fully edentulous patients, with or without prosthesis, patients who most of the time have an advanced age, the administration of food is closely related to the dental status and the chewing efficiency.



**Fig. 4.** Physiognomic modifications

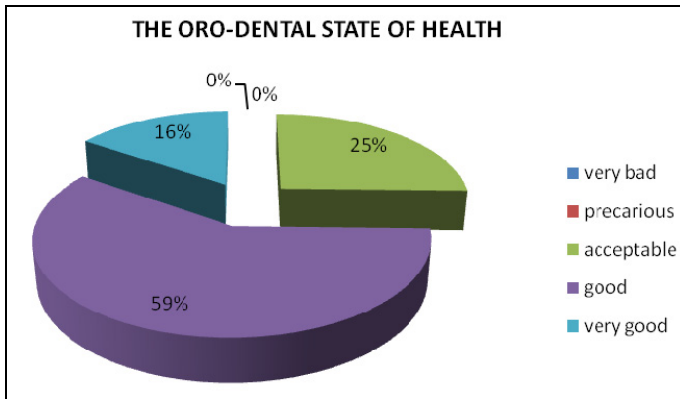
The improvement of the physiognomic aspect, after the application of the dental prosthesis, has been perceived to a very large extent (21 respondents), and, respectively, to large extent (37 patients). This goes to show that the classical dental prosthesis, if correctly executed, answer to a great extent to the physiognomic demands.



**Fig. 5.** The psycho-social implications

The substantial physiognomic improvements have contributed to a better integration of the patients in social life, couple's life. Before the application of the prosthesis, and as a consequence of the edentulous state, 50 out of 71 patients

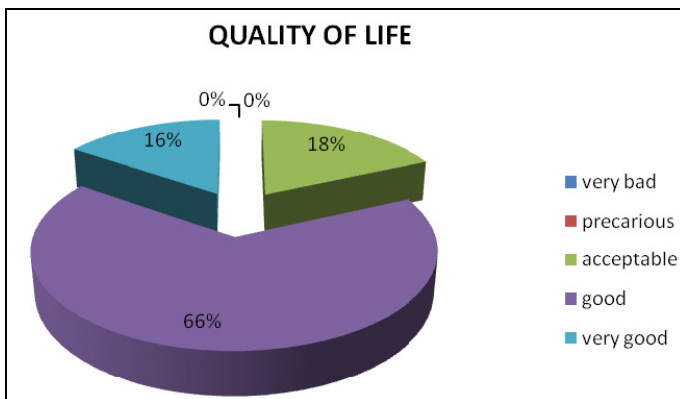
have admitted that their social life was entirely missing, and their integration into the group of friends has suffered. After the application of the prosthesis, an overwhelming proportion of the patients find again the pleasure of actively participating in social life, and the avoiding behaviors developed prior to the application of the prosthesis have disappeared.



**Fig. 6.** The oro-dental state of health

The oro-dental state of health has improved, according to the patients questioned, and has considerably improved three months after the application of the dental prosthesis.

If prior to the application of the prosthetic pieces, a large number of patients considered their state of health as being acceptable at best, after the full application of the prosthesis the situation has changed, 11 patients consider their oro-dental state as being very good, 42 perceive their sanogen state as being good, and 18 consider that their state is acceptable.



**Fig. 7.** Quality of life

The quality of life perceived by the patient before and after the application of the prosthesis, also differs very much: 46 of these rate themselves with "insufficient" when it comes to this important parameter. After the application of the prosthesis, 11 patients consider that the quality of their life has become a very good one, 47 say that the quality of their life is a good one, whereas 13 state that it is acceptable.

Certainly, the appreciations being subjective, these are influenced by the education and capacity to understand of each of the patients questioned.

Conclusions. Although the patients treated through dental prosthesis have an advantage in what concerns the chewing act compared to the period prior to the insertion of the prosthetic pieces, a fully edentulous patient with classical dental prosthesis applied will never have the capacity of a dentulous patient.

Classical dental prosthesis, if properly manufactured, answer to a great extent to the physiological demands.

With the help of treatment through dental prosthesis, the totally edentulous patient regains their self-esteem, being able to become reintegrated in social life.

The success of the application of the prosthesis depends on many factors. Beyond the quality of the prosthetic field, of the medical act, of the way in which a doctor treats each individual case, the doctor-patient manner of cooperation, of key importance in the success of the treatment are the patient's personality, their level of culture and intelligence, the psychic state regarding the acceptance of and adaptation to the dental prosthesis.

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## PSYCHOLOGICAL DISTRESS IN PERIPHERAL FACIAL PARALYSIS IN CHILDREN. A PILOT STUDY

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RADU SEPTIMIU CÂMPIAN\*, SILVIU ALBU\*

**ABSTRACT.** Facial disfigurement may cause psychological and psychic changes. Peripheral facial paralysis can lead to dysfunctions of the dento-maxillary system and important asymmetries in facial dynamics. The expression of feelings as well as social relations can be disturbed. These trigger factors acting on the developing psyche of a child may cause psychological distress. The pilot study conducted in a group of 10 children with peripheral facial paralysis, with a mean age of 13.4 years, showed that a psychological evaluation within two weeks from the onset of the disease can evidence anxiety phenomena. These changes should be known and treated, ensuring a positive support for the adequate development of the child's psyche and are important factors in the evolution and maintenance of somatic pathology.

**Keywords:** *psychological distress, facial paralysis, facial palsy, anxiety, depression*

**ZUSAMMENFASSUNG.** Die Gesichtsentstellungen können psychologische und psychische Änderungen bestimmen. Die Gesichtslähmungen können zu einer dento-maxilarer Aparatusdysfunktion führen und zu wichtigen Asymmetrien in der Gesichtsdynamik. Die Gefuhlsausserung aber auch die gesellschaftliche Beziehungen können geschadigt werden. Diese Trigger Faktoren beeinflussen die Psyche im Laufe der Entwicklung eines Kindes können ein psychologischer Dystress bestimmen. Die Pilotstudie für 10 Kinder mit peripherischer Gesichtslähmung im Alter von 13,4 zeigt, dass in den ersten 2 Wochen der Studie kann man Angstgefühle bemerken. Diese Veränderungen muss man wissen und die Kindes Psyche positiv stützen.

**Schlüsselwörter:** *psychische Belastung, Fazialisparese, Gesichtslähmung, Angst, Depression*

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## Introduction

The facies plays an important role in interpersonal and social relations, and temporary or long lasting facial disfigurement may have an impact on the patient's psyche. Studies performed in adult patients with facial disfigurement in the region of the head and neck after oncological surgery (Callahan C., Facial disfigurement and sense of self in head and neck cancer. *Soc Work Health Care*, 2004), burns (White A.C., Psychiatric study of patients with severe burn injuries. *BMJ*, Clinical Research ed., 1982), or with Graves' ophthalmopathy (Farid M., Roch-Levecq A.C., Levi L., Brody B.L., Granet D.B., Kikawa D.O., Psychological disturbance in graves ophthalmology. *Arch Ophthalmol*, 2006) have shown that there is no linear relationship between the degree of facial involvement and the patient's subjective distress. Adults experience different distress manifestations than children, in whom the psyche is in the process of developing and maturation.

The young school age child (7-11 years) has a global perception, which does not include intermediate aspects, but most frequently only aspects that create great contrasts. In the majority of the children of this age group, the idea of invariance is found, i.e. the tendency to preserve quantities, lengths, even if objects undergo objective physical changes. Thinking is focused on concrete operations, being connected to objectual support (Iftene, F., 1999). Maximal emotional strain is found around the age of 9 years, when "the 9-year-old's anguish" may occur, the child being overwhelmed by the multitude of information that requires adaptive efforts. In the middle school age child (11-14 years), formal thinking develops, with hypothetico-deductive reasoning, with the capacity to evaluate alternatives (Iftene, F., 1999). Around the age of 12 years, the originality crisis with affective bursts occurs, which is also called the "puberty crisis". During this period, the perception of complex schemes and structures, with a critical attitude towards the information received, is possible. This is a stage in which imagination has periods of daydreaming, interests and passions begin to take shape, aesthetic feelings develop and moral conscience is formed. In adolescence (after the age of 15 years), a separation process occurs, personality and sexuality are completed, but this is also a period of immaturity in judgment, with acts of bravery (Iftene, F., 1999).

Given that the child's psyche undergoes several stages until maturation, any external factor depending on its intensity and duration of action can be a trigger factor for the disturbance of harmonious psychosomatic development. These trigger factors include facial disfigurement. Peripheral facial palsy and paralysis may cause static and dynamic alterations of the facies. In the paralyzed hemiface, muscular hypotonia with the disappearance of facial sulci and the descent of the eyebrow are seen, the eye is wide open, the labial commissure drops and is displaced towards the healthy contralateral side (Pendefunda, G.,

Pendefunda, L., 1998). These changes become more pronounced during facial dynamics, when the patient fails to close the palpebral fissure, during smiling the facies is distorted through the displacement of the affected mouth corner towards the healthy side, saliva leaks from the oral cavity, mastication is difficult, and the pronunciation of the labial phonemes “m”, “b”, “p” is inadequate (see Figure 1). In children, the most frequent form of facial paralysis is the idiopathic one, also called Bell’s palsy or paralysis “a frigore”. The cause of Bell’s palsy is unknown and this diagnosis is made after the exclusion of various etiological factors: traumatic, infectious, metabolic, tumoral, neurological diseases, etc (Dawidjan B., Idiopathic Facial Paralysis: A Review and Case Study. *The Journal of Dental Hygiene*, 2001). However, cold exposure and the reactivation of herpes simplex virus 1 (HSV-1) infection are incriminated in the etiopathogeny of Bell’s palsy. The onset of the disease is sudden, possibly after acute rhinopharyngitis, being preceded by pain in the retroauricular region. The evolution of the disease is usually favorable in 80-85% of the patients under non-steroidal or steroidal antiinflammatory, neurotrophic and physiokinesitherapeutic treatment (Schirm J., Mulkens P.S., Bell’s palsy and herpes simplex virus. *APMIS*, 1997). The mean evolution of the disease is 6 weeks, but in some patients functional deficit recovery occurs only after 6 months. About 15-20% of patients do not adequately respond to treatment and will not recover the lost function (sometimes they will recover it partially). These patients will require interventions for the surgical restoration of the function of the facial nerve that may correspond or not to the patients’ expectancies in spite of satisfactory functional recovery (Bradbury E.T., Simons W., Sanders R., Psychological and social factors in reconstructive surgery for hemi-facial palsy. *J Plastic Reconstr Aesth Surg*, 2006). These patients must cope with social reinsertion and social stigma problems.



**Fig. 1.** Right peripheral facial paresis, third degree according to House-Brackmann scale. Displacement of the mouth corner towards the healthy left side during smiling

Facial disfigurement (like that seen in peripheral facial paralysis) may cause psychological or psychic changes such as anxiety, maladaptive behavior, reduction of the emotional wellbeing state or depression (Anderson G., Anxiety, optimism, and symptoms reporting following surgery for acoustic neuroma. *J Psychosom Res*, 1999; Van Swearingen J.M., Cohn J., Turnbull J., Mirzai T., Johnson P., Psychological distress: linking impairment with disability in facial neuromotor disorders. *Otolaryngol Head Neck Surg*, 1998). For these changes to occur, the

patient should have a representation of the disease, the coping and evaluation of the disease. The following 5 items are relevant for the representation of the disease: cause of the disease, curability of the disease, chronology (evolution) of the disease, consequences of the disease on the patient's quality of life, and identity (whether the patient believes that symptoms belong to the disease in cause) (Leventhal H., Benyamini Y., Brownlee S., Diefenbach M., Leventhal E.A., Patrick-Miller L. et al., 1997).

When this facial asymmetry associated with functional disorders (as found in facial paralysis) occurs in a child, the question arises whether this disease induces psychological disorders, if it affects the psychosomatic development of the child and to what extent the child is capable of understanding the representation of the disease.

The aim of this pilot study is to determine whether peripheral facial paralysis in children can induce early anxiety or depression reactions.

### Material and method

The pilot study was performed in 10 children (who meet ages inclusion criteria and whose questionnaires were correct filled) with peripheral facial paralysis (PFP) hospitalized at the Clinic of Pediatric Neurology Cluj-Napoca. The grade of facial paralysis was evaluated using the House-Brackmann scale (House J.W., Brackmann D.E., Facial nerve grading system. *Otolaryngol Head Neck Surg*, 1985), as shown in Table 1. Each 0.25 cm displacement of the mouth corner towards the healthy side is scored one point. The maximal score can be 4 for a 1 cm displacement of the mouth corner. Likewise, one point is given for a 0.25 cm descent of the eyebrow, with a maximum of 1 cm. Through the sum of the two parameters, depending on functional deficit, 6 grades can be obtained, of which grade I is normal.

**Table 1.** House-Brackmann scale

Grade	Description	Score	Function %
I	Normal	8/8	100
II	Mild	7/8	76-99
III	Moderate	5/8 - 6/8	51-75
IV	Moderate-severe	3/8 - 4/8	26-50
V	Severe	1/8 - 2/8	1-25
VI	Total	0/8	0

To assess the presence of symptoms consistent with anxiety or depression were completed the Multidimensional Anxiety Scale for Children (MASC) (March, J.S., 2010) and the Children's Depression Inventory (CDI) (Kovacs, M., 2012).

For the determination of the validity of MASC data, the Inconsistency Index was evaluated. Values higher than or equal to 12 (for children aged 8-11 years) and higher than or equal to 10 (for children aged 12-19 years) were considered as inconsistent. The global level of anxious symptomatology was determined by evaluating the Anxiety Disorder Index. Scores greater than 65 advocates for the presence of anxiety disorders. Also, it was assessed whether there was a pattern suggesting a specific anxiety disorder, as shown in Table 2.

**Table 2.** Factors evaluated using MASC

MASC scales, subscales and indices	
<b>1. Physical Symptom Scale</b>	Tension Subscale
	Somatic Symptom Subscale
<b>2. Harm Avoidance Scale</b>	Perfectionism Subscale
	Anxious Coping Subscale
<b>3. Social Anxiety Scale</b>	Humiliation Fear Subscale
	Performance Fear Subscale
<b>4. Separation/Panic Scale</b>	
<b>5. Total Anxiety Scale</b>	
<b>6. Anxiety Disorder Index</b>	
<b>7. Inconsistency Index</b>	

T scores were interpreted according to Table 3. T score is a standard score that provides the same mean and standard deviation for each scale, allowing for a direct comparison of the scores of the different scales.

**Table 3.** Rules for the interpretation of T scores for MASC

Range	Rule
<b>Higher than 70</b>	Very significantly above the mean
<b>66-70</b>	Significantly above the mean
<b>61-65</b>	Above the mean
<b>56-60</b>	Slightly above the mean
<b>45-55</b>	Mean
<b>40-44</b>	Slightly below the mean
<b>35-39</b>	Below the mean
<b>30-34</b>	Significantly below the mean
<b>Lower than 30</b>	Very significantly below the mean

MASC information was correlated with the results of the Children’s Depression Inventory (CDI) (Kovacs, M., 2012). The factor scales for the self-evaluation version are: Negative Mood, Interpersonal Problems, Inefficiency, Anhedonia and Low Self-Esteem. T scores higher than 65 are considered clinically significant if the minor child is part of a risk group. T scores of CDI as well as MASC were interpreted in the same way.

The questionnaires were applied in a quiet environment, in the presence of a parent. The patients were informed that there were no right or wrong answers. The legal tutors of the children gave their written informed consent for the participation of the minors in the study.

## Results

Of 15 patients with peripheral facial paralysis that were admitted to the Clinic of Pediatric Neurology Cluj-Napoca in the period May 2012 - March 2013, the MASC and CDI questionnaires could only be applied to 11 patients, because 4 children were aged less than 5 years. In the case of one patient, the questionnaires were incomplete and the patient was excluded from the study, so the questionnaires of 10 subjects were valid. The mean age of the patients was 13.4 years, with the following subgroups: young school age – 1 child, middle school age – 5 children, adolescents – 4 children. 60% of the group subjects were girls and 40% were boys. 60% of the subjects had grade II PFP, 10% had grade III, 20% grade IV, and 10% grade V PFP. PFP was predominantly located in the left side (in 60% of the subjects). The results of the MASC and CDI questionnaires are presented in Tables 4 and 5. Patient no. 3 had an Inconsistency Index equal to 12, which shows that the answers to the MASC questionnaire were inconsistent. The other patients provided no inconsistent answers.

**Table 4.** Results for the MASC scale in the study group

No	Age/ years	Sex/ HB	Physical symptoms			Harm avoidance			Social anxiety			S/P	Total anxiety	ADI
			T/W	S/V	TS	P	AC	TS	H/R	PF	TS			
1	10	F/II	62	51	57	65	71	71	64	48	58	56	64	63
2	11	F/IV	59	65	63	54	61	58	55	65	51	61	64	66
3	12	F/II	64	53	58	64	58	62	67	69	69	60	68	67
4	12	M/II	42	54	46	62	54	59	51	62	57	51	54	48
5	12	M/II	49	37	42	66	47	57	39	44	40	54	46	48
6	14	F/V	43	39	40	51	58	56	39	37	37	34	38	42
7	15	M/II	45	41	42	58	50	55	45	53	48	46	46	43
8	15	F/II	84	70	79	60	61	62	64	49	59	67	74	77
9	16	M/III	49	34	40	39	50	45	51	46	47	51	34	43
10	17	F/IV	55	46	51	57	68	65	38	42	38	46	49	15

**HB**=Grade of facial paralysis according to House-Brackmann scale; **T/W**=Tension/Worry; **S/V**=Somatic/Vegetative; **TS**=Total Score; **P**=Perfectionism; **AC**=Anxious Coping; **H/R**=Humiliation/Rejection; **PF**=Performance Fear; **S/P**=Separation/Panic; **ADI**= Anxiety Disorder Index

**Table 5.** Results for the CDI scale in the study group

No	Age/ years	Sex/ HB	Total CDI score	Negative mood	Interpersonal problems	Ineffi- ciency	Anhedo- nia	Low self- esteem
1	10	F/II	51	54	56	47	50	51
2	11	F/IV	40	40	45	41	42	46
3	12	F/II	47	50	56	52	42	46
4	12	M/II	38	38	42	44	41	40
5	12	M/II	42	38	42	44	48	46
6	14	F/V	44	54	43	38	45	45
7	15	M/II	42	39	44	53	44	40
8	15	F/II	46	48	43	38	52	45
9	16	M/III	42	44	44	38	48	45
10	17	F/IV	58	64	64	59	45	58

## Discussion

The results obtained should be interpreted in the context of the immature psyche of the child and of the time of evaluation. All children were hospitalized in the Clinic of Pediatric Neurology, they were under treatment, the evolution of the disease was favorable for all patients (but at different stages), and their pathology was less dramatic compared to that of the other hospitalized children, such as those with cerebral palsy. The mean hospitalization duration was approximately 2 weeks. Also, the patients had no contact with their social environment, which is why they had no feedback from their entourage. Facial myogymnastics under visual self-control, in the front of the mirror, allows the child to observe facial asymmetry, as well as to have positive feedback due to the small improvements achieved. The acute onset of PFP in adult patient causes anxiety disorders and if organic disease persists, depression specific symptoms can also be evidenced (Bradbury E.T., Simons W., Sanders R., Psychological and social factors in reconstructive surgery for hemi-facial palsy. *J Plastic Reconstr Aesth Surg*, 2006). In our study, only 3 patients had an Anxiety Disorder Index higher than 65, but subject 3 provided inconsistent answers (possibly because of the “puberty crisis”, bravado behavior and the wish to distort reality). Patient with a score 77 of Index Anxiety Disorder suffered from epilepsy with generalized seizures and was under treatment antiepileptic. This chronic epileptic disorder could explain such a high value of Index Anxiety Disorder. One of the children had an Anxiety Disorder Index above the mean, 2 children had values in the mean range, and the rest of 4 had below the mean values. It could not be determined whether the changes in items with high scores of the MASC questionnaire were present prior to the onset of PFP.



The evaluation of the results of the CDI questionnaire showed that no patient had depression symptoms, which can be explained by the short evolution of the disease until the time of testing. However, this testing allowed to exclude the cases with depression developed prior to PFP onset. The children should be recalled at 6, 9 and 12 months for the reapplication of the CDI questionnaire. On the CDI questionnaire, 4 subjects had a mean level of negative mood and 3 children had above the mean levels of interpersonal problems. In contrast, more than half of the subjects had mean anhedonia levels and 70% had mean self-esteem levels. It is possible, under the conditions of the partial recovery of the lost function and without adequate psychological support, that the children might develop depressive disorders. By correlating the results of the MASC and CDI questionnaires, it can be seen that the patient with the highest total CDI score (58), with Negative Mood (64) and Interpersonal Problems (64) also had Anxious Coping (68). There were no correlations between the PFP grade and the MASC or CDI indices.

In future studies, the subjects should be re-evaluated using both the MASC and CDI questionnaires for tracking symptoms of anxiety and depression. In order to observe the way of representation of the disease for children in various age groups, the application of a questionnaire assessing the “identity” aspects of the disease should have been necessary.

Also, a study performed in a larger group of patients, even a multicenter study would be required given the low prevalence of the disease. Children with problems evidenced by the applied questionnaires, even if showing only subscale changes, will also have to be evaluated by psychiatric clinical examination.

## **Conclusions**

Peripheral facial paralysis in children may cause anxiety disorders at all or some subscale levels. A psychological evaluation within two weeks from the onset of the disease can evidence anxiety phenomena. It is important to detect these aspects as early as possible and to treat them in order to avoid the development of pathological anxiety, major depression or dysthymia.

## **Acknowledgement**

This study was financed by the POSDRU project 88/1.5/S/78702.

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## IDENTIFICATION OF STUDENTS WITH TALENT IN THE TECHNICAL DOMAINS

ANGHEL IONICA-ONA\*

**ABSTRACT.** The technological evolution requires a constant innovative perspective and from this point of view innovation is the result of the creativity among the working and extremely gifted persons. There are the inventor engineers who actually have turned their potential technical talent into fact. In this paper we wish to synthesize generally the problem of the identification of gifted and talented people, and to point this with data from the studies concerning directly the identification of the persons with technical talent. Theoretical information will support the development and validation of an instrument able to identify the technical talent among the students. That is the auto-nomination inventory of talent in the technical area, the evaluation and validation process of which we'll submit in this study.

**Key words:** *giftedness, talent, technical talent, identification methods, identification tools, inventory*

**ZUSAMMENFASSUNG.** Die Identifizierung von Studenten mit Talent im technischen Bereich. Die technologische Entwicklung erfordert eine ständige innovative Perspektive. Aus dieser Sicht ist die Innovation das Ergebnis der Kreativität bei den arbeitenden und sehr begabten Personen. Die Erfinder-Ingenieure sind die, die tatsächlich ihr potentiell technisches Talent zur Realität entwickelt haben. Wir möchten durch dieses Werk das Problem der Identifizierung von begabten und talentierten Personen synthetisieren, und dies mit Daten aus den Studien deuten, die unmittelbar die Identifizierung der Personen mit technischer Begabung zeigen. Die theoretischen Informationen unterstützen die Entwicklung und Validierung eines Instruments, welches in der Lage ist, die technischen Begabungen von Studenten zu identifizieren. Das ist das Autonominierungsinventar der Talente im technischen Bereich, das Prozess der Evaluierung und Validierung, von dessen wir in dieser Studie vorlegen werden.

**Stichwörter:** *Hochbegabung, Talent, technische Begabung, Identifikations-Methoden, Werkzeugen für Identifizierung, Inventar*

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## 1. Identification of the Technically Talented Persons

Inquiries made in understanding and defining the technical talent, as a specific form of giftedness and talent, led us to the identifying of two categories: some came from the field of the psycho-pedagogical excellence research (J., Feldhusen, 2005, F., Gagne, 2009, C., Crețu, 2009, J.S., Renzulli, 2005, K., Heller, 2005) and the other from the engineers' area, who were interested in the subject of the giftedness because they wanted to understand the mechanisms generating the invention (V., Belous, B., Plahteanu, 2007, Moraru, 1980).

In this paper we consider the technical talent as the expression of the superior endowment in different areas of technical field, as the excellence, demonstrated by an outstanding performance in this field or as a potential of excellence demonstrated by the results in various forms of evaluation.

Mayer synthesizes the favorite position of the experts about the ways of identifying the gifted and talented persons and indicates two directions: on the one hand there are the researchers who support the identification of the high gifted persons rather appealing to the abilities or achievement tests, on the other there are the supporters of the identifying them rather by appealing to the evaluation of the performances (Mayer, 2005).

Thus, some assessment of cognitive skill tests are often used in the research: Terman, 1925, prefers Stanford Binet's sets of intelligence tests; Robinson, 2005, sustains measuring the cognitive skills through the traditional psychometric evaluation, that is an objective assessment of the academic results, Sternberg, 2005, uses in his research and validates the tests measuring the cognitive abilities that define intelligence of the success (creative, analytical and practical skills), joined together in the "Sternberg Triarchic Ability Test" with its different levels; Gagne, 2005, chooses for his specific programs those people that prove remarkable knowledge and talents, that places them in the first 10% among their equals. These methods of identifying the highly qualified people are criticized for assessing behaviors out of the context (Pluker, 2005) or because of their inefficiency in detecting the specific talents (R., Subotnik, L., Jarvin, 2005).

On the opposite side are the supporters of identifying gifted and talented people on the base of them performance. Jeltova, Grigorenko, 2005, prefers the identification of the performance in different academic tasks by comparing peers. The authors aimed especially the within-schools competitions, but they don't exclude other types of tasks; Heller, Perleth, Lim, 2005, militate for "searching talents" through teacher's use of the nomination guides; R., Subotnik and L., Jarvin, 2005 sustain the nominations made by the ones involved in the education of the subjects – that is, the teachers and the family members; Van Tassel-Baska, 2005 – prefers the personal portfolio or performance evaluation. These methods are criticized because of their low reliability.

More and more authors recommend the use of a battery of instruments that combine the traditional identification methods (intelligence, knowledge and/or aptitude tests, school grades, teachers' recommendations) with the non-traditional ones (nonverbal skills tests, creativity tests, portfolios, performance evaluation, parents', peers' and other community members' recommendations, interviews, questionnaires, letters of recommendation) (Leung, Conoley, Scheel, 1994, Sternberg, 2005, Joyce van Tassel Baska, 2005).

Investigating the way to find people with technical talent, we have identified several strategies already used in practice, which we'll review here.

### ***1.1. Nomination made by peers and teachers***

F., Gagne proposed a tool in order to identify the gifted children through the nominations made by their peers or teachers. After several years of research he managed, together with his working team, to develop an instrument not to be challenged in its validity, allowing a rapid identification of the children who display a wide variety of top endowment or talent. It describes 42 skills corresponding to four areas of skills (intellectual, creative, socio-emotional, physical) and to other four areas of talent (academic, technical, artistic and interpersonal). Because we are interested in technical skills, there's the description of the psychological profiles derived from them (F., Gagne, 1995):

- Driver: skilled in working with the technical equipment, repairing simple mechanisms;
- Scheduler: very good with computers, learns by himself new programs, doesn't ask for help when a program does not work;
- Skillful: talented in inventing, designing and building all sorts of things.

### ***1.2. Teachers' nomination by using evaluation scales or guides of evaluation***

The measuring subscale of the technical talent (Del Siegle, 2004) from *the Scale for Rating the Behavioral Characteristics of Superior Students* (SRBCSS), Renzulli, 2004, is an example of a nomination scale used by the teachers, which is specifically concerned also on the technical skills of the secondary school students.

Based on the three-ring model for understanding the higher endowment, Renzulli and his teamwork developed the Scale for Rating the Behavioral Characteristics of the Superior Students, which assesses several categories of talent, including the technical one. The scale of rating the technical talent is centered on four main characteristics: expertise in using the technology, interest and initiative in using technology, assisting others in using technology, creative integration of technology. Below we describe each factor:

- Expertise in using the technology: earlier and/or faster acquisition of the technical skills than the most, easy transfer of the knowledge between different types of technologies or between different types of software programs;
- Interest and initiative in using technology: experimentation and individual learning of using different technologies, desire of expansion and satisfying his own interests in engineering;
- Mentoring in technology: assisting others in using technology;
- Creative integration of technology: creating new products (articles, presentations, etc.) by using ingeniously the technology.

### ***1.3. Combined use of the standardized and non-standardized methods***

The “STEM” concept, an acronym for science, technology, engineering and mathematics, was created in the U.S., by a group of researchers interested of the superior endowment and talent, in order to develop an optimal learning environment for inventors and scientists, which is aimed to meet the future needs in terms of the life’s quality growth, economic competitiveness and national security (Subotnik and all, 2009).

In order to investigate the tendency of identifying the high school students who might fall into the category of the “STEM” talent, there has been started a national study, yielding a statistic about the frequency of using different methods of evaluation, in four categories of programs: specialized schools, apprenticeship programs, school competitions, summer classes. The specialized schools use standardized tests like SAT - Scholastic Achievement Test (Benbow, Lubinski & Sanjana, 1999, quoted by Subotnik, 2009) and school performance in 44%, together with the recommendations and the nominations of teachers, on special interest in STEM disciplines, or interviews and essays referring to the interest in STEM disciplines in 28%. The apprenticeship programs require, in their admissions programs, the demonstration of the interest in STEM fields. Adjacent to that are the high results on standardized tests (50%) and local test results (25%). The access to the national school competitions isn’t restricted to any result of the standardized tests; there are some competitions that require the demonstration of interest in STEM fields, such as “Discovery Channel Young Scientists Challenge” or “Intel Science Talent Search”.

The study shows the use of a wide range of methods in identifying the talented students and youth in science, engineering, or mathematics, from those requiring a high degree of standardization, to the very free ones, and that depending on the purpose and specifics of each program.

## 2. Auto-Nomination Inventory for Identifying the Talent in The Technical Field

The research made in the special literature has demonstrated us that the access to a standardized instrument for identifying students with technical talent may be very difficult. Those led us to the need of developing and validate such an instrument. Based on the information gave by the research concerned with the identification of the talented people we took the results of a previous study, in which we identified the prototypical psycho-behavioral elements which are specific for the technical talent (O., Anghel, 2011). So we have developed and validated the Auto-nomination inventory for identifying the talent in the technical field - *"Inventarul de Autonominalizare a Talentului în Domeniul Tehnic"* (IATDT).

### 2.1. Designing the instrument

In the first stage we have followed the steps below:

1. literature review;
2. conducting investigation studies about the prototypical psycho-behavioral elements, which are specific for the technical talent, by opinion polls regarding this phenomenon, directed to the experts - university professors;
3. developing the proper items of the instrument;
4. reviewing the instrument through interviews with experts (6 professors from the Technical University "Gh. Asachi" in Iasi).

IATDT is structured according to three dimensions of the technical talent (Table 1) derived during the process of documentation and investigation the teachers' view about the talent in the technical field.

**Table 1:** The three dimensions and their corresponding sub-dimensions

Dimensions	Expertise in using technology	Interest and initiative in using technology	Creative integration of technology
Sub -dimensions	Intuition of the ways of solving technical problems	Passion for the technical problems	Identifying the creative solutions to the technical problems
	Ability in practical implementing of the theoretical knowledge	Curiosity for discovery and continuous exploration of the technical field	Capacity in transposing the available data after the analysis and/or the synthesis of the information, in an original manner
	Easy handling of the laboratory equipment	Manifesting an open and flexible position to the innovation of the technology	Creating original objects



The first IATDT form contains 21 items. It requires a measure corresponding to a choice of subject's characteristic on a scale from 1-6, where 1 = "it characterises me in a very little measure", and 6 = "it characterizes me strongly". Here it is the items of the instrument in phase one of our study:

1. I can intuitively find ways of solving the specific problems of the technical disciplines.
2. I have a vast bank of knowledge which facilitate me to solve the difficult practical situations.
3. I understand and learn the information offered by the teachers faster than my colleagues.
4. I know how to use more instruments, tools, equipment, software than most of my colleagues.
5. I learn quickly to handle the newly presented equipment and laboratory facilities.
6. I can quickly understand the cause and effect relationships to specific phenomena or different mathematical models.
7. I can transform a specific phenomenon into a mathematical or informatical model.
8. I'm passionate about various issues posed by the development in technology.
9. I am excited to discover new aspects of the technique.
10. I am curious to find the roots, the sources that were at the basis of some very modern products (equipment, techniques, software, etc.).
11. I learn by myself how to use software programs which facilitate the work in my field of (technical) interest.
12. I like to experience the operation's way of a machine or a software program applied to a new situation / problem.
13. I spend extra time in order to develop my technical skills and knowledge necessary for my passion in the technical field, often in contradiction to my school study.
14. I am often absorbed in a particular subject or a technical problem.
15. I find creative solutions to some problems posed by different domains of the technical field, to which my colleagues do not usually think.
16. I rephrase a technical situation (problem, concept, etc.) in a new way after analyzing the available data.
17. I use my theoretical and practical knowledge in order to get creative products (robots, models, software, presentations of some research results, etc.).
18. I can issue a large number of ideas about a variety of technical topics.
19. I like to modify, adapt, and transform technical projects or software programs in order to enhance them.

20. I am very careful, attentive to the details when working on an interesting project for me.

21. I imagine solving some problematic situations by offering fantastic solutions.

## 2.2. Validation of the instrument

For the second stage we proceeded to the establishing of the validity through a factorial analysis and to the establishing of the fidelity by analyzing the internal consistency of the scale and items.

We have applied the questionnaire to 210 students of the Technical University "Gh Asachi" from Iasi in May 2011.

To analyze the factorial validity there has been applied the method of the exploratory factor research through the principal components analysis (PCA) and Varimax rotation, according to the data processing procedures in SPSS (Pall, J., 2001, pp. 151-167). Thus the 21 items of the autonomation inventory were subjected to their reduction into factors. The Kaiser-Mayer-Okin Value, that is 912, indicates that we may confidently proceed to the factorization. This is supported also by the high value of Bartlett's Test of Sphericity, which is 3933.810.

The *Eigenvalues* evaluation of the indicators and the evaluation of the schedule resulted after the Catell's Scree test indicate a clear break after the third component and therefore it determines us to remember just these three for further investigation. The total variance of 52.224, in which the first factor contributes with 37.374%, the second with 8.494% and the third with 6.356%, indicate a good factorial validity of the built instrument.

To calculate the saturation of the items in each factor there has been proceeded to the Varimax method of rotation (Table 2). We should specify that the saturation values of below 0.50 of the items 13 and 14 forced us to eliminate these from the future investigations.

**Table 2:** Saturation of the each item of IATDT in the components

Items	Factors		
	Passion	Theoretical Expertise	Creativity
1		0.705	
2		0.702	
3		0.712	
4	0.555		
5	0.535		
6		0.707	
7		0.624	
8	0.754		
9	0.799		

Items	Factors		
	Passion	Theoretical Expertise	Creativity
10	0.704		
11	0.529		
12	0.698		
13			
14			
15		0.577	
16		0.514	0.572
17			0.710
18			0.587
19			0.652
20	0.610		
21			0.519

In order to check the fidelity of the scale there was chosen the method of the internal consistency analysis by calculating the index of the alpha coefficient. The 19 retained items were subjected to the statistical calculations using SPSS (Howitt, D., Cramer, D., 2006). The alpha crombach index being 0.904, it has been proved that we have a very good internal consistency and therefore a scale with a high fidelity. We also calculated the alpha crombach index for each of the three dimensions: the size of the alpha crombach index for Passion is 0.8588, for the size of the Technical Expertise is 0.8585, and for Creativity that is 0.7181.

The obtained results after validating through statistical procedures determine us to believe into a trustworthy use of the developed tool.

### 3. Conclusion

Students with talent in technical domains are especially important resources not only for universities but also for the reason that they will become the engines of change and economic development of our society. In these conditions there is required that the proficient students to be supported in order to become the so-called "knowledge workers".

Any supporting program for the gifted and talented people can start only if the issues related to conceptualization and identification were clarified. On the occasion of this work we wanted to point out the absence of a tool for identification of technical talent especially manifested by the youth, and to contribute with a new instrument, developed for this purpose.

### Acknowledgements

This paper is part of my doctoral thesis named *Educational Policies and Strategies to Support and Promote the Talent in Techical Domains*. I wish to express my gratitude to my scientific coordinator, Ph Crețu Carmen Mihaela, for mastery with which she guided me in my research.

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## **AN INQUIRY INTO THE ECOLOGICAL OPINIONS AND ATTITUDES ADOPTED BY MANAGERS AND EMPLOYEES HIRED IN THE INDUSTRIAL SECTOR**

**CARMEN MIHAELA OLTEANU\***

**ABSTRACT.** In recent decades the issue of environmental strategies and behaviour of employees from industrial enterprises for environmental protection, based on proper understanding of the concept of sustainable development was addressed by many international organizations and many researchers. Our investigations have shown the usefulness of the exploratory correlative research in order to highlight the factors involved in forming and expressing ecological opinions and attitudes and their implementation the protection of the environment. Based on these factors, we also are underlining, among other things, the importance of corporate social responsibility.

Starting from the investigated socio-professional categories we believe that it is possible a future community-wide expansion of the influence, especially drawing on the educational roles performed by the specialists and the models they provide to the community members, in general.

**Key Words:** *social representations, social ecological representation, opinions, attitudes, pro-environmental attitudes, ecological behaviour, the new ecological paradigm, social responsibility of enterprises, sustainable development, sustainability*

### **1. Theoretical premises**

Many researchers have pointed out that discrepancy between ecological attitudes and behaviours represents one of the main issues which research in the area of ecology is facing. Structurally, ecological attitudes, as any attitude, constitute a unity comprising three types of components: cognitive, affective and behavioural ones (Abrie, 1994; Hwang, Kim, Jeng, 2000; Vaske, Kobrin, 2001).

It has been found that at present the opinion according to which there are *several ecological attitudes* is commonly shared since a person can have a negative attitude towards a certain ecological issue and a positive one towards other issues (Moser, 2009).

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Attitudes concerning different ecological problems, as revealed by the measurements performed by Dunlap and Van Liere (1978), i.e. population, pollution, natural resources, and regulations adopted for environmental protection, have proved not to be strongly correlated.

Marguerat's and Cestre's (2002) analysis of research concerning ecological attitudes reveals that some research works have identified feeble correlations between ecological consciousness and the action of supporting environmental reforms (F.H. Buttell and W.L. Flinn, 1976, quoted by D. Marguerat and G. Cestre) (02). On the other hand, J. W. Lounsbury and L. G. Tornatzky (quoted by Gray, 1985) have analysed 78 ecological attitudes, which illustrate three main dimensions: *environmental degradation, overpopulation and pro-environmental actions*.

If some authors supported the idea of a general attitude towards ecology, others stated that such an attitude cannot have a single dimension and added that opinions about the complex domain of ecology are not simple, but rather complex and multi-dimensional (Gray, 1985; Steg, Sievers, 2000), a thesis which is valid today, too.

During the last decades, the issue regarding ecological strategies and the behaviour adopted by employees hired in industrial enterprises in order to protect the environment, issue which implies an adequate understanding of sustainable development, has been approached by a large number of international organizations (UNO, European Commission, UNESCO etc.) and researchers (Kals, Montada, Schumacher, 1999; Hwang, Kim, Jeng, 2000; Capron, Quairel-Lanoizelle, 2007; Caillaud, 2010).

The study belongs to the research works performed with a view to demonstrating the necessity of analysing ecological attitudes and behaviours for increasing social responsibility of enterprises.

## **2. The objectives, hypotheses and instruments of the inquiry**

**The objective of this inquiry** is to bring into evidence the economic and ecological opinions, attitudes, strategies and policies that are specific for managers and employees hired in industrial enterprises regarding environmental protection.

**The hypothesis** we took as a starting point in this inquiry is the following one: it is supposed that currently there is a medium level of awareness as regards the necessity to put into practice economic and ecological opinions, attitudes, strategies and policies, as they were identified in the domain of industrial enterprises regarding environmental protection.

**Surveyed subjects:** 30 professionally active persons, coming from different branches of economy and aged between 20 and 67; the highest percentage was recorded for the following ages: 35, 37 and 51.

**The instruments used in this inquiry were:** *ECO-Balance Questionnaire regarding the Ecological Opinions and Attitudes Adopted by the Personnel Hired in Enterprises*, elaborated by us, and the *NEP (New Ecological Paradigm) Scale* – elaborated by Dunlap, R.E., Van Liere, K.D., Merling, A.G., Jones, R.E. (2000).

- **The Eco-Balance Questionnaire** approaches the following aspects: actions meant to raise ecological awareness, encourage environmental education and opinions regarding the impact of environmental measures over enterprise development within the present competitive environment, the opinion concerning the impact of an “ecological charter” of the enterprise, the attitude towards financing ecological policies and measures that are adopted in the enterprise, the opinion regarding environmental objectives and actions compatible with enterprise development, adequate environmental behaviour adopted by the management of the enterprise and the employees.

- **NEP Scale** facilitates a quantitative and qualitative analysis of the results obtained in consideration of the attitudes deriving from the new ecological paradigm, which is based on the main principles of sustainable development, through environmental individual and group behaviours and by putting into practice social responsibility of industrial enterprises and, in general, of economic institutions. NEP Scale hints at the following ecological aspects: *Anti-exceptionality* (the presumption that people reject the idea of human exceptionality, which assumes that human beings are above nature’s laws), *Anti-anthropocentrism* (which rejects the idea that nature would simply exist for serving and satisfying human interests and needs and the idea that nature lacks an inherent value of its own), *Limitation of growth* (the concern for the issues related to the ethical aspects implied by the exploitation and development of natural resources, the limitation of human interference in nature and the limitation of demographic growth in order not to surpass the sustainable capacity of the Earth), *Natural balance* (the idea of a natural balance endangered by inopportune human interference), *The ecological crisis* (the acute dependence of human beings on natural resources and the disastrous consequences of man’s interference in nature).

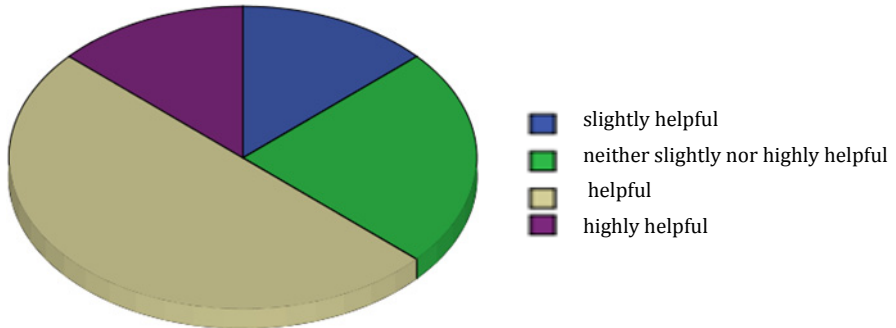
### **3. The results of the research**

**The hypothesis we adopted when starting this inquiry was confirmed.** *The level of ecological awareness and values specific for the investigated employees who pursue their activity in industrial enterprises is a medium one, as confirmed by medium percentages (50-57%) calculated for evaluating the level of ecological opinions and attitudes which employees in the enterprise sector share and manifest. The same medium or relatively low percentage (40-47%) was obtained as to the strategies and policies promoted by the management of enterprises, boards of directors and environmental trade unions through allotting financial resources for ecological and anti-pollution measures.*



We consider relevant the fact that 26.7% of the surveyed employees regard ecological measures to be *significantly* helpful for the future competitive and economic environment, while 43.3% of them consider that these measures are *of great* help for the future competitive and economic environment.

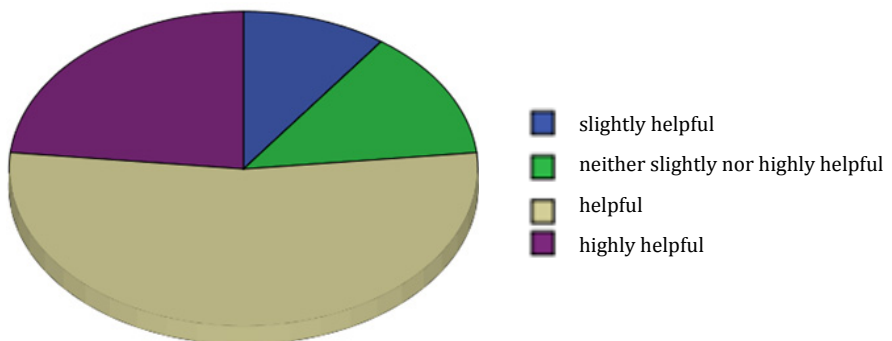
***The application of environmental protection measures in companies is a competitive advantage in the future competitive and economic environment.***



**Fig. 1.** The percentage calculated for subjects who consider that the application of ecological measures in enterprises constitutes an advantage for the future competitive and economic environment.

However, it is of significant importance the fact that 53.3% of the surveyed subjects consider that *signing an ecological charter within the enterprise where they are hired is the ideal method whereby the entire personnel is bound to respect and protect the environment.*

***The signing of an “internal ecological charter” in the enterprise would be helpful for protecting the environment.***



**Fig. 2.** The percentage calculated for subjects who consider that signing “an internal ecological charter” in their enterprise would be helpful for environmental protection.

The answers given by the surveyed subjects on the basis of the NEP questionnaire suggest that for one in the fifteen interrogated items *most of the surveyed subjects support positive convictions and attitudes towards nature and the environment* (Table 1).

**Table 1.** Percentages of the answers given to the NEP (New Environmental Paradigm) Questionnaire items

	Totally agree	Agree	Do not know	Disagree	Totally disagree
1. We come close to a limit as to the number of human beings which the Earth can sustain.	45.5%	30.5%	10%	5%	
2. Man is entitled to modify the environment according to one's needs.		10.5%	9.5%	48.5%	31.5%
3. Human interference in nature often has disastrous consequences.	68.5%	24.5%	7%		
4. Human skill is a guarantee of the fact that the situation in which the Earth would become unfit for living is not plausible.	55.5%	20.5%	24%		
5. Man seriously abuses the environment.	71.5%	28.5%			
6. The Earth has enough natural resources; we only have to learn how to exploit them.	24%	25.5%	15.5%	20%	15%
7. Plants and animals have the same rights to life as human beings.	39.5%	35.5%	10%	15%	
8. Natural balance is strong enough to face the impact caused by industrialized countries.		10%	10.5%	65%	14.5
9. In spite of our special abilities, we - as human beings - are subject to nature's laws, as well.	80.5%	15%	4.5%		
10. The so-called "ecological crisis" which mankind would be facing is far-fetched.		10%	5%	50%	35%
11. The Earth is like a spaceship which has a little space and little resources.	45%	34.5%	5.5%	15%	
12. Man is meant to rule nature.	4.5%	5.5%	10%	49.5%	30.5%
13. Natural balance is extremely fragile and can be easily broken.	55%	35.5%	9.5%		
14. Eventually man will have so much knowledge regarding the way in which nature functions that he will be able to control it.		8.5	11 %	45.5%	35%
15. If things continue to evolve as they have done so far we are soon going to face a disastrous ecological calamity.	25.5%	34.5%	5.5%	24.5	10%

On the whole the results of the present study agree with different Western research activities performed in the area of ecological attitudes and behaviours characteristic of employees hired in industrial enterprises and other economic organizations (Berger-Douce, 2006; Cabagnols, A., Le Bas, C., 2006). Thus, it

has been found that opinions, attitudes and behaviours adopted by employees in relation to the environment are determined to a great extent by the interaction of three categories of factors: *psycho-social, economic and ecological ones*.

#### **4. Results interpretation**

Employees hired in the industrial sector consider that future enterprise competition and development, related to a sustainable and long-term economic growth, requires the adoption of environmental measures. However, these measures depend to a great extent on allotted financial investments, which unfortunately are insufficient at present, as well as on a form of management that encourages the use of ecological technologies and also on the involvement of all employees, managers and trade unions in ecological actions.

The analysis of results obtained through the application of *NEP Scale* and *The Eco-Balance questionnaire* confirms that employees hired in the industrial sector *reject the "anthropocentric" perspective of the world*, according to which man rules nature and the environment is important only as long as it satisfies human needs by any means.

On the contrary, surveyed subjects predominantly have an *"eco-centric" perspective*, are aware of the limited natural resources and the possible emergence of an ecological crisis, considering that ecological attitudes and behaviours must be encouraged. It can be concluded that as to the surveyed subjects one can notice a link between, on the one hand, their personal opinions, values and norms regarding ecological behaviour in industrial processes and, on the other hand, the perspective they have as to environmental protection. According to the *"eco-centric" perspective* measured through *NEP Scale*, the representation of the world is based on the idea that the environment is a complex system within which flora and fauna interact, as natural resources, and their use by human beings are closely linked. Thus, one can consider that *"eco-centric" opinions and beliefs* may predict ecological attitudes and behaviours, as well as the adoption thereof within the long-term and sustainable development paradigm.

#### **5. Conclusions**

The present study demonstrates the usefulness of the research work performed in the field of environmental psychology, which we regard as a border discipline between social psychology and organizational psychology. So far, in our country, *social, societal and ecological* components – characteristic of *social responsibility manifested by industrial enterprises* – have not been properly emphasised. That is why we suggest that at enterprise managerial level it is necessary to apply the principles of *Environmental psychology* and *Organizational*

*psychology* offering, thus, more opportunities for employees to participate in environmental activities and to influence decision-making processes in the field of ecology; the result would be a positive pro-environmental influence on the *economic, industrial and competitive field of activity*.

Prudent exploitation and use of the natural patrimony values, the proper settlement of the vital ecological problem requires the creation of a new – coherent and active – ethics that would regulate the relation between humans and the environment with a view to preserving ecological values; in other words, it is necessary to adopt attitudes and behaviours which are in favour of a prudent exploitation of natural resources.

We consider that the analysis of social representations, ecological opinions and attitudes constitutes a starting point and a valuable source of information for supporting decision-making factors and promoting, as well as evaluating the efficient initial and continuous training programmes which are offered to different categories of specialists who provide ecological education to citizens.

Starting from the investigated socio-professional categories we believe that it is possible a future community-wide expansion of the influence, especially drawing on the educational roles performed by the specialists and the models they provide to children, young people and, in general, to community members.

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## EXPERIMENTAL DATA ON THE CHOICE OF THE THEME FOR BACHELOR'S THESIS BY STUDENTS

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**ABSTRACT.** Development of the bachelor's thesis is one of the most important and representative moments of a student's academic progress. In fact, the graduation bachelor's thesis indicates the written expression and synbachelor's thesis of knowledge, skills and research abilities acquired during the years of study. However, there are relatively few studies that address this issue in an empirical manner. Considering this fact, this article focuses on identifying the main factors guiding the student in choosing a specific theme for the bachelor's thesis, the steps taken and time spent to develop it and the issues on which the graduate is focused upon during the presentation. Based on the interpretation of the collected data, a set of conclusions is formulated aimed at identifying opportunities to optimize the coordination activity of the theses.

**Keywords:** *bachelor's thesis, factors, orientative coordination, stages of bachelor's thesis development, work time, self-assessment criteria of the bachelor's thesis, indicators of the success of the bachelor's thesis presentation.*

**ZUSAMMENFASSUNG.** Die Ausarbeitung der Bachelorarbeit ist eines der wichtigsten und maßgeblichsten Zeitpunkte in der akademischen Entwicklung eines Studierenden. Diese wissenschaftliche Arbeit zum Abschluss des Bachelor-Studiengangs stellt eigentlich eine schriftliche Konkretisierung und Zusammenfassung aller im Laufe des Studiums erworbenen Kenntnisse, Kompetenzen und Befähigungen dar. Allerdings liegen relativ wenige Studien vor, die auf diese Problematik empirisch eingehen. Daher richtet sich diese Arbeit auf die Ermittlung der Hauptfaktoren, die den Studierenden auf die Auswahl eines bestimmten Themas der Bachelorarbeit, auf die zur Ausführung der Arbeit zu unternehmende Schritte und auf die Zeitaufwand, auf die während der Verteidigung der Arbeit Rücksicht zu nehmende Aspekte ausrichten. Aufgrund der Auslegung der erfassten Daten sind abschließende Erklärungen abgefasst worden die dazu dienen, den einheitlichen Koordinationensvorgang von Bachelorarbeiten zu optimieren.

**Stichwörter:** *Bachelorarbeit, Richtfaktoren, Koordination, Schritte zur Ausarbeitung der Bachelorarbeit, Zeitaufwand, Auswertungskriterien der Bachelorarbeit, Erfolgsindikatoren für die Verteidigung der Bachelorarbeit.*

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## 1. Introduction

One of the fundamental criteria and indicators for assessing the prestige and value of a university is the quality and applicability of the theses/dissertations presented by the university's graduates. Studies in this area indicate that during this period, students allocate most of their time, energy and knowledge for the development and writing of the bachelor's thesis, which implies many cognitive, motivational, attitudinal and behavioral changes (Shih-Chuan Chen, Muh-Chyun Tang, 2011).

In this context, the role of the coordinating teacher is a determinant one, whose task is not only to assist the student in developing a consistent and logical structure of the paper, to guide the investigative approach or facilitate access to recent works specific to the chosen theme but also to provide adequate and constant motivational support. The success of writing a theses thus depends not only on valuable knowledge, cognitive capabilities and research skills of the student but also on his ability to use them alongside a very good communicational relationship with the coordinating teacher (Barrett, A., 2005).

No less important in ensuring the successful development of the bachelor's thesis is taking into account the individual particularities and specifics of each of the students. They are of various ages, have different social and cultural backgrounds, different life experiences as well as different cognitive resources, skills and work rhythms, which in turn require the existence of a very good familiarity of the coordinating teacher with the student. There are authors who further develop this idea by stating that the whole process of developing the bachelor's thesis is subject to the influence exerted by the type of relationship negotiated over the years of study between the student and the coordinating teacher based on more or less subjective criteria such as interpersonal compatibility, gender, ethnicity or religious orientation etc (Acker et al., 1994; Ellis, 2001). The importance of this fact is often emphasized in specialized literature, with authors such as Smith and West-Burnham (1993), Rademeyer (1994), Hockey (1996), clearly indicating the fact that the success of the design and writing of the dissertation bachelor's thesis also depends on the student's effort and skills as well as competencies, flexibility, interest and last but not least, the availability of the coordinator.

Moreover, other studies suggest that in the coordinating relationship of the bachelor's thesis/dissertation, the student often becomes the closest collaborator of the coordinating teacher, being deeply involved in the documentation and research of his mentor (McAlpine L. Weis, J., 2000), both of which are factors leading to an effective coordination of the bachelor's thesis and the insurance of its success (Affero, I., 2011).

Without disputing the importance of the relationship established between the student and the coordinating teacher in the development of the bachelor's thesis, we must emphasize the fact that the human dimension of the cooperation does not have to prevail in relation to the social one. Detailed knowledge of the way the student thinks and acts during the period of preparation and development of the bachelor's thesis, as well as factors influencing the effectiveness of his cooperative relationship with the coordinator constitute the fundamental premises of the optimization of this interaction and thus ensuring successful conditions for the graduation.

## **2. General Overview of Research**

Although most authors in this field acknowledge the fact that the process of developing the bachelor's thesis is a difficult one and the quality of these works substantially influence both the subsequent academic course of the students and the prestige of the university in question, most studies address this problem from a predominantly theoretical perspective. Based on this finding, the fundamental purpose of our study is to address the theme of the development process of the bachelor's thesis through an investigative approach, with the starting point of immediate educational reality and based on data provided by concrete empirical research.

The major objectives of our research are the following:

- Identifying the main factors guiding the student in choosing the bachelor's thesis theme;
- Indicators based on which the student perceives his own bachelor's thesis as a success;
- The period of time considered necessary for the optimum development of the bachelor's thesis;
- The percentage that the bachelor's thesis should have regarding the final grade, in the opinion of the students;
- Identifying key criteria that students consider to be crucial regarding the grading of the bachelor's thesis;
- The chronology of steps taken by the students in the development of the bachelor's thesis;
- Elements of focus for the students during the presentation of the bachelor's thesis.

The primary method used to achieve the objectives mentioned above was the questionnaire method combined with the interview method. The questionnaire included a number of eight semi-open items, six of which are single-choice and two requiring the ordering of the answer options. The sample of subjects included a total of 206 students in the final years of Pedagogy and



Pedagogical education in primary and preschool learning. The processing of the results was performed using SPSS, with the main used indicators being frequency distribution, modal value, rank and rank correlation coefficient.

### 3. Presentation of results

The first objective of our research has been focused on the range of factors that guide the students to a specific theme option for the bachelor's thesis. The data obtained is shown in the table below.

**Table 1.** Factors influencing the choice of subject for the bachelor's thesis

Answer option	N	%
The challenging nature of the topic	56	27.2%
Multitude/variety of bibliographic sources	52	25.2%
Preoccupations in the field practiced during the course of studies or previous to them	48	23.3%
The simplicity of the chosen theme (minimum investment of mental, physical and temporal effort)	28	13.6%
Identification of a teacher willing to coordinate a work on your approved/ proposed theme	20	9.7%
Other choice	2	1.0%
	206	100%

As we can see in Table 1, we may distinguish grouping factors guiding the choice of a theme in two categories: the first and most significant include the novelty of the topic, the existence of bibliographic resources and previous preoccupations in the field while the second combines factors deemed less important: the simplicity of the theme and the identification of a teacher willing to accept a coordinating role. Thus, most of the surveyed students (27.2%) stated that the main factor that directs attention towards a specific bachelor's thesis subject is its challenging nature. The second factor of importance is the multitude and variety of bibliographic sources, as expressed by 25.2% of the students. Previous preoccupations in this field are among the options of 23.3% of the students. In contrast, the category of factors deemed to be less important in choosing a specific theme for a bachelor's thesis include the simplicity of its preparation, as voiced by 13.6% of subjects and the identification of a teacher willing to assume coordination, important only to 9.7% of subjects. From the "other choice" category, the most representative reasons that guide students towards the choice of a particular theme for the bachelor's thesis include the existence of certain people in their entourage who possess knowledge / skills in the field, personal life experiences related to the issues studied and the possibility of dwelling on the chosen issue at MA level.

Regarding the responses concerning criteria of self-assessment of the value and quality of the developed bachelor's thesis, the results are presented using Table 2.

**Table 2.** Highlights used in the self-assessment of the quality of the bachelor's thesis

<b>Answer option</b>	<b>N</b>	<b>%</b>
The results obtained or expected to be obtained from psychopedagogical research	38	18.4%
The mark received for the presentation	100	48.5%
Verbal assessments of the coordinator	20	9.7%
Opportunities for new investigations	46	22.3%
Other choice	2	1.0%
	206	100%

Analysis of the data from Table 2 allows us to notice the fact that, regarding highlights by which students perform a self-assessment of their own bachelor's thesis, the criterion that clearly stands out is represented, naturally, by the mark obtained during presentation, as supported by 48.5% of respondents. The second and third position, with relatively equal proportions, are occupied by the opportunities for new investigations (22.3%) respectively the results obtained or expected to be obtained from psychopedagogical research, as voiced by 18.4% of students. A less important criterion of self-assessment in terms of the value of the bachelor's thesis is concerning the verbal assessments of the coordinator (9.7%). In the "other choice" category, the most common self-evaluation criteria mentioned were those relating to the assessment of significant persons from their own entourage (parents, friends, etc.).

Another aim of our research is concerning the importance of the bachelor's thesis mark in relation to the final average graduation. The results obtained are shown in Table 3.

**Table 3.** The importance of the bachelor's thesis mark in relation to the final average graduation

<b>Answer option</b>	<b>N</b>	<b>%</b>
25%	12	5.8%
40%	8	3.9%
50%	86	41.7%
75%	92	44.7%
Other choice	8	3.9%
	206	100%

The option expressed in this regard by most of the students (44.7%) expressed the opinion that the mark obtained during presentation should represent 75% of the final average graduation while 41.7% of them consider

that the correct percentage should be 50%. The number of students who opted for another percentage is relatively low, respectively 5.8% of the students for the share of 25% and 3.9% for the share of 40%. It should be emphasized that within the "other choice" category, most students share a preference for 100%, which coincides with the return to the previous form of examination.

Data concerning the time students consider necessary for the development and writing of the bachelor's thesis is presented in Table 4.

**Table 4.** The time considered necessary for the development of the bachelor's thesis

Answer option	N	%
1 month	2	1.0%
2 months	39	18.9%
6 months	106	51.5%
More than 1 year	59	28.6%
Other choice	0	0%
	206	100%

We can notice, as can be seen in the table above, the fact that more than half of the students (51.5%) think that a period of six months is sufficient for designing, developing and writing the bachelor's thesis while 28.6% consider that they need a longer preparation time, respectively one year. A total of 39 students (18.9%) believe that two months would be sufficient to complete the bachelor's thesis and two students (1%) believe that they can finalize its implementation in just one month.

Another objective of the research was to identify the students' opinion on the criteria upon which the mark in the bachelor's thesis is based upon. The data obtained is shown in Table 5.

**Table 5.** Criteria regarding the bachelor's thesis mark

Answer option	N	%
The novelty of the theme	20	9.7%
Original theoretical developments	54	26.2%
The quality of the investigation	116	56.3%
The variety and actuality of the consulted references	14	6.8%
Other choice	2	1.0%
	206	100%

The vast majority of subjects (56.3%) believe that the fundamental criterion underlying the grading of the bachelor's thesis is the quality of the investigation undertaken. This choice is followed by the original theoretical developments criterion, as voiced by 26.2% of the students. Criteria regarding the grading of the bachelor's thesis such as the novelty of the theme or variety

and actuality of the consulted references are important to 9.7% and 6.8% of the respondents. In the "other choice" category, no other opinions designating significant grading criteria were identified.

Regarding the chronology of steps taken in the development the bachelor's thesis, the recorded data is summarily displayed in Table 6.

**Table 6.** Stages of the bachelor's thesis development

<b>Answer option</b>	<b>Mode</b>	<b>N</b>	<b>%</b>	<b>Rank</b>
Obtaining the consent of the coordinating teacher	1	106	51.5	1
Choice of the title	2	96	46.6	2
Development of the table of contents	3	124	60.2	3
Selection of bibliographic sources	4	114	55.3	4
Writing the theoretical part	5	78	37.9	5
Wording the hypothesis	5	68	33.0	6
Realization of the research scenario	7	90	43.7	7

The data presented in the table above show that the first step in the effort of developing the bachelor's thesis is finding a teacher willing to be the coordinator. Subsequent to this approach is the choice of the bachelor's thesis title. In third place, naturally, stands the development of the table of contents followed by the selection of bibliographic resources, writing the theoretical part, wording the hypothesis and, as a last step performed, realization of the psycho-pedagogical investigation.

Another concern is regarding the aspects the students say they want to highlight at the time of the presentation of the bachelor's thesis, items shown in the table below.

**Table 7.** Items highlighted in the bachelor's thesis presentation

<b>Answer option</b>	<b>Mode</b>	<b>N</b>	<b>%</b>	<b>Rank</b>
The originality of the paper.	1	54	26.2	1
The theme-hypothesis-research- conclusions correlation	1	52	25.2	2
The practical relevance of the work	2	58	28.2	3
Verbal fluency	2	36	17.5	4
Bachelor's thesis limits	6	52	25.2	5
Presentation of the studied bibliographic sources	6	50	24.3	6

The first position in the ranking of items that students state that they will highlight during the presentation of the bachelor's thesis is held by the originality of the document. In second place, at very small difference, is the presentation of the correlation between the subject treated, the working hypothesis, the research undertaken and the conclusions derived from the investigative effort.

The third and fourth positions are occupied by the emphasizing of the practicality of the bachelor's thesis and verbal fluency in the sense of a clear, logical and convincing presentation of the work. Less important are considered to be the experimental evidence or theoretical limits of the work or the presentation of the consulted references, elements that occupy the lowest positions among the aspects that students believe should be highlighted at the bachelor's thesis presentation.

#### **4. Conclusions**

The analysis and interpretation of the data presented above enables the formulation of the following conclusions:

- with regard to the factors guiding the student in choosing a topic for the bachelor's thesis we can notice that most of them are influenced by reasons such as its challenging nature, the multitude and variety of bibliographic sources necessary for the study in their chosen field or practice in the field during their studies or prior to them while only a small proportion said that their decision was driven by the theme, simplicity (minimum investment of mental, physical and temporal effort) or finding a teacher willing to coordinate a work on the subject; this actually shows a greater availability among students to address unique bachelor's thesis issues which require effort, intelligence, imagination and creativity, with a very rare tendency to choose a subject just because it is easy to realize;
- concerning the highlights used in the self-assessment of the bachelor's thesis quality, almost half of the subjects consider that the final mark is the main indicator of the quality of their work; however, highlights such as the results obtained or expected to be obtained from psychopedagogical research or opportunities for new investigations are considered as important criteria by over 40% of the students, a situation that indicates that not only the mark itself is considered important in the self-assessment of the bachelor's thesis but also the satisfaction in relation to the theoretical and experimental results obtained;
- concerning the fair value of the percentage that the bachelor's thesis mark should represent in the final average graduation, most of the subjects (48.6%) believe that it should be 75% or even 100% according to others, a situation that reflects, in our opinion, the anticipation of the large amount of physical and intellectual effort that the development of the bachelor's thesis incurs;

- the period of time deemed necessary for developing and writing the bachelor's thesis is about six months according to 51.5% of the students while 28.6% of them state that they need a year to achieve this endeavor; however, we can notice the fact that 19.9 % of them believe that they can complete the bachelor's thesis within 1-2 months, which can be explained either by shallow or low level of expectation in relation to the mark or the fact that the effective realization of the psycho-pedagogical experiment is optional;
- the category of the criteria based on which students believe they will be evaluated for the bachelor's thesis ranks in the first places the quality of the achieved experimental approach (56.3%) and the original theoretical developments (26.2%), while items like the novelty of the topic or the variety and actuality of the bibliography are considered to be less important; we may interpret this situation as an indicator of the maturity with which students engage in the development of the bachelor's thesis;
- concerning the order of the steps taken in the development of the bachelor's thesis it is noted, as could be seen in Table 6, that it is natural except that the starting point is not the choice of the theme but finding a teacher to accept the coordinating role and only then move on to shaping and formulating the title; this indicates a relatively low interest and initiative of students in the deepening of a particular aspect, namely the educational reality;
- in regard to the issues that the students state they will focus and highlight in the actual presentation of the bachelor's thesis we can notice that the following are required: the original character of the paper, the correlation theme-research-hypothesis-conclusions, the practical relevance of work and verbal fluency.

To summarize, although the vast majority of students are correctly and clearly aware of both the importance of the bachelor's thesis and the necessary steps required to achieve this objective, we may notice, however, that almost 20% of them treat this issue lightly by stating that they could complete it in two months or even one month. Another finding is the fact that more than half of respondents (51.5%) began the process of developing the bachelor's thesis by identifying a teacher willing to accept the coordinating role and not by choosing a topic of interest, an element that specifies both the low degree of their initiative and the existence of expectation from the students that the coordinating teacher will manifest a protective, parental relationship, rather than one of partnership and cooperation.

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## DISABLED CHILDREN SCHOOL INCLUSION IN MASS PRE-SCHOOLS

ANA-MARIA BĂIESCU\*

**ABSTRACT.** The school inclusion of disabled children in mass schools changed the schools principals' role and their relationship with inclusive education. A lot of research showed the principals' role is important in successfully applying the inclusion process. Thus, the principals' attitude towards the disabled children inclusion in mass schools may have either a positive or a negative impact. The results gathered after the data analysis in the study are important for the development and the implementation of professional training courses for teachers and for establishing some partnerships which offer the opportunity to interact with the included disabled children. These professional trainings will offer the opportunity to gain knowledge, skills and professional experiences which, in their turn, will lead to the increase of self-trust of being able to teach disabled children.

**Key Words:** *school inclusion, teachers' attitudes, disabled children*

**ZUSAMMENFASSUNG.** Die schulische Inklusion der Kinder mit Behinderungen in den Regelschulen änderte die Rolle der Schuldirektoren und deren Beziehung mit der inklusiven Bildung. Zahlreiche Forschungen der letzten Jahre zeigten, dass die Rolle der Direktoren wichtig für die erfolgreiche Umsetzung der Inklusion ist. Dadurch kann das Verhalten der Direktoren in Hinsicht auf die schulische Inklusion der Kinder mit Behinderungen in den Regelschulen entweder eine positive oder eine negative Wirkung haben. Die Ergebnisse der Datenanalyse dieser Studie sind wichtig für die Umsetzung von Lehrerfortbildungen und die Bildung von Partnerschaften die Interaktionsmöglichkeiten mit integrierten Kindern mit Behinderungen bieten. Diese Fortbildungen können Gelegenheiten um Wissen zu erlangen bieten, Kompetenzen und Berufserfahrungen, die zu einem erhöhten Vertrauen in die Fähigkeit Kinder mit Behinderungen zu unterrichten führen.

**Schlüsselwörter:** *schulische Inklusion, Haltungen der Lehrkräfte, Kinder mit Behinderungen*

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## Introduction

As the characteristics of an inclusive school go, Baglieri and Knopf (2004) claim that a truly inclusive one is the one reflecting a democratic philosophy which states that all pupils are evaluated, the teachers normalize the differences by differential instruction and the school's culture reflects an ethic built on communitarian responsibility.

Scruggs and Mastropieri (1996), in a complex analysis comprising 28 studies conducted between 1958 and 1995, concluded that while the majority of teachers in mass schools were in favor of the idea of school inclusion, a small percent of them considered to be ready to actually implement school inclusion programs. Teachers undergoing training classes in the field of inclusive education were more open to see inclusion as a possible to implement process and showed a higher confidence in their own skill of teaching inclusive classes. Further developing their research, the same authors showed in a recent study (2001) that the success of inclusion is associated with the support offered by the principals of the schools in applying correctly the process if inclusion. The manager is often the key person who can implement changes in school and develop new processes. The main responsibility is here a team-approach and maintaining focus on the key-aspects of school inclusion (Vrăsmaș, 2010).

Idol (1994) considers that the principals' support is decisive in order to implement inclusive practices, an idea underlined also by Daane et al. (2000). Gamos (1995) was talking about the role of a "visionary principal" who will accept the challenge of creating an inclusive environment for all pupils. The principals must support school inclusion in order to transmit these feelings to the teachers. Still, various research show that the principals' attitudes is often not positive, this effect affecting the whole inclusion process in schools.

The purpose of this study is to contribute to the better understanding of principals' attitudes nature and provide them with factual information regarding the reality of inclusive education in mass school, especially because these issues constitute an ever-expanding phenomenon at a global level, which can not be ignored.

The present study is based on the following objectives and hypothesis, having as purpose the investigation of mass pre-school principals' attitudes towards the school inclusion of disabled children into mass kindergartens.

## Objectives

*Research goal 1:* To investigate the nature of kindergarten principals' attitudes towards the inclusion of disabled children in normal kindergartens.

*Research goal 2:* To investigate the impact the type of child disability has upon principals' decision to include them in normal kindergartens.

*General hypothesis:*

Pre-school principals will show different attitudes towards the disabled children's inclusion, depending on some of their social and professional features and the children's disability type.

*Specific hypothesis 1:* The social and professional particularities of teachers and the school environment have a significant effect over their attitudes to the school inclusion of disabled children in mass kindergartens.

*Specific hypothesis 2:* The disability type of children influences significantly the decision the principals' take towards their inclusion in normal kindergarten.

### **Materials and Method**

The research took place in the spring of 2012, in Cluj-Napoca city, on a lot of subjects consisting of 35 mass pre-school principals, who answered an online survey on [isondaje.ro](http://isondaje.ro).

The research, structured in two main parts, is of quantitative type. For the participants' data analysis, descriptive statistics have been used. Also, in order to reach our objectives and verify the proposed hypothesis, we used a multivariate analysis design, because these types of analysis offer quantitative statistical data in order to identify complex relationships among variables.

The social and professional features of the participants: regarding the "gender" variable, as expected, for this educational level – pre-school – the majority of study participants (32 out of 35 principals) are female. Due to this reality, we didn't assess the existence of differences regarding attitudes towards school inclusion depending on this variable. Also, 22 out of 35 principals have more than 21 years experience in mass schooling, but more than a half don't have any experience in the inclusion of disabled children, while the rest of them have few years of experience in the inclusion process, between 1 and 3 years (8 out of 35 principals). Regarding the personal contact with children with various disabilities they manage, 29 out of 35 principals declared they have personal contact with this children. More than a half of the assessed principals stated that they didn't took part to any professional training courses in the field of inclusive education.

The instrument used in this research, the PIS Scale „*Principals and Inclusion Survey*”, Cindy Praisner (2003) consists of two sections: Section I: The SASI Scale, “*Superintendents' Attitude Survey on Integration*”, adapted by G.H. Stainback (1986) from „*The Autism Attitude Scale for Teachers*” (Olley et al., 1981) and Section II: „*Most Appropriate Placements for Students with Disabilities*”, Cindy Praisner (2003).

## Results

In order to examine the internal consistency of the PIS Scale, section 1, *attitudes towards school inclusion*, we calculated the Alpha Cronbach coefficient for the entire scale and for the entire participants' lot (N= 35). We obtained  $\alpha = 0,715$ , which means a good coefficient, very close to the internal consistency result of the original instrument obtained by the author, of  $\alpha = 0,889$  (Praisner, 2000).

Section I from PIS consists of 10 items, grouped under one sub-scale (Annex) among which 5 items have reverse quotation, while 5 have direct quotation. (Score interval: 10-50, resulted by summing the scores for all of the 10 items). Because there are two types of items, the score calculation towards favorable attitudes will go as follows: if the item has a direct quoting – strongly disagree = 1, disagree = 2, neutral / don't know = 3, agree = 4, strongly agree = 5, and if the item has a reverse quotation: iar dacă itemul este cu cotare inversă: strongly disagree = 5, disagree = 4, neutral / don't know = 3, agree = 2, strongly agree = 1 (Praisner, 2003).

We calculated the scores from the participants for the whole PIS Scale and then the means and the standard deviation which helped us to interpret the data. Because this scale was used for the first time in Romania for a participants' lot in mass pre-schools, with a reduced experience in school inclusion, we can not compare the results offered by the author with the results obtained in the present research study. Nonetheless, the indications offered by Praisner, 2003, allowed us to calculate the minimum and the maximum scores for the entire scale and each sub-scale, so we could measure the participants' tendency towards a more or less favorable attitude regarding school inclusion.

Thus, the principals' scores varied between a minimum score of 22 and a maximum score of 44, with a means of  $m=35,91$  and  $\sigma=4,86$ , which shows a slightly favorable attitude towards school inclusion among the investigated principals.

To compare the two principals groups, distributed according to the variable *personal contact with children with various disabilities*, we used the Mann-Whitney U Test, which considered one of the most powerful non-parametric methods. This test takes into account every result's rank into the general classification and serves to test the null hypothesis ( $H_0$ ), through which the scale scores distribution is the same in the population of principals who have in their kindergarten included disabled children, and in the population of principals who do not have in their kindergarten included disabled children.

We can observe that the scores distributions of the two scales don't differ in a significant manner (at  $p=0,05$ ) between the two principals categories, distributed according to the personal contact with children with various disabilities.

**Table 1.** Ranks mean calculation with Mann-Whitney U Test

Scale	Personal contact with children with various disabilities	N	Ranks mean	U	z	p
PIS section I	No	6	13,50	34,50	0,798	0,425
	Yes	29	18,42			

In order to compare the two groups of principals, parted based on the variable „being professionally trained in the field of inclusive education”, we also used the Mann-Whitney U Test, starting from the null hypothesis: the distribution of scale scores is the same in both populations: the one consisting of principals that were professionally trained in the field of inclusive education, and the one consisting of principals that weren't.

**Table 2.** Ranks mean calculation with Mann-Whitney U Test

Scale	Training course in the field of inclusive education	N	Ranks mean	U	z	p
PIS section I	No	20	15,90	108,00	1,404	0,160
	Yes	15	20,80			

We can observe that the scores distribution of the two scales don't significantly differ (at  $p=0,05$ ) between the two categories distributed according to receiving or not a professional training in the field of inclusive education.

Following the data analysis, we can conclude that the specific hypothesis which states that there are significant differences between the pre-school principals's attitudes towards inclusion, depending on the presence of included children in the educational unit and the completion of professional training in the field of inclusive education, can not be confirmed.

In the second part of the study we analyzed the way in which the disability type significantly influences the principals' decision to integrate disabled children into the normal pre-school.

For doing so, the next types of disabilities were presented to the principals: learning disabilities, intellectual disabilities, visual deficiency, auditory deficiency, speech impairments, physical disabilities, autism/pervasive developmental disorders, other health problems. The research subjects were presented with six school environments, placed on a continuum, from the segregation school environment to the inclusive school environment, having the possibility to choose among them the one that they considered to be best suited for the needs of disabled children, according to their disability type.

These school environments are: special education services, outside the mass kindergarten (in Special Kindergarten)-1, special education services within the mass kindergarten (in special classrooms)-2, partial integration in the mass kindergarten (schooling trial)-3, mass classrooms education and offering of

individual therapy in specialized consultation room / special education support -4, mass classrooms education for the largest part of the day-5, total mass kindergarten inclusion with special support / special education teacher assistant-6.

**Table 3.** The response frequency at items in Section II – PIS Scale for principals (N=35)

Deficiency type	Most appropriate placements for students with different disabilities					
	1	2	3	4	5	6
<b>Learning difficulties</b>	1		6	7		21
<b>Intellectual disability</b>	2	2	5	9	2	15
<b>Emotional impairments</b>	2	1	5	17	1	9
<b>Visual impairments</b>	15	5	4	3	2	6
<b>Hearing impairments</b>	13	6	7	2	1	6
<b>Language impairments</b>	2	1	3	12	1	16
<b>Physical disability</b>	3	2	9	5	3	13
<b>Autism / Pervasive Development Disorders</b>	3	4	6	12		10
<b>Other health issues</b>	2		7	6	3	17

The data presented in the table show us that half of the investigated pre-school principals consider that the hearing impaired children and visually impaired children (15 principals out of N=35) should be included in special pre-schools and more than half of the respondents consider that children with learning disabilities should be included in mass pre-schools if specialized support is provided for them (21 principals out of N=35). Also, almost half of the investigated principals place intellectually impaired children (15 principals out N= 35), physically impaired children (13 principals out N= 35), children with language deficiencies (16 principals out N=35) and other health issues (17 principals out = 35) also in mass pre-schools, if specialized care is provided.

It is easily observable that the child's disability type influences principals' decision regarding the proper environment in which these children can be integrated, so we can say the specific hypothesis 2 is confirmed.

These school environments are presented in the same order for each disability type, thus beginning with the most segregating school type (special kindergarten) to end with the most inclusive school environment – total inclusion in mass schooling, with specialty support from special education teaching assistants.

## Result discussion

The final results of the present study show that the mass kindergartens principals in Cluj-Napoca city present slightly favorable attitudes towards the inclusion of disabled children in their educational units. It was easily observed

a lack or an insufficient level of preparation in the research subjects in the field of inclusive education and short or inexistent practical experience in the inclusion of disabled children, aspects that will reflect upon our research results.

The principals' attitudes are not influenced significantly by the pre-existence of children with disabilities included in their kindergartens, nor the professional training received in the field of inclusive education, but there are differences among the principals regarding their decision towards inclusion of differently disabled children.

Almost half of the principals participating to the study consider that visually and auditory impaired children should be included in special educational units, and more than half of the participants consider that the children with learning disabilities would do better in mass kindergartens with specialized aid. Also, almost half of the principals place the children with intellectual and physical deficiencies and the ones with speech impairments and other health problems also in the mass kindergarten, provided they receive special care.

## **Conclusions**

The combination of social and professional data gathered from the research subjects with scale items answers, allowed us a better and more detailed understanding of their attitudes towards the inclusion of disabled children. The more or less rich experience regarding the teaching process in general and teaching in the inclusive environment, in particular, make a difference for the results gathered for these attitudes scales.

The main limits of this research refer to the means of investigation of the pre-school principals' attitudes, which are not always an accurate indicator for the participants' behavior. That's why it is important to further develop the research with some qualitative methods of investigation, such as the interview, in order to detail some aspects of school inclusion and also to investigate the other people that work in a kindergarten.

Another limit of this study refers to the participants' lot, relatively small in number, which makes impossible to generalize the results – this fact emphasizing the necessity of investigating the pre-school principals' attitudes at a national level.

The results gathered after the data analysis are important to implement a series of professional training courses for teachers and the building of some reliable partnerships in order to offer real opportunities for teachers to interact with included disabled children. Also, there appears to be an emerging necessity to develop professional training courses for those students who will become teachers and work with disabled children. These training courses can offer the

opportunity for them to gather knowledge, skills and professional experiences which in their turn will lead to the increase of self-trust in the teaching process of disabled children.

At this point, emerges the necessity of conducting further research to stress out other aspects regarding school inclusion and of completing the gathered data with supplementary information from parents, children, and other community members. The knowledge in the inclusive education field must be also enhanced, both at a continuous professional training for teachers and initial professional formation of future teachers.

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## VERBAL COMPREHENSION-LEXICALLY AND GRAMMATICALLY MEDIATED

CAROLINA BODEA HAȚEGAN\*

**ABSTRACT.** This research presents three different perspectives on morphological processing. The third perspective establishes a relation between the first two, it being the basis of the developed study. Thus, this article tries to establish the relation between morphologic and lexical processing, this relation being emphasized at the level of verbal comprehension (in an expressive task of defining a wordlist and in an receptive task of identifying the suitable picture for a certain sentences where the focus was on derivative morphemes and the comprehension of the derivate resulted word). In this research 204 participants completed the above mentioned tasks, their results being correlated, thus statistically confirming the significant relation between morphological and lexical processing in Romanian language. A case study is also presented with the aim of strengthening the collected data.

**Keywords:** *verbal comprehension, morphology, lexical processing, pre-lexical processing, derivative morphemes*

**ZUSAMMENFASSUNG.** Dieser Studie „Das mündliche Verständnis- lexikalisch und grammatikalisch vermittelt“ zeigt drei verschiedene Perspektiven an morphologischen Entwicklung. Die dritte Perspektive ist ein Vergleich zwischen die ersten zwei, dieser ist dann der Basis der ausgearbeiteten Studie. Dieser Studie versucht eine Beziehung zu begründen zwischen morphologischen und lexikalischen Entwicklung, dieser Studie ist dann betont durch das mündliche Verständnis (in einer ausdrücklichen Aufgabe von Bestimmung einer Wortliste und in einer empfänglichen Aufgabe von Bestimmung das korrekte Bild zu verschiedene Sätze, wo der Svhwerpunkt an den abgeleiteten Morphemen und das Verständnis des abgeleiteten Wortes). In dieser Studie 204 Teilnehmer haben die Aufgaben bearbeitet, ihre Resultate waren sich entsprechend, statistisch zeigten diese die wichtige Beziehung zwischen morphologischer und lexikalischer Entwicklung in der Rumänischen Sprache. Es gibt auch eine Studie um diese gesammelte Daten zu verstärken.

**Schlüsselwörter:** *das mündliche Verständnis, Morphologie, lexikalische Entwicklung, vor lexikalische Entwicklung, abgeleitete Morpheme*

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## **1. Verbal comprehension - the morphologic competence (theoretical and experimental perspectives)**

Morphologic competence is approached in terms of theories which underline the modularity and the innate features of the morphologic processing disorders (Bishop; Norbury; Briscoe, 2002; Bishop; Adams; Norbury, 2006). Theoretic and experimental aspects are structured from two main distinctive, antagonist perspectives on the morphologic competence. The third perspective establishes a relation between the main two, this perspective representing the basic background of the research:

1. Taft's theory (1975) emphasizes the fact that the representation of morphologic words depends on the central lexical level, their accessing being done based on the word root. Thus, according to this theory, the roots are the coded elements; therefore accessing the morphologic levels is done by prior decomposition. This aspect also explains the fact that the time allotted for prefix processing is greater than the time allotted to the processing of pseudo-prefixes. (e.g.: "prevoir" (to foresee) and "prefet" (perfect)).

2. The second theory emphasizes the fact that the morphologic aspects are coded as separate lexical entries (Fowler; Lieberman, 1995; Schriefers; Friederici; Graetz, 1992). Each form has its own lexical entry, the flexible forms, and to a smaller extent, the derivative forms being related and connected at the basis.

3. It is possible that the issue of pre-lexical or lexical treatment of morphologic words depend on the type of words (frequency, length, prefixes, suffixes etc.) (Serenio; Jongman, 1997). Therefore decomposition is not necessary. According to this theory, the linguistic processing capacity must be much extended, the cognitive resources involved in this type of processing being greatly increased. Surely this theory can be contradicted by the cognitive approach on the storage of linguistic information.

Having into consideration the third theory we decided to conduct a study meant to prove that the relation between morphologic and lexical processing is very tight, they being in fact two different aspects of the same reality-verbal comprehension.

## **2. Research design**

### **2.1. Objective**

- underlining the relationship between the morphologic level and the lexical level of the language.
- assessing verbal comprehension as a way of revealing data about morphologic and lexical processing.

## 2.2. Hypothesis

- the relationship between morphology and semantics lies in the identification of a correlation between the abilities for processing the derivative morphemes and the verbal comprehension.
- word's definition task reveals data about morphological and lexical structuring.

## 2.3. Participants in the research

The group of participants is heterogeneously selected as we consider that the relation between lexical and morphologic abilities is very strong, it being less dependent on age, diagnosis or bilingualism presence.

Thus, the 204 participants in the research can be described on the following coordinates:

- the age of the participants (6-11 years, corresponding to the first school cycle, I-IV grades);
- the diagnosis of the participants (were selected valid children, children with low mental disability, children with moderate mental disability, children with hearing disability and children with learning difficulties related to the language structuring, of the dyslexia - dysgrafia type);
- the presence or the absence of bilingualism situations.

## 2.4 Assessing tools

### 2.4.1. Probe for morphologic categories reception in Romanian language

During this research a part from *Probe for morphologic categories reception in Romanian language -PMCRRL* was used, just the part with the derivative block of variables. This instrument was elaborated within the doctoral thesis research (Hațegan, 2009) it assessing morphological abilities at receptive level, thus, this probe being a verbal comprehension task.

*The derivative block of variables focused on prefix consists five items as it follows in the Table 1.*

**Table 1.** Blocks of derivative variables-prefixes

The items	The focused prefix (This prefixes are specific for Romanian language)
1. Dopul este deșurubat/destrâns. (The bung is screw off).	des-
2. Foaia este dezdoită. (The sheet of paper is unfolded).	dez-
3. Haina este încheiată. (The coat is closed).	în-
4. Băiatul se încălță. (The boy takes his shoes).	în-
5. Sfoara este deznodată. (The rope is untied).	dez-

It can be seen the fact that when selecting the prefixes, the consonant alternation s/z. Based on co-articulation laws, the voiceless fricative consonant “s” is voiced and it becomes “z”, the paired voiced fricative, when it is followed by a voiced sound from which it takes the voiced character (Vasiliu, 1965, 1974). This aspect is important from a phonological point of view as the voiced sound facilitates the auditory reception of the given sound. The prefixes “des-” and “în-” can be mainly attached to the verbs and they are considered to be paired prefixes. In the case of the pairs “deșuruba/înșuruba (screw off/screw on”, “deznoda/înoda (untied/tied)”, “descheiat/încheiat (open/close)” the lexical base can be easily identify : “șurub (screw)”, “nod (tie)”, “cheie (key)”; while in the case of the pairs “încalță/descalță (take on/off the shoes)”; “îndoaie/dezdoită (fold/unfold)”, the lexical base is not identifiable (Coteanu; Bidu-Vrânceanu, 1974; Coteanu; Forăscu; Bidu-Vrânceanu, 1985). This aspect gives us more arguments that verbal comprehension is either morphological or lexical mediated, the two different types of mediation being dependent on the features of the focused words.

#### *2.4.2. The Wordlist*

For data collection, a list made up of 20 words has also been used, these words being introduced in the linguistic structures of the probe. The aim was to determine the children’s lexical abilities, according to the model suggested by the Crichton Task (Anca, 2007). The children’s task is to define orally the words presented, orally as well, by the assessor. The usage of this wordlist is important also for the elaboration of a study that would render the relation between the level of the lexical acquisition and the level of the morphological structuring, especially at derivative level, an aspect which is emphasized in the literature dedicated to this subject (Taft, 1975; Lecocq, Leuwers, Casalis, Watteau 1996).

### **3. Correlation study between the morphologic and the semantic level of the language- the relation between the abilities to receipt prefixes and the verbal comprehension level**

#### *3.1. Global results*

This study brings forth the morphologic-semantic relation, both quantitatively, through the calculation of a correlation between the participants’ performance at the level of the blocks of variables of derivative morphemes and at the level of the probe which requires the definition of the twenty words, and qualitatively, as the case study method is being used.

The quantitative data can be found in the following table:

**Table 2.** Correlation coefficient between the performances related to the number of defined words and the derivative morphemes

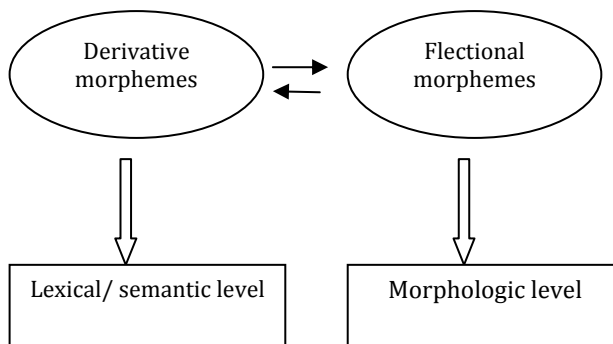
**Correlations**

		Number of defined words	Derivative morphemes
Number of defined words	Pearson Correlation	1	.421(**)
	Sig. (2-tailed)		.000
	N	204	204
Derivative morphemes	Pearson Correlation	.421(**)	1
	Sig. (2-tailed)	.000	
	N	204	204

\*\* Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient obtained by calculation is .421, the correlation being strongly significant from a statistic point of view,  $p < .01$ . This confirms the stated hypothesis, so that at the level of subjects included in this study, irrespectively of their diagnosis classification, the abilities of reception of derivative morphemes are correlated positively with those of verbal comprehension. Therefore, it can be concluded that the relation between the morphologic aspect and the lexical one is interdependent, especially when the prefix processing abilities are assessed at the morphologic level.

The delimitation of these levels of the morphologic/ lexical language has as reference point studies and researches from the international specialized literature (Taft, 1981; Cole et al., 1989; Laudanna; Cermele; Caramazza, 1997), studies which underlined differences in the organization of flectional morphemes which are exclusively connected to the morphologic level and the derivative morphemes, which are exclusively connected to the lexical level.



**Figure 1.** The relation between the types of morphemes and the language levels

Also, considering the results, new research directions are suggested, starting from those underlined in this study- the implementation of MLU *Mean Length of Utterance* with the aim of proving the interdependent relation among morphologic language level and other levels-lexical level, syntactical level, pragmatic level.

In order to provide a qualitative perspective on the way the structuring of morphologic abilities relates itself to the structuring of lexical abilities a case study will be presented.

### **3.2. Case study report**

**Participant in the research:** P.A.

**Age:** 9 years old;

**Education:** II-<sup>nd</sup> grade;

**Diagnose:** reading/writing learning difficulties, epilepsy;

**Linguistic acquisition level:**

- low lexical and syntactical levels; the child does not use complex sentences when defining words or when speaking; this aspect is also underlined by poor abilities of receiving linguistic structures that consists in relational morphological elements, such as conjunctions and prepositions;

- linguistic structures are processed with difficulty as he proves limited cognitive resources, reduced memory span. This aspect can be a result of the drugs prescribed for epilepsy.

- instrumental abilities-poor spatial/temporal orientation abilities. This leads to facing difficulties in the case of the items through which verbal time, prepositions or adverbial structures are assessed;

- when being given a task for enumerating the name of the days, of the seasons or of the months, the child proves severe difficulties.

- the child has poor abilities in using comparison; he can't identify spatial locations (especially when using adverbial structures);

- he correctly uses the nouns number and gender;

- the child also presents low auditory discriminatory abilities just in the case of resembling words and not in the case of isolated sounds (for example: when being asked what "a nota (to write)" means, the child gives the definition for the verb "a înota (to swim)").

The child's above mentioned abilities were collected after using *PMCRRL*, giving pedagogical tasks of transforming nouns from singular to plural or even backwards, by giving tasks of differentiating resembling sounds (from articulator points of view); by indicating the number and the gender of the following nouns: *câine (dog)*, *pisică (cat)*, *berbec (buck)*, *oaie (sheep)*, *Ioan (John)*, *Ioana (Joanna)*; by using the above describe wordlist.

In PMCRRL probe the child faces difficulties in 11 morphological blocks from those 20 reunited in the probe: verb/time, verb/mode, verb diathesis, adverbs, adverbs/means of comparison, adjectives/means of comparison, prepositions, coordinating conjunctions, subordinating conjunctions, derivative morphemes and homographs.

In the following we will present a brief presentation and interpretation of the data collected by defining the 20 words from the above described wordlist. Quantitatively just 11 words were correctly defined, while for the other 9 words the child either gives inadequate definitions or gives partially correct definitions.

Quantitatively appreciating child's morphologic ability is similar with child's lexical one, this case reinforcing the tight relation between morphology and lexicology when verbal comprehension task are given.

**Table 3.** The presentation and interpretation of the definition given by P.A.

<i>Words</i>	<i>Given definitions and interpretations</i>
1. <i>pian (piano)</i>	"it sings"- this definition is given for both the two singing instruments mentioned in the wordlist, this is considered to be a correct definition, even if the child can't differentiate between the two singing instruments. The definition is considered to be correct this time, it being a functional contextualization of the word.
2. <i>biblioteca (library)</i>	"a house with books"-this is a concrete definition, the stress is put on the institution that gathers the books. The linguistic structure through which the definition is formulated is verb elliptic, but it also proves poor lexical abilities.
3. <i>maimuță (monkey)</i>	"animal"- the definition is limited to indicating the generic category. In the case of the children facing learning difficulties, this feature is common (Pruthi, 2007).
4. <i>lac (lake)</i>	"water"- this definition is also given for the word "dank", it being considered correct just once. This definition indicates a higher verbal comprehension level than the level of the expressive abilities.
5. <i>lesă (leash)</i>	"it is put in dogs"- this definition stresses on what we can do with the object, this definition has functional value.
6. <i>cușcă (cage)</i>	"where dogs stay"-the definition also indicates the utility of the mentioned object by particularizing (mentioning the dogs as the main beneficiary).
7. <i>șurub (screw)</i>	"object"-this definition is considered to be incorrect, the child does not know the semantic content of the word.
8. <i>sfoară (rope)</i>	"a rope for putting cloths"-this is not a correct definition as the child just exemplifies how we can use the object.
9. <i>chitară (guitar)</i>	"singing"-the definition is very general.
10. <i>plic (envelop)</i>	"to put papers"-this definition has functional value, it indicating the utility of the mentioned object.
11. <i>îndemn/sfat (advise)</i>	-no definition, the child mentions that he does not know the word
12. <i>scund (little)</i>	-no definition, the child mentions that he does not know the word

<i>Words</i>	<i>Given definitions and interpretations</i>
13. <i>curios (curious)</i>	"serious"-the child offers as definition a single rhyming word. This error can be explained through child's poor differentiating abilities.
14. <i>notat/ nota (written down/ to put down)</i>	"to move legs"- this is an incorrect definition, the child proving poor auditory differentiating abilities as it offers a definition for the word "a înota/to swim"
15. <i>înșuruba (to screw on)</i>	"to do something"-this is a very general definition. This definition proves functional morphological, the child has the intuition of a verbal structure. Even so, having into consideration the definitions given for the related words "șurub (screw)", "deșuruba (to screw off)", we can conclude that P.A. does not know the meaning of these words.
16. <i>deșuruba (to screw off)</i>	-no definition, the child mentions that he does not know the word
17. <i>antrena (to train)</i>	"to get trained"-this is a circular definition, it being considered to be incorrect. Child's functional morphological are also proven.
18. <i>umed (dank)</i>	"water"-this is a generic definition, it being considered incorrect.
19. <i>înnorat (cloudy)</i>	"as it is going to rain"-this definition explains the cause for a cloudy sky. This is considered a correct definition.
20. <i>însorit (sunny)</i>	"clear"-this definition has a stylistic value, the child being able to underline the main characteristic of a sunny day.

The final three words from the list are treated based on specific features, without being able to give definitions; descriptions of the mentioned words, this indicating poor lexical abilities in language expressive field.

The definitions that this child with learning difficulties offered are more complex than the definitions recorded in the case of cognitive disabled children, even if they were diagnosed with low cognitive disability.

Expressive abilities are similarly developed with receptive abilities, this underlining a holistic language development, the intervention being required to be proposed in the same way. This similarity proves a functional level of vocabulary and ability to over-generalize the acquired structure in communication contexts, mainly based through morphological patters.

Thus, this case study proves a very tight relation between morphological and lexical abilities, these abilities being reunited when the child was asked to prove verbal comprehension. The definitions he gave underline what the third generation of theories emphasized regarding lexically or pre-lexically morphological processing-linguistic material, linguistic experience, communication needs, communication context, language development are just a few from the variables that have to be taken into consideration when processing language. Thus, generic invariants are less likely to establish, especially in the case of children with atypical language development.

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## SECOND LANGUAGE VOCABULARY ACQUISITION IN CHILDREN: A DEVELOPMENTAL PERSPECTIVE

DACIAN D. DOLEAN\*

**ABSTRACT.** Second language acquisition is an extensively researched topic that gained much recognition in the past three decades. The number of empirical studies conducted on this topic by researchers in the fields of neurolinguistics and psychology surged, and their contribution to existing and emerging theoretical models helped gain a deeper understanding of the linguistic processes underlying second language acquisition. This paper aims to provide a brief review of the major empirical studies and theoretical models concerning second language vocabulary acquisition in children, and to emphasize on its methodological advantages and limitations.

**Keywords:** *second language; vocabulary acquisition; phonemic awareness; incidental learning; language immersion.*

**ZUSAMMENFASSUNG.** Der Zweitsprachenerwerb ist ein umfangreiches recherchiertes Thema, das viel Anerkennung in den letzten drei Jahrzehnten gewonnen hat. Die Anzahl der empirischen Studien zu diesem Thema durchgeführt von den Forschern in den Bereichen Neurolinguistik und Psychologie stieg und ihr Beitrag für bestehende und neue theoretische Modelle halfen bei einem tieferen Verständnis der sprachlichen Prozessen zugrunde der Zweitsprachenerwerb. Dieses Artikel soll einen kurzen Überblick über die wichtigsten empirischen Studien und theoretischen Modellen betreffend den Wortschatzerwerb in der Zweitsprache der Kinder bieten, und auf seine methodischen Vorteile und Grenzen abheben.

**Stichwort:** *zweite Sprache; Wortschatzerwerb; phonologische Bewusstheit; beiläufiges Lernen, Sprachenimmersion.*

### Introduction

Second language acquisition has been the subject of interest among researchers for many years, but starting with the 1980's the studies on this topic increased substantially (Laufer, 2009). Even though the history of second

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language education indicates that for a long time theories and research focused mostly on grammar teaching pedagogy (Zimmerman, 1997), the importance of studying the second language vocabulary gained much recognition in the past decades (Barcroft, 2004). One explanation is that while the lack of grammar knowledge sometimes makes communication more difficult, and unclear, the lack of vocabulary makes it impossible. Another reason for vocabulary development emphasis is that learning vocabulary does not imply ignoring learning the grammar. Conboy and Thal (2006) found that actually the opposite is true: learning vocabulary is associated more with enhanced grammatical abilities in 2-3 year olds than to the lexical-conceptual development. This happens probably because when children have a larger vocabulary, they can also have more complex and meaningful conversations, and implicitly can improve the frequency of opportunities for grammar corrections. The findings are consistent with earlier studies (e.g. Senvatka & Healy, 1998) that suggested that grammar knowledge is already wired in the lexicon, and that it can be developed over time through language exposure. However, simply knowing the meaning of certain words does not necessarily imply understanding vocabulary accurately, since one word can have different meanings in different contexts. Thus, when addressing the second language vocabulary acquisition process, there is always a certain connection to the syntactic frame in which the vocabulary words are being presented.

### **Phonemic awareness as a cognitive pre-requisite for vocabulary acquisition**

The second language vocabulary acquisition is strongly dependent by the phonemic awareness development. An 18 months longitudinal study demonstrated that infants' phonemic awareness at 6 months predicted their language acquisition performance at 24 months of age (Tsao, Liu & Kuhl, 2004). This variable seems to be even more important than the frequency of language exposure. On a study conducted on immigrants arriving in Australia, Bundgaard-Nielsen, Best, and Tyler (2011) found that the second language vocabulary size is positively correlated with the second language vowel perception ability, while the amount of exposure to the foreign language was determined to be less significant. Another study (Fernald & Marchman, 2012), showed that lexical processing in 18 months of age can anticipate vocabulary development 12 months later, indicating that early language processing ability influences the size of vocabulary acquisition. Finally, De Abreu and Gathercole (2012) found that phonological awareness determined the accuracy of word decoding and spelling in an unfamiliar foreign language, indicating that phonological processing abilities are critical for acquiring the sound structure of a foreign language.

The ability to distinguish between phonemes develops as early as prenatal period. Byers-Heinlein, Burns, and Werker (2010) showed that children are able to distinguish between two different languages as soon after they are born if their mothers spoke them consistently during their pregnancy. While it's estimated that there are about 600 consonants and 200 vowels in the world's languages (Ladefoged, 2001), most languages have about 40 phonemes which change the meaning of words (Kuhl, 2010). Infants' job in their first year of life is to distinguish the phonetic units specific to their native language, based on the environmental language exposure. During this period, children's phonemic awareness develops not only by refining their perception of native sounds, but also by ignoring phonemic structures that are not characteristic to their native language and to the languages they have been exposed to. Thus, if children are being consistently exposed to a second language during their infancy, the chances to develop the second language vocabulary increase.

The fact that phonemic awareness development play a crucial part in second language vocabulary acquisition is also proven by the study conducted by Kaushanskaya and Marian (2009). The authors showed that bilinguals learn twice the number of words in a foreign language than their monolingual peers, indicating that children whose phonological processing skills are better developed, perform better in foreign language vocabulary learning tasks.

The phonological awareness eventually leads to the development of phonological constancy. Best et al. (2009) discovered that children age 19 months (but not those aged 15 months) develop phonological constancy, defined as "the ability to recognize a word's identity across natural phonetic variations". The authors considered phonological constancy as being one of the milestones that facilitate a rapid vocabulary growth, and later, reading acquisition.

So how do children acquire the second language vocabulary after they develop phonemic awareness and phonological constancy?

### **Second language vocabulary acquisition from comprehensible input exposure to social interaction facilitated learning**

Much of the research conducted in the 1980's tried to emphasize on the role of second language exposure in vocabulary development. Nagy, Herman and Anderson (1982) estimated that 10-15 exposures to unknown words from reading in native language can help the learner understand the meaning of that word, without explicit translation of its meaning. Krashen (1989) expanded this approach and suggested that similarly, the second language vocabulary is acquired unconsciously simply by learner's exposure to comprehensible input, especially through reading. Saffran et al (1996) supported these theories and conceptualized the "statistical language learning model", suggesting that children

can use the statistical properties of linguistic input to learn the foreign language by themselves. Since the statistical patterns of language input are variable, the authors limited concept's generalizability due to the fact that some structures can be assimilated more easily than others.

Krashen's and Saffran's theories of vocabulary acquisition solely by exposure through comprehensible input were challenged by several subsequent studies. Swanborn and de Glopper (2002) emphasized on the fact that input exposure is not sufficient to anticipate the amount of learned vocabulary words. They showed that the incidental vocabulary learning efficiency depends on the purpose of learning. The authors calculated that the probability of learning a word is lower (.06) when words are read for fun, and higher when words are read for text comprehension purpose (.08) and for knowledge of the topic (.10). Elley (1999) indicated that after listening to a single story three times, learners understood the meaning of only 20% of target words, while adding explanation to the words raised learning performance to 38%. Horst, Cobb and Meara (1998) had even worse performance indicators. They showed that after learners read and listened to a 21,000 words novel, they acquired about 5 out of the 45 target vocabulary words. The effects of contextual support of words acquisition through reading a story were investigated as well by Zahar, Cobb & Spada (2001) who estimated that it takes 29 years for an adult learner to learn 2000 new vocabulary words simply through input, thus showing that Krashen's input theory is limited. Another study conducted on college students (Brown, Waring & Donkaewbua, 2008) verified whether the incidental vocabulary learning was more efficient under reading, reading-while-listening or listening only treatments. Results indicated that after three months of exposure, the vocabulary acquisition was very modest, participating students retaining an average of one out of 28 vocabulary words learned in any of the two reading treatments, and retained none of the listening-only treatment words.

Even though Krashen's input theory received multiple criticisms, it represents a milestone in the study of incidental second language vocabulary acquisition. Further studies focused on this topic revealed its advantages and limits. For instance, Gass (1999) suggested that vocabulary words are more likely to be learned incidentally if there are recognized cognates between the new word and words in native language, if the exposure is significant, or if the learner is familiarized with other second language words within the same learning context. Wode (1999) reported that after 7 months of immersion, 7 graders immersed in a foreign language program had a more diverse vocabulary, know more synonyms and produced significantly more lexical items than their non-immersed peers, items that could not be found in textbooks or related with teacher's lesson plans. The author concluded that the incidental foreign language vocabulary acquisition in the classroom can produce linguistic performance

that can solely be attributed to the interactions between participants. Similar results were reported by Ellis and Hu (1999), in a study in which they controlled the types of interactions between teacher and students. Students who had the chance to formulate their own questions and ask clarifications about tasks had better linguistic performance compared to students who were not allowed or had limited possibility to ask clarifications. Authors explained the results by the superior dialogic interaction between the teacher and students, and attributed the findings to the linguistic opportunities provided by dialogs.

So why is incidental second language acquisition in the classroom working better than the simple exposure to a foreign language? One possible explanation can be attributed to the role played by the social interaction on language learning. Kuhl (2007) defined this phenomenon as “Social Gating Hypothesis”, suggesting that the diversity of learning situations that occur in a social context can increase attention/arousal, information access, sense of relationship and/or activation of brain mechanisms. Several studies conducted on the impact of television on children’s linguistic performance confirmed this hypothesis. Rosenberry, Hirsh-Pasek, Parish-Morris, and Golinkoff (2009) indicated that children under three cannot learn by themselves words that name actions (verbs) by simply being exposed to television programs, while children older than three can. However, when an adult was present to interact with them and support their learning, children under three were able to learn the verbs, indicating that human interaction plays an important role in the vocabulary acquisition of children. Uchikoshi (2006) showed that watching television during kindergarten hours did not increase the size of the vocabulary, while watching the same shows in a supportive family environment does. These findings were confirmed by Conboy and Kuhn (2010) who indicated that the presence of a human being interacting with the child is critical for language-learning situations, for both the phonetic and lexical units of the language. Zimmerman et al. (2009) suggested that adult-child meaningful two-way communication is essential to language development, rather than one-way input adult language (e.g. story telling) or the language children are being exposed through television.

### **Implications**

This review aimed to put an emphasis on the role of vocabulary learning in second language acquisition and its’ developmentally milestones during the language acquisition process. A good knowledge of those characteristics will probably help foreign language educators adjust and improve their approach in teaching a second language.

Two of the milestones of second language vocabulary acquisition are the development of phonemic awareness and phonological constancy. Programs or activities designed for children to help develop these skills will likely result

in enhancing vocabulary acquisition. These programs can be developed within a foreign language classroom setting or in similar subject areas (e.g. native language classes).

Studies showing that a significant amount of grammar can be acquired implicitly while learning the vocabulary might suggest policy makers and foreign language teachers to (re)consider the skills teaching ratio within a foreign language classroom. Increasing reading comprehension activities while reducing the grammar exercises might not necessarily reduce the quality of grammar skills, but will certainly improve the vocabulary size.

One can also anticipate positive vocabulary development outcomes from the controlled exposure of children to a foreign language speaking environment, i.e. classroom immersion programs. However, the simple exposure would not necessarily increase the vocabulary size and depth. The studies show that human interaction plays a crucial role in improving the impact of exposure to second language on vocabulary development.

### **Acknowledgements**

This work was made possible by the financial support of the Sectoral Operational Programme for Human Resources Development 2007-2013, co-financed by the European Social Fund, under the project number POSDRU/107/1.5/S/76841 with the title „Modern Doctoral Studies: Internationalization and Interdisciplinarity”.

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## THE PARTICULARITIES OF APPLYING THE METHODS OF WRITTEN EVALUATION TO THE TEACHING ACTIVITY. OBSERVATIONAL STUDY

DANA JUCAN\*

**ABSTRACT.** In the following research it is intended to present a picture of the existent situation at the level of the educational reality regarding the frequency of the use of assessment and test methods in the evaluation process, the particularities of these methods and the advantages they involve.

The research regarding the use of assessments and tests as evaluation methods, the particularities and the advantages of these methods, was realized at the level of education professionals, based on the administration of a questionnaire.

The results obtained indicate the fact that assessments and knowledge tests are frequently used by education professionals in the evaluative process because they are favourable to students' thinking and they also improve their memory.

Of importance is the problem of the way in which the most effective evaluation strategies (evaluation methods) are projected and applied to the different topics of a specialized field, taking always into consideration the impact that the objective/subjective evaluation has upon students, its impact in the field of the knowledge acquired by them, as well as in the field of their personal development.

**Keywords:** *the evaluation process, methods in the evaluation process, the assessments and knowledge test*

**ZUSAMMENFASSUNG.** In diese Forschung wollten wir eine Radiographie der gegenwärtigen Situation in der Ebene der Bildungswirklichkeit auf der Häufigkeit der Verwendung von Auswertungstests bei der Bewertung, die Besonderheiten und die Vorteile dieser Methoden erreichen.

Die Forschung in Bezug auf die Verwendung der Auswertungstests als Auswertungsmethoden, die Besonderheiten und die Vorteile dieser Methoden, wurde bei den Lehrern mit Hilfe eines Fragebogens durchgeführt.

Die erhaltenen Ergebnisse zeigen, dass Auswertungstests und Wissenstests werden häufig von den Lehrern bei der Bewertungsprozess verwendet, weil diese das Denken und das Gedächtnis von den Schülern hervorheben.

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Wichtig ist, wie man die effektivsten Strategien zur Auswertung (Bewertungsmethoden) zu verschiedene Themen im Bezug auf einen Fach konzipiert und anwendet. Man sollte immer die Folgen der objektive / subjektive Auswertung den Schülern in Bezug auf ihren Wissen, aber auch auf ihrer persönlichen Entwicklung beachten.

***Stichworte:** Auswertung, Auswertungsmethoden, Auswertungstests, Tests*

## **1. Introduction**

In the following research it is intended to present a picture of the existent situation at the level of the educational reality regarding the frequency of the use of assessment and test methods in the evaluation process, the particularities of these methods and the advantages they involve.

The research regarding the use of assessments and tests as evaluative methods, the particularities and the advantages of these methods, was realized at the level of education professionals, based on the administration of a questionnaire. The questionnaire administered to the education professionals represented the main investigation technique.

In what concerns the informational content had in view throughout the investigation realized at the level of education professionals, we mention the fact that it had as its main objective the pointing out of the following aspects:

- the frequency of the use of assessments and tests as evaluative methods at different subjects
- the level of objectivity in appreciating the school performances quantified through the assessments and tests
- the degree of optimisation of the results quantifiable through the use of assessments and tests
- the extent to which it can be spoken about the usefulness of applying the method of assessments and tests

Through the above mentioned aspects it becomes possible to outline with enough precision and accuracy both the way in which education professionals relate to the use of assessments and tests as evaluative methods, and the significance they grant these methods.

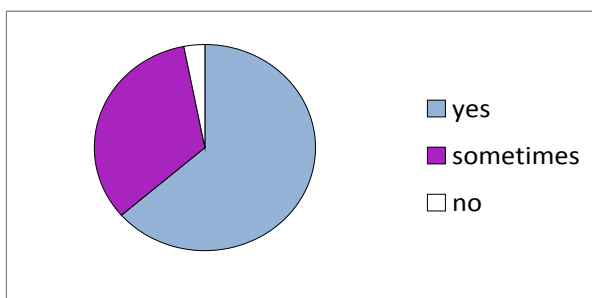
## **2. The Ascertainning Study**

The questionnaire regarding the opinions of the education professionals concerning the use of assessments and tests was administered to a number of 30 individuals chosen based on the simple random sample procedure. In the structure of the questionnaire addressed to education professionals were included

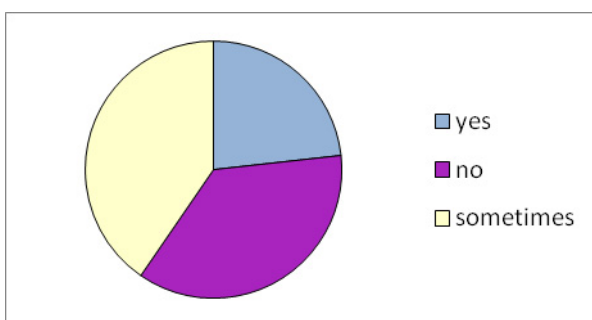
15 items. The requested answers can be classified by: open, closed and mixed. Due to the high level of homogeneity of the answers given by the teachers, the presentation and the interpretation of the results obtained were realized in a global and undifferentiated way, at the level of the whole lot of education professionals to whom the questionnaire was administered.

At the first question addressed to the education professionals we obtained the following results: 63% of those questioned use tests and assessments during summative evaluation, 33% resort only sometimes to these methods and 3% do not use them during final evaluations.

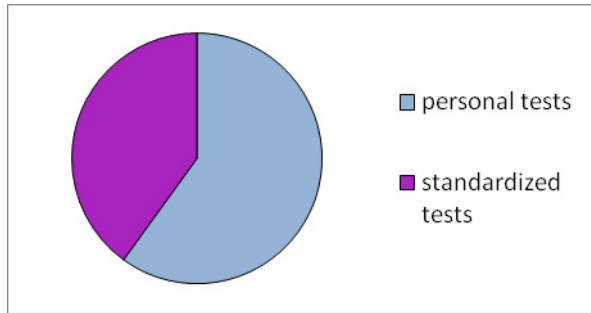
In what follows, we will reproduce the graphic form of the result of our analysis:



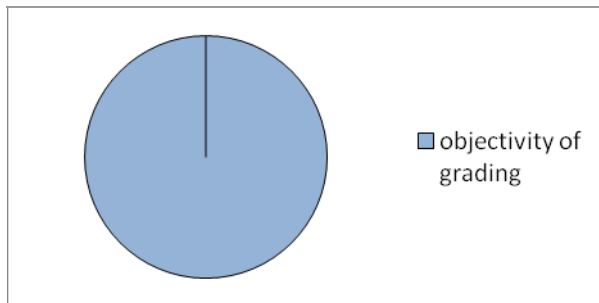
The second question referred to the frequency of the use of tests and assessments during formative evaluation. The data obtained after the analysis of the questionnaires indicates the fact that 40% of the education professionals use tests and assessments during formative evaluation sometimes, 36% do not use tests and assessments in such circumstances and only 23% of those questioned use them regularly.



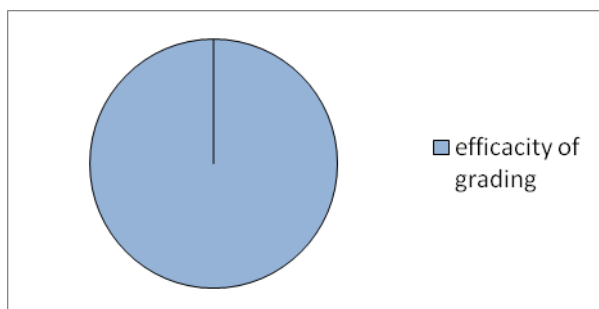
In what concerns the type of tests used (personally elaborated by the users or standardized), 60% of the questioned teachers use personally elaborated types, and 40% resort to standardized tests.



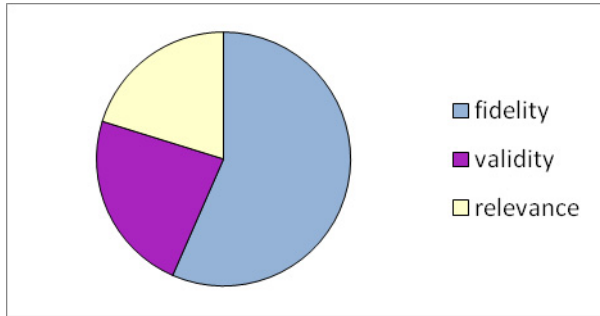
Questioned about the objectivity of grading at tests and assessments, all teachers answered favourably to this characteristic.



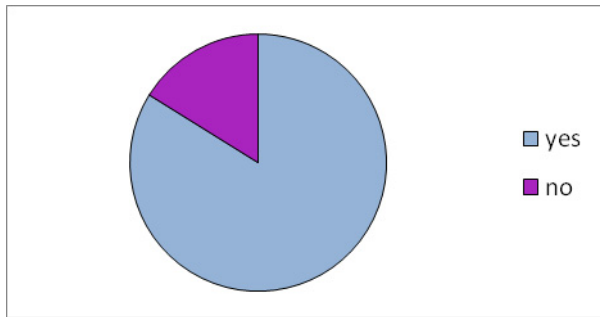
Concerning the efficacy of grading for tests and assessments, all the questioned individuals were of opinion that these are easily and quickly graded.



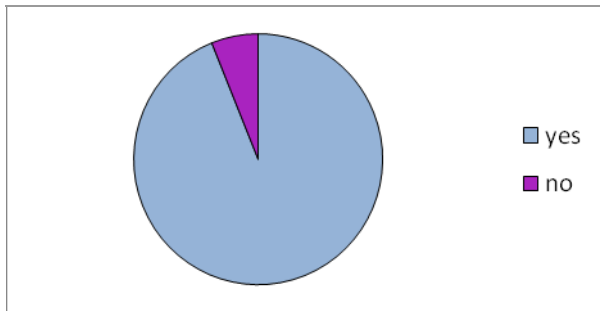
The opinions of the education professionals regarding the characteristics of an efficient test and of an efficient assessment are classifiable in the following manner: 56% of the individuals lay stress upon fidelity, 23% are of the opinion that validity is fundamental, and 20% support the relevance of such a method as its fundamental characteristic.



83% of the questioned teachers are of opinion that students should possess general information concerning the preparation for the tests and for the assessments, while 16% do not support this idea.

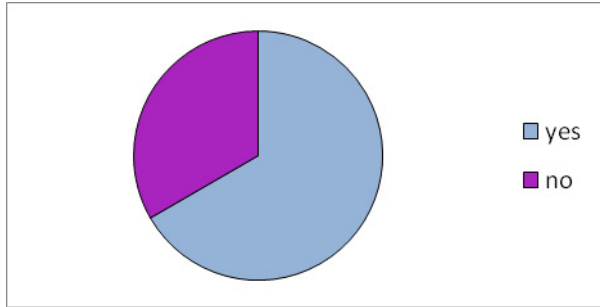


The education professionals' opinions in what concerns informing the students about the various strategies of solving the tests and the assessments are distributed as follows: 93% are of opinion that students should be informed, and 6% of the teachers do not hold this information as useful for the students.

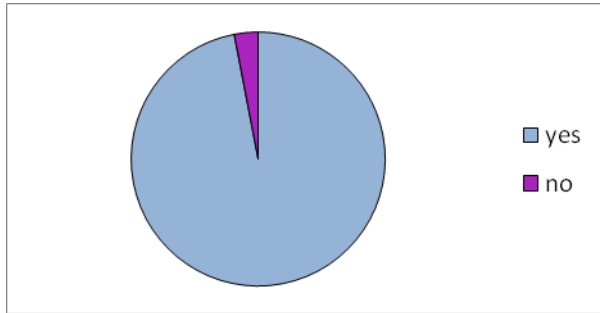


Another question refers to the optimal number of options of answer for each item of the test. 66% of the teachers are of opinion that 4 options with one correct answer are enough, while 33% are of opinion that this method is too easy, suggesting the introduction of multiple answers.

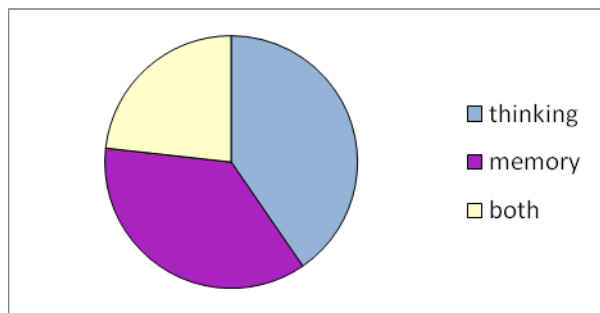
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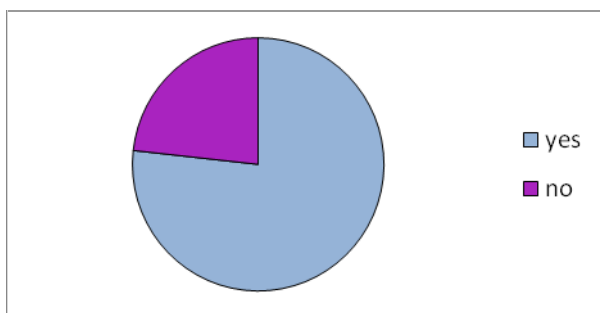
96% of the questioned education professionals discuss the grades with the students after giving the tests and the assessments, 3% do not hold this method necessary.



40% of the questioned teachers state that tests and assessments improve students' thinking, 36% are of the opinion that these evaluation methods improve memory. 23% are of opinion that both mental processes are involved in solving the tests and the assessments.



In what concerns the usefulness of giving tests and assessments, 76% of the teachers consider them useful, and 23% do not.



### 3. Conclusions

The results obtained indicate the fact that assessments and knowledge tests are frequently used by education professionals in the evaluative process because they are favourable to students' thinking and they also improve their memory.

In formulating the assessments and the tests it should be taken into consideration the fact that, in giving the answers, students should not be requested simply to reproduce from memory the informational content. It is advisable to present students with topics which would involve a selection and an adaptation of the study material, a process of reshaping it, as well as practical abilities of using and applying it, in similar or different contexts, by training their processes of the mind, their ingenuity and their creativity.

Since any process of instruction and education aims at forming and developing certain behaviours and competencies in students which are presented in the operational objectives established beforehand, it is natural that the same objectives should form the basis of the evaluation process and, respectively, of the projection of the evaluation methods. Therefore, between the assessments and tests and the operational objectives there is a very tight correlation, in the sense that the evaluation methods are built by relating directly to the operational objectives.

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## APPLICATIONS OF THE TEACHING FILM IN ACADEMIC LEARNING, FOR PRACTICAL SKILLS TRAINING

CORNELIA STAN\*

**ABSTRACT.** The modern teacher achieves his goals with the support of many ways of learning, ever newer and more sophisticated (multimedia support, online transmission techniques, teaching materials based on new information and communication technologies). Thus, current educational programs focus on developing management skills of experiential learning and the formation of cognitive structures that emphasize the need for procedural knowledge acquisition through flexible transmission techniques that highlight information in training at any level.

**Keywords:** *information and communication media, teaching film, experiential learning.*

**ZUSAMMENFASSUNG.** Ein moderner Lehrer realisiert den Unterricht mit der Unterstützung von vielen Lernmitteln, die immer neuer und komplexer werden (Medien Unterstützung, Online-Übertragung Techniken, Unterrichtsmaterialien zu neuen Informations-und Kommunikationstechnologien). Aktuelle pädagogische Programme, fokussieren sich also, auf die Entwicklung von Managementfähigkeiten im Lernen und auf der Bildung von kognitiven Strukturen, die die Notwendigkeit von Erworben des prozeduralen Wissen durch Techniken, die flexible Übermittlung von Informationen in der Ausbildung auf allen Ebenen betonen, unterstreichen.

**Schlüsselwörter:** *Informations-und Kommunikationsmittel, didaktischer Film, Lernen durch Erlebnisse*

### Introduction

Training based on information and communication means brings together elements specific to the behaviorist, cognitivist and constructivist theories. Efficiency analysis of the new information technologies in education is based on indicators targeting their formative value: access to multiple perspectives

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on knowledge, the authenticity of the presented teaching context, using critical analysis and reflection in studies, conscious and responsible reference of those educated to the teaching situation, the possibility of evaluation/self-evaluation of the degree of accuracy manifested in solving tasks etc. The last mentioned aspect is already referring to psycho-pedagogical valences of training based on new informational technologies not just in teaching but also in evaluation, exploiting technology in all school functions.

### **Integration of information and communication means in the process of academic learning**

Integration and use of information and communication education is justified by the fact that they meet the requirements of teaching principles that ensure optimal functionality of the educational process for all levels of education.

Thus, a more complex topic or issue that brings many innovative elements must be accompanied by audio-visual elements that allow optimal comprehension and retention. In addition, viewing and listening to sequences that help make learning more enjoyable transferring knowledge, more exciting for students, encouraging critical thinking and learning practical experience skills useful in real life.

It is also known that disciplines aimed practical skills training require connections with theoretical acquisitions, aspect which can be used in training by conducting applied and theoretical syntheses and an interdisciplinary approach to issues taught, with formative effects on the group of students (Jinga, I. Negret, I. 1994).

Modern, technical means of training contribute to learning according to Kolb's experiential learning model (1984), perceived as an integrative, holistic perspective on learning, bringing together experience, perception, cognition and behavior. Basically, learning goes through certain sequences that form a circuit, based on concrete experience with the learning element, continuing with a reflective observation of its particularities, thus favoring content conceptualization and ending with active experimentation. After this final stage, the circuit can recover starting from a higher level of practical experiences the student may have, in this way building a pyramid of theoretical and practical acquisitions.

Through observation and analysis, through active and critical reference to experience, a person can create their own style of action, according to their cognitive and behavioral characteristics.

Means of information and communication education have the advantage of facilitating the expression of immediate feedback as the basis for learning, establishing connections between observation, reflection and action.

### **Applications of educational film in carrying out pedagogical practice in the academic education system**

**The film** is an excellent means of communication and information with multiple instructive and educational valences, associating the tools of scientific investigation. The film can be easily integrated into various sequences of educational activities, serving to provide information and engage students in the learning process.

Analyzing the features of this educational tool, we can illustrate some of the benefits of its use in teaching at any level:

- mediates the observation and understanding of phenomena inaccessible or difficult to access by a direct perception;
- causes and develops motivation to learn by addressing problems in an traditional alternative manner;
- transmits not only impersonal information, but may facilitate subtle illustration of ideas, emotions, human thoughts;
- allows relations between assimilated knowledge and new experiences, as well as using this data;
- stimulates reflection and introspection.

The idea of using this information means in practical training of students at the primary and preschool pedagogical specialization started from an experience in preuniversity school education. Several years ago, in collaboration with teachers from the United Kingdom, we have developed a program aimed at preparing students from post-secondary education levels, in the specialization of educator-child careers. Basically, this specialization skills training aimed at assisting and educating children in placement centers, complementing the educational activities conducted in schools.

Since the problem of these children was at that time (1995) rather discussed and various ways were tested to improve their living conditions and education, direct access to placement institutions was difficult to achieve, and access to information was frequently difficult. Practice in these institutions was mandatory, but in the presence of students, many of the current issues of these activities in the institutions were hidden.

For this reason, we began to form a theoretical and a practical basis for the students, using video recordings, both abroad and from our country, establishing a comparison and causing enlargement context of student information.

Integration of educational film in lessons was done with discernment and associated with teaching strategies aimed at developing skills to act professionally in relation to children and employees of placement shelters. Experience provided by teachers from Great Britain by offering models of good practice in these institutions was an extra source of information and inspiration for the new generation preparing to work in this field.

The emphasis on action-problem formulation of questions that students will need to find an answer to during or after the projection and establishing learning tasks related to the contents projection were focused methodology for conducting activities information with the film.

The main problems illustrated were associated with knowledge already acquired by the students, but also with the practical experience they had at the time, stimulating their critical analysis and reflection.

An item that was counted on in learning was the emotional contents of messages conveyed by the projection, knowing that emotional states triggered by certain sequences of projection can be beneficial for the acquisition of life experiences.

Capitalization of educational content of the projected movies aimed at the integration of new data in cognitive experiences of the students, but also at triggering reactions or against aspects analyzed.

As relatively immediate effects associated with the use of the film, real records or simulations, we found the students develop a critical spirit, often leading to heated discussions and moments of tension, but with an enhancer role, stimulating learning. We could see the fact that students came with various innovative ideas designed to change the current situation at that time in placement centers, largely encouraging the conduct of voluntary actions carried out with disadvantaged children, something somewhat new at that moment in our country.

Basically, the students developed a sense of responsibility for their own learning, engaging where possible, in anything that was related to preparation for exerting certain professions, including people, especially children, who manifested a degree of difficulty in social adjustment.

Moreover, most of those trained through the education program, currently work in placement centers or in special schools for children with disabilities or in various NGOs, for people with various difficulties.

Specific educational programs of the last few years were marked by a paradigm shift in information technology, so it became much easier to integrate various technical means in the educational process, resorting to various softwares that support interactivity, collaborative and cooperative teaching as well as development of cognition and meta-cognition.

In this context, based on awareness of the positive impact they have had in the experience described above, the educational film, through various real or simulated records we wanted to recreate that educational setting with students pursuing teaching practice in kindergartens and primary schools preparing for a teaching career.

Unfortunately, current conditions in our country do not favor a contractual collaboration with educational institutions to support multiple contexts of

students' learning situations. If abroad, access to online images of classes of students and groups of children are possible at any time, with the purpose of witnessing the act of teaching, we can only use records of such activities. Even so there is a degree of reluctance to use such recordings as teaching material for analysis, out of concern not to have committed errors, which, in fact, would be instances of reflection and correction.

In this situation we used own materials recorded on several occasions, in two categories: real situations that give classroom activities (most previously prepared and carefully conducted), and recordings of simulated activities where erroneous actions were intentionally inserted that had to be identified and corrected by the students, in agreement with theoretical knowledge and practical experience already available.

Both types of programs broadcast by the computer and the video projector showed positive values, bringing extra information to students, but also stimulating their critical faculties and elements of critical analysis of the current situation.

The presence of these means of training in the forms of organization of educational activity provides the opportunity to work with experimental montages to acquire the knowledge through own efforts within the practice of learning by discovery. At the same time it presents problematic situations to teaching, providing support for performing exercises and solving problems and triggers emotional attitudes (M. Teodor, 1980).

Applications we have conducted with the students were oriented in two directions: 1. projection and analysis of relevant educational films, previously recorded, in which "the actors" were either students practitioners from previous years or teachers who conducted educational activities on several occasions (inspections, demonstration of practical activities, etc.); 2. projection and analysis of records of current students who have conducted teaching and learning activities in kindergartens or schools within the teaching practice.

I think it is representative for the subject in question to illustrate some of the proposed activities for the students due to the use of the educational film in practical training:

- Elaboration based on a critical inventory of a list of errors associated with classroom teaching sequences observed in the various recordings;
- Identification of teaching conduits exhibited by the educational framework according to the main theories of learning;
- Deduction of consequences in terms of children's education organizing formal and non-formal learning situations;
- Identifying the causes of learning disabilities present in children and the proposal of possible solutions to remedy;
- Presentation of for and against arguments in relation to their own conduct manifested in the context of practical activities;

- Reference of their learning experiences to specific situations in the school curriculum environment.

Students were constantly encouraged to ask as many questions to the teacher or to colleagues who have held activities shown in the records. Interpersonal communication was stimulated by organizing discussions and debates among students where they were asked to argue the use of different ways of conducting educational activities, issuing new work variants, alternative to those already taken, possibly with a higher potential from a formative point of view, to openly and critically express their opinion etc.

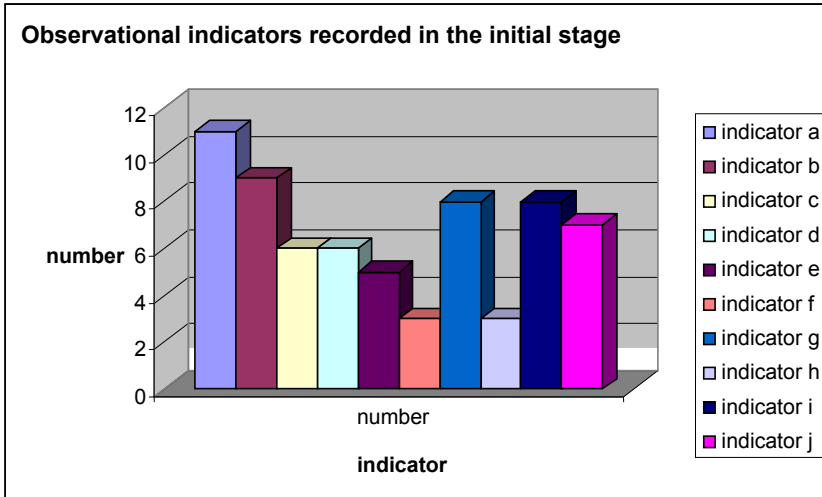
We appreciated that all these aspects of conducting educational activities are specific conditions and situations that may lead to the development of critical thinking and the forming of correct practical skills.

In order to have an increased relevance of results of the projection and analysis of educational videos for training students' practical skills we drew up an observation grid where we established a series of observational indicators. They were designed to measure the degree to which this kind of experience favors the formation of correct habits related to teaching practice activities of students. The observation grid was completed twice, once at the beginning of the school year, shortly after students began teaching practice, then in the middle of the semester, to notice any differences in results.

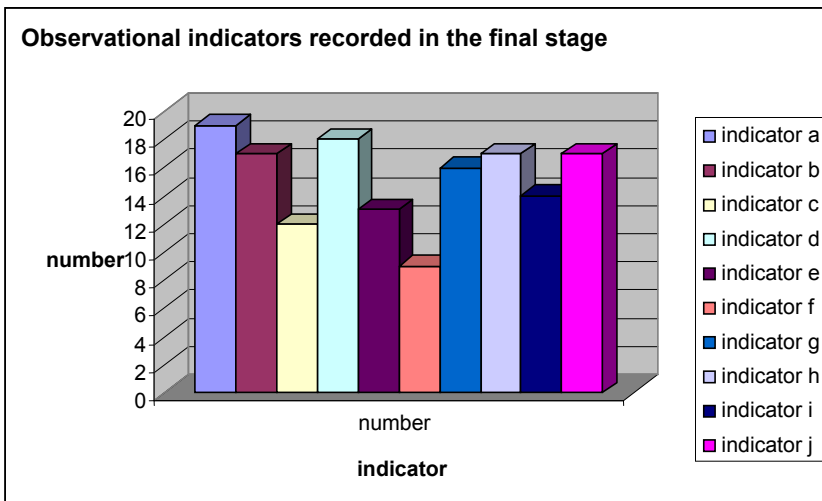
Registered observational indicators were:

- a. the number of students who are actively involved in analyzing projections;
- b. the number of questions asked towards the teachers and colleagues, in reference to the recordings;
- c. the number of correct sorting of relevant information from the recording;
- d. the number of references to their own learning experiences;
- e. the number of problems correctly identified by students;
- f. the number of interventions which involved providing alternative solutions to the issues pointed out in records;
- g. the number of references to theoretical knowledge learned in courses / seminars;
- h. appropriate number of personal reflections manifested in relation to teaching behaviors noticed in the film;
- i. the number of correct explanations associated with conducts observed in recordings;
- j. the number of correct identifications of errors of practical conduct, intentionally inserted into records.

Reported differences in the two phases are shown in the graphs below:



**Fig. 1.** Number of observational indicators recorded in the initial stage



**Fig. 2.** Number of observational indicators recorded in the final stage

As shown in the figures above, after a few weeks of performing teaching practice and analysis exercises of the presented teaching films, the 27 students involved in research, have shown that they have developed the ability of critical analysis of reported cases but also formed practical and appropriate behaviors adapted to pre-school and primary school education.



For example, the number of questions addressed to the teachers and colleagues, in reference to the recordings, had increased considerably, aspect that proved that students filter in their thoughts what they see in the recordings, trying to clarify various behavioral aspects. At the same time, in the final stage, the number of references to their own learning experiences, as well as the number of personal reflections in reference to noted behaviors on the screened film proved to be much higher, highlighting the relationship between theory and practice.

Students noticed errors of practical conduct, intentionally inserted in the recordings, much easier in the second phase, something that demonstrates that students have mastered the right skills to put into practice the theoretical knowledge acquired, being able to adopt an appropriate professional conduct.

Overall, all indicators registered an increase in the final stage, something that leads us to the conclusion that the teaching film used to form practical skills achieved its purpose.

## **Conclusions**

Modern society involves a new mode of social relations, as well as a new mode of acquiring knowledge, caused by radical reorganization of the knowledge itself. Given current technological progress, the efficiency of education depends on how we should adapt and engage in the conduct of educational process with these new technologies, with multiple effects on how to achieve the educational process.

Based on these considerations, in this study I tried to present a short research conducted on a group of students aimed to observe the ways in which the educational system can utilize the information and communication means for achieving optimal educational process. This research aimed to develop the students' critical thinking as well as the training of correct practical skills.

It was assumed that modern education guidelines aim to develop students' critical thinking by using active-participatory methods and techniques, which puts them in the center of the learning process (Dumitru I., 2001). This favors the equal formation of practical skills of students in effectively addressing the correlation acquisition of theoretical knowledge with their practical application.

Using the teaching film in academic learning contributes to the development of multicausal thinking that will make students think and find multiple solutions to different situations in which they find at some point in the educational career will pursue.

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## USING COMPUTER TECHNOLOGIES IN THE RESOURCE ROOM

DORINA-ANCA TALAS<sup>\*</sup>

**ABSTRACT.** This paper proposes an inventory of the resource rooms' infrastructure in Cluj County and resource teachers' attitudes towards computers use, Internet and educational software for students with SEN. 50 resource teachers from Cluj County completed the same questionnaire in 2010 and 2012. The data obtained in this research can be used by schools managers, by developing educational software specialists and training centers for teachers. Resource teachers increasingly realize the importance of using educational software in the instructive educational process and they are willing to participate in training courses for computer and educational software use and electronic resources development for students with SEN.

**Keywords:** *resource teachers, computer assisted technology, resources*

**ZUSAMMENFASSUNG.** Das Benutzen von Computer Technologien im Hilfsraum. Das Ziel dieser Studie ist ein Inventar der Infrastruktur des Hilfsraumes im Cluj Kreis und die Einstellung der Lehrer gegenüber die Benutzung der Computer, Inteneet, und die didaktische Softwares für Studenten SEN. 50 Lehrer aus Cluj Kreis haben denselben Fragebogen in 2010 und 2012 ausgefüllt. Die bekommene Dateien können von Schulemanagers benutzt werden, um die Entwicklung von didaktische Software Spezialisten und Übungszentren für Lehrer. Hilfslehrer werden immer mehr aufmerksam auf die Wichtigkeit der Benutzung von didaktischen Softwares in dem behelrendem Prozess und sie nehmen teil eigenwillig an die Trainigskurse für Benutzung von didaktischen Softwares und die Entwicklung der elektronischen Hilfsmittel für Studenten mit SEN.

**Schlüsselwörter:** *Betriebslehrer, Computer unterstützte Technologien, Hilfsmittel*

### Conceptual specification

Adăscăliței (2007) defined computer assistive technologies as a teaching method that develops modeling and analysis cybernetic principles in education in the context of using information and communication technologies characteristic

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for the contemporary society. Ebenezer S. O. Collier (2004) considers that traditional educational instruction completed with appropriate computer assistive technology is more efficient than traditional instruction. Preminge, Weiss, & Weintraub (2004) demonstrate that using the computer assistive technology, especially the keyboarding in the writing process is an effective alternative for students with written language disorders.

Goldberg, et al. (2003) found that students who use computers in the writing process are more engaged and motivated to write; they also found that all compositions written by students on the computer are quantitatively and qualitatively better prepared compared with students who did not use computers. Participants in these studies were students in second grade. In addition to these studies Hetzroni & Schrieber (2001) concluded that the use of computers by older students (12-13 years) positively influence the quality of writing compared to the students who use pen and paper to write.

Hetzroni and Shrieber (2004) continued Owston and Wideman's (1997) research argues that a comparative longitudinal study between two primary groups of students with and without access to word processing has demonstrated that students who have had access to a word processor demonstrate significant increase in writing skills in the following areas: meaningful writing, quality of content, form of writing and writing organization.

Zhang (2000), Montgomery & Marks (2006) studied the link between the access technologies and students with learning disabilities motivation in writing tasks. All these researchers concluded that using computer information technology motivates students with learning disabilities to participate effectively in writing tasks which were sometimes refused. Students have more confidence in themselves; they are no longer afraid of mistakes or sloppy handwriting and are eager to show the results to their colleagues.

### **Motivation**

Because the new technologies are developing very fast, some classrooms are equipped with smart boards, iPad or e-readers, it is important to know the resources available in the resource room, resource teachers' attitude towards computer use, Internet and educational adapted software for students with special needs. Using communication and information technologies has proved to be very effective in special education, while educational software for children with SEN in Romanian is very limited.

The questionnaire was elaborate and used to collect data in 2010. These data were used to elaborate electronic lessons "Let's write correct orthograms!" using SIAC software for the PhD thesis "Using computer technology in writing language disorder".

Many teachers who answered to this questionnaire in 2010 expressed their will to participate in some training to learn how to develop new software and to use new software, so the same questionnaire was used in 2012 to identify some changes in resource room resources and in teacher training in the computer technology field.

### **Participants**

There were 50 resource teachers from Cluj County present in a biannual meeting who answer these questions in October 27, 2010. 41 teachers were female and 9 teachers were male. The same number of teachers was presented in May 30, 2012 for the same biannual meeting and they answered the same questions. This time 43 were female and 7 were male.

### **Instruments**

#### ***Questionnaire for resource teachers***

The questionnaire was elaborate using some studies Knezek, G. and Christensen, R. (1997), (Attitudes Toward Information Technology at Two Parochial Schools in North Texas, Denton, TX: Texas Center for Educational Technology, The International Committee Japanese Association of University Women Information Communication Technology Education) precum și Leping Liu, D. LaMont Johnson, Cleborne D Maddux (2002), (Evaluation and Assessment in Educational Information Technology, The Hoaworth Press Inc., N.Y).

The questionnaire is composed of five parts:

- Personal data
- Computer access, software and Internet access
- Resource teacher's attitude towards computer
- The frequency and type of activity the resource teachers experience on the computer
- The frequency and type of activity the resource teachers experience on the Internet

### **Hypothesis**

1. All the resource teachers have a computer, specific educational software and Internet in the resource room in 2012.
2. The majority of resource teachers have a positive attitude towards computer.
3. The majority of resource teachers use frequently the computer in the instructional process.

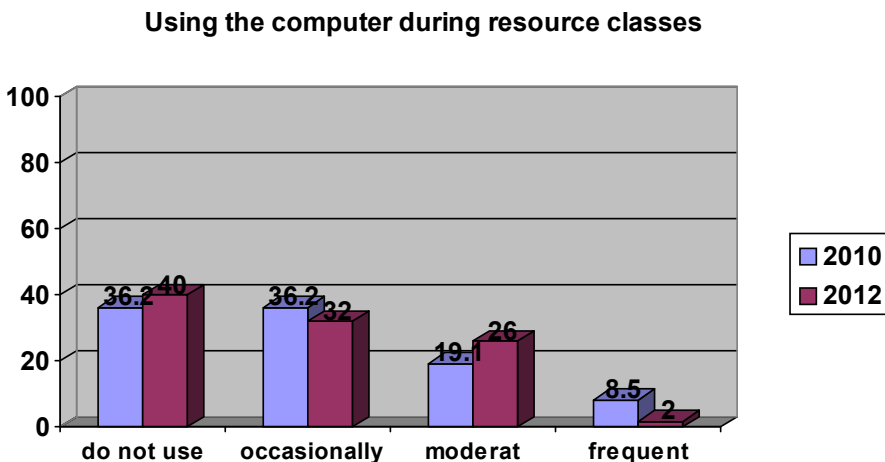
## Results

The percentage of teachers who had a computer in the resource room was 62% in October 2010. This percentage does not change significantly in May, 2012, when 66% of teacher answer positive to this question "Do you have a computer in the resource room? "

Although wireless internet connection is increasingly common in public institutions, the percentage of computers connected to the Internet in the resource room is decreasing from 48% in 2010 to 46% in 2012. The same percentage of 92% of teachers say "I like to write at the computer" is recorded to the application of both questionnaires.

It is gratifying that the percentage of resource teachers who use, or who wish to use educational software increased from 90% in 2010 to 100% in 2012. Also, it is important that a high percentage of resource teachers want to attend the beginner/advanced courses in computers, 76% in October 2010 and 78% in May 2012. The percentage of resource teachers who want to develop electronic lessons for students with SEN, increase from 86% in 2010 to 92% in 2012. Resource teachers consider unanimously that the use of computers in the educational process is beneficial for all the students with SEN.

In 2012, most teachers do not use computers during classes (40%), while 32% use the computer occasionally (1 hour per week or less), 26% of teachers use the computer moderate (2-5 hours per week), and only 2% use the computer frequently (more than 5 hours per week) as shown in Fig. 1.



**Fig. 1.** The percentage of resource teachers' answers for the item:  
Using the computer during the resource classes

The percentage of resource teachers who made worksheets on the computer is growing as it is presented in Fig. 2.

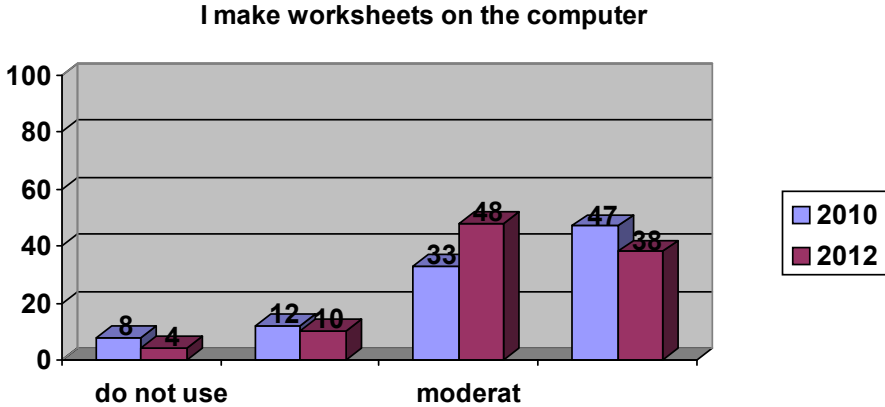


Fig. 2. Percent representation for the item: I make worksheets on the computer

A slight upward trend of teachers who use computers for school documents presentation and storage (grades, notes) as data are presented in Fig. 3.

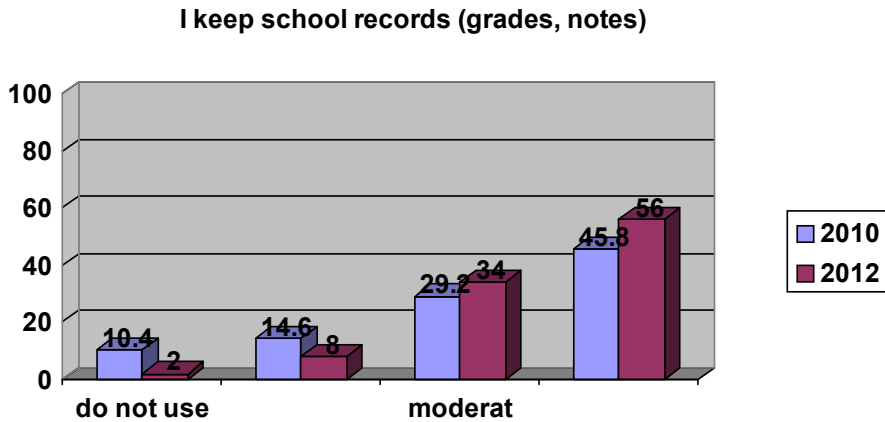
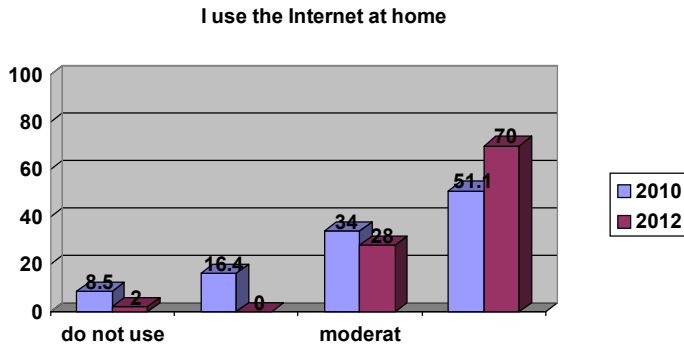


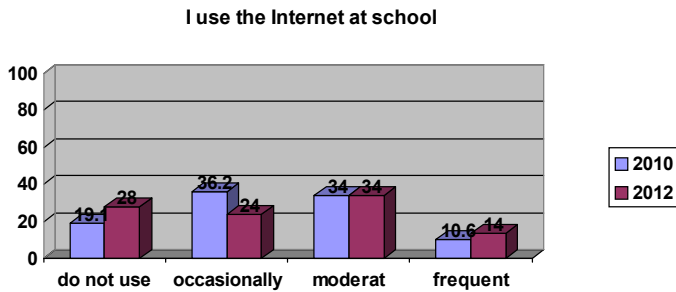
Fig. 3. Percent representation for the item: I keep school records

All percentages relating to the frequent use of the Internet by resource teachers questioned for this surveyed are increasing. Percentage of teachers who frequently use the internet at home increased from 51.1% in 2010 to 70% in 2012 (see Fig. 4) compared with the percentage of teachers who frequently use the Internet at school 10.6 % in 2010 to 14% in 2012 (see Fig. 5).



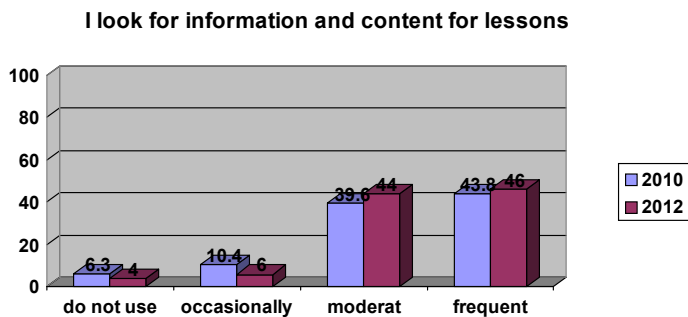


**Fig. 4.** Percent representation for the item: I use the Internet at home



**Fig. 5.** Percent representation for the item: I use the Internet at school

46% of respondents frequently communicate with family/friends over the Internet in 2012 compared with 25% of respondents in 2010 and 46% search for information and content for lessons through the Internet in 2012 compared to 43.8% in 2012 as can be seen in Fig. 6.



**Fig. 6.** Percent representation for the item: I look for information and content for lessons

## Discussion

The first hypothesis is not confirmed. Only 66% of resource classrooms are equipped with computers in 2012, 4% more than in 2010. Only 46% of resource teachers have Internet connected computers in 2012, so there is a 20% of resource rooms equipped with computers, but not connected to the Internet, although all the schools have Internet connection. A small percentage, 44% of respondents say they have specific educational software for students with SEN.

The second hypothesis concerning teachers' attitude towards computer is confirmed. Resource teachers responded unanimously on the following items: "I like / I'd like to use educational software", "I think it is important to learn how to work the computer" and "I believe that the use of computers in instructional education is beneficial." 78% of the resource teachers want to participate in open beginning/advanced courses in computer use.

The third hypothesis, most teachers frequently use the computer to support instructive educational process is not confirmed. It is worrying that, in 2012, 40% of the resource teachers say they do not use the computer during the resource classes.

Figure 1 presents the results recorded as percentages for computer use during resource class. While 66% of the resource teachers say they have a computer in the resource room and 40% of the resource teachers in this survey say they do not use computers during resource classes, we see a small percentage of 6% of resource teachers that although have a computer in the resource room they do not use it during resource classes. Perhaps, the absence of appropriate educational software for students with SEN determines these teachers to use only traditional teaching aids during resource classes.

## Conclusions and perspectives

As the anonymity of the respondents, it is not known if the same teachers were present at the first and second application of the questionnaire. Regardless if there were the same people present for the first meeting when the questionnaire was given for the first time and the second meeting for the second questionnaire application, infrastructure issues for the resource rooms are the same. It is absolutely necessary to create an infrastructure to allow full access to Internet-connected computers for all resource teachers.

Although most resource teachers want to use educational software and they want to develop electronic lessons for students with SEN, they do not have access to a lessons generator to enable them to develop electronic materials depending on the particular group of students or depending on the

particular student needs in a short time and with less effort. There is a lot of educational software for students in regular education in the stores and on various websites, but that software cannot be used for students with SEN.

Resource teachers increasingly realize the importance of using educational software in the instruction process and they are willing to participate in training courses in the use of computers and educational software for students with SEN. The resource teachers use personal computers to buy various products online and to pay bills online.

Authorized institutions must take into account the need to introduce new courses and training in the computer-assisted technology for resource teachers.

In the future it will be important to interview the school managers and to justify the importance of computers in the resource rooms. Teachers need support to establish the exact form and purpose to the work of educational computer use. Planning and teaching should include computers and educational software sequences based on the educational needs of a group of students or one depending on the particular student needs.

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