PSYCHOLOGIA

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CUPRINS – CONTENT – SOMMAIRE – INHALT

PSYCHOSOCIAL FACTORS AND CONDITIONS ASSOCIATED WITH THE NON-ORGANIC FAILURE TO THRIVE IN INFANTS AND YOUNG CHILDREN

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ABSTRACT. Non-organic failure to thrive in infants and young children is a severe condition with a strong impact on the child's developmental outcomes. We analyzed social environmental, emotional, behavioral and temperamental factors, as well as several mental health issues drawn from observation and assessment of sixty-nine infants and toddlers hospitalized for nutrition disorders, in order to determine the impact of non-organic FTT on the child's development at this stage. Several implications for enhancement of resilience were also derived.

Keywords: *non-organic failure to thrive, infant development, mental health screening, malnutrition, psychosocial stressors.*

ABSTRAKT. Psychosozielle Faktoren und Bedingungen verbunden mit der nicht organischen Gedeihstörung bei Babies und kleine Kinder. Die nicht organische Gedeihstörung bei Babies und kleine Kinder ist ein sehr ernster Zusatand mit einem großen Einfluss auf der Entwicklung der Kinder. Wir haben sozielle umgebende, emotionelle, verhaltensweisliche und anfällige Faktoren aber auch einige geistige gesundheitliche Ergenisse aus Beobachtungen und Bewertungen von sechsundneunzig Babies und Kleinkinder aus dem Krankenhaus mit der Diagnose Ernährungsstörrung, um den Einfluss der nicht organischen Gedeihstörung bei der Entwicklung der Kinder auf dieser Etappe zu bestimmen. Einige Auswirkungen für Betonung der Ausdauer wurden auch abgeleiten.

Stichworte: *nicht organische Gedeihstörung, Entwickung der Babies, geistige gesundheitliche Rasterung, Unterernährung, psychosozielle Stressfaktoren.*

Failure to thrive (FTT) is a condition detected in infancy and early childhood, diagnosed before age two, with great impact on developmental outcome. Among other "psychophysiological dysregulations/ disturbances" (King et al., 2000, p. 5314) it implies a great risk on the child's physical and psychosocial development (Robinson et al., 2001, Gilliam & Mayers, 2002). The condition is "characterized by a marked

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deceleration of weight gain and a slowing or disruption of acquisition of emotional and social developmental milestones. Deceleration of linear growth and head circumference growth are associated but not primary phenomena" (Woolston, 2002, p. 641). Failure to thrive is a disruption of the child's normal development that, without help, can increase the risk for child neglect, abuse and death (Iwaniec, 2005). Block et al. (2007) consider the prevalence of FTT much higher than reported, as approximately 50% of children suffering from this condition are not identified.

There are three *components* of FTT: (1) reduced weight gain, (2) delay in linear growth and (3) developmental delay, with significant differences in etiology, age of onset, severity, associated problems, family and environmental stress (Molitor & Mayes, 2002) between individual children. Sometimes FTT is the only symptom for very severe medical conditions, such as Bartter Syndrome (Allapathi et al., 2008), it is a sign of illness or abnormal function (Hull, 2002), an early warning sign of vulnerability (Block et al., 2007) and always reflects important and various deficits.

From a *historical* point of view, the concept was first described in 1897 and in 1908 Chapin (Hull, 2002) acknowledged that in certain infants the growth problem reappears after returning in a dysfunctional environment after their growth was improved. FTT was first described in DSM-III as a reactive attachment disorder, the problems of growth and feeding were ignored at the time when the manual was published. DSM-IV included the disorder among the newly described category of feeding disorder of infancy and early childhood. Various terms were used for the disorder along the history of research in the field, with more or less accuracy ("hospitalism, anaclitic depression, institutionalism, environmental retardation, maternal deprivation syndrome, psychosocial deprivation dwarfism, deprivational dwarfism, deprivation syndrome, FTT, environmental FTT, and nonorganic FTT syndrome", Molitor & Mayes, 2002, p. 641).

The disorder is either *organic* in nature, when a physical disease is present and affects the child's growth, or environmental (*nonorganic*), in the absence of physical disease (Martin et al., 2008), related to family, institutional, individual factors. Martin et al. (2008) assert that an organic condition may often generate a feeding disorder, while behavioral factors maintain the condition over time. The nonorganic form was often associated with failure of the attachment relationship between infant and mother during the first year of life, lack of bonding and engagement especially with respect to feeding (Hull, 2002), usually in absence of caloric deprivation.

The onset of FTT is in the first three years of life and children who present the disorder in the first year of life usually suffer from food deprivation or a physiological disorder interfering with caloric intake, while toddlers and young children who develop the disorder usually suffer from problems in the interaction with the caregiver. (Woolston, 2002)

Benoit & Coolbear (2004) consider FTT particularly interesting for the fields of attachment theory and developmental psychopathology as it raises the question whether a disturbed relationship between caregiver and child or certain child

characteristics, not related to the environment in which he/she is raised and to the relationship with the caregiver interfere most with child's development. Block & Krebs (2005) acknowledge the importance of attachment disturbances for the prediction of developmental disorders in childhood and though they are not always associated with FTT, similar factors contribute to the prevalence of both disorders. Robinson et al. (2001) mention several factors referring to the parents' life, such as: parental maltreatment history, traumatic childhood experiences, aberrant early nurturing, conflictual couple relationship, domestic violence, stressful life events, financial difficulties, deficient parental competencies, insecure attachment, social and family problem solving skills as factors that contribute to the development of FTT among children from diverse social environments, in all levels of the society (Hull, 2002, Iwaniec, 2005, Block & Krebs, 2005).

Physical and emotional deprivation of the child, child neglect and/ or abuse, poor caregiving, family stress, chronic illness in the family, divorce/ separation, single parenting, lack of education, social isolation, maternal emotional unavailability due to depression, maternal personality disorder, parental substance abuse, lack of pleasurable relationship during feeding and other signs of ignorance towards child's needs (poor hygiene, diaper rash, skin infections), unattendance of the child while he/she is left in the bed for long periods, infant temperament (Hull, 2002, Marans & Cohen, 2002, Block & Krebs, 2005, Iwaniec, 2005, Martin et al., 2008) are risk factors for FTT and poor developmental outcome. Gillian & Mayes (2002) identify disturbances of the parent-child relationship, environmental factors, repeated separations and child's characteristics, such as apathy and withdrawal as factors related to failure to thrive. Iwaniec (2005) mentions conflicts in the home, chaos, poverty, lack of information for parents about children's developmental needs as other factors that contribute to impairment of progress.

The social learning theory explains children's feeding and eating disorders by considering the social interactions during meals, feeding practices are considered to affect the child's feeding behavior and either determine or maintain the feeding problems (Martin et al., 2008). Richters & Volkmar (2002) argue that in the case of infants with nonorganic FTT mothers show less positive affect, interact less, tend to terminate feeding arbitrarily and they report the lack of emotional support from extended family.

As Molitor & Mayes (2002) notice, FTT is a common disorder, especially for children coming from low-income families and Martin et al. (2008) cite the opinion that FTT should be treated as a separate *pediatric social illness*, thus needing the behavioral assessment of the feeding interaction for diagnosis. As FTT has lasting effects both on physical growth and cognitive and social functioning and it is quite common among both sexes, though a little more frequent among boys at an older age (Woolston, 2002), it represents a great concern in countries such as USA, but given its heterogeneity, research within the field are quite scarce (Benoit, 1993, after Molitor & Mayes, 2002).

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Thus, the etiology is multifactorial, any factor that can determine problems with eating or caloric intake, in relation with disturbances in the child – caregiver affective interaction and relationship, infant organic disease, prematurity, neurologic and behavioral problems, long and frequent separations from mother due to hospitalization, maternal immaturity and lack of experience as in the case of adolescent mothers, single motherhood (Woolston, 2002, Block & Krebs, 2005, Daniel et al., 2008, Martin et al., 2008) can account for the occurrence of the disorder.

FTT has been *associated* with psychopathological disorders such as depression, hypersensitivity to stimulation, avoidance of interaction with others, lack of responsiveness, expressionless face (Hull, 2002, Marans & Cohen, 2002), as well as multiple developmental perturbations, such as delays in different developmental areas, lack of self-care skills, attention deficits, emotional and behavioral disorders, language retardation (Richters, Volkmar, 1994), often associated with autism. Other behaviors include: gaze aversion, inactivity, under-reactivity to stimulation, rumination, along with the physical growth problems. The infant resists being held and shows signs of discomfort or resistance when picked up. Benoit & Coolbear (2004) assert that on the long term, FTT can affect the intellectual functioning, reading and language skills, adjustment to social environment, regulation, weight and height, the attachment relationship established between child and caregiver being a possible mediator factor between risk and FTT.

The *outcome* of the disorder depends on various factors, such as "socioeconomic status, maternal education, parental mental illness, and family social functioning" (Woolston, 2002, p. 642), although no effect was proven for the demographic characteristics such as family size, mother's age, education, marital status or sex of the child (Richters & Volkmar, 2002).

Resilience is "the ability to thrive as an individual despite being exposed to serious adverse life circumstances, situations, stressors, and risks" (Hartman & Winsler, 2005). One sense of the term refers to a general human characteristic to adapt, be flexible and survive negative life events. In another sense, the term refers to the psychological quality to recover from trauma or overcome risks and achieve high competence in various developmental domains, namely an ability to thrive when faced with adversity and trauma. Hartman & Winsler (2005) identify a number of protective or buffer factors found in groups of resilient children exposed to difficult situations. These factors fall into three categories: individual, family and external support factors and are usually identified in older children. Thus, we find relevant to investigate the nature of these factors, as compared to factors leading to FTT in infants and toddlers exposed to risk factors.

The debate over the need for caloric intake associated or not with emotional and sensory stimulation in malnourished infants is still actual, with some authors sustaining that food intake alone is not sufficient for weight gain, while others arguing that a diet rich in calories is enough for weight gain even in under-stimulated infants with FTT. (Molitor & Mayes, 2002) From the triad of symptoms associated with FTT, research evidence has shown that reduced caloric intake is the cause for

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physical problems (reduced weight gain and inadequate growth), while emotional deprivation accounts for the developmental delay.

The *treatment* steps include the assignation of a primary care nurse who establishes a relationship with the baby, while targeting the mother's engagement and bonding, thus rehabilitating the mother – infant relationship. The involvement of social services if often required in order to ensure the infant's safety and monitor the parents' progress (Hull, 2002), so in order for the treatment to be efficient on a long term period, it needs to be multidisciplinary. On a long term, the effects of nonorganic FTT can leave sequelae in terms of reduced brain size, later emotional and learning problems, lower cognitive performance, behavioral difficulties, personality development (Hull, 2002, Block et al., 2007).

Iwaniec (2005), Daniel et al. (2008) identify two basic categories of interventions in the case of FTT children: (1) crisis intervention (environmental stress reduction, assistance with family issues like poverty, housing, health, treatment of child's feeding difficulties, food aversion and avoidance, adjustment of food intake) and (2) therapy, counseling and support (improvement of interaction during feeding, issues referring to formula preparation, feeding techniques, caloric intake, vomiting, play and talk, strengthening the mother – child bond, reducing negative feelings, attachment work, cognitive therapy, approach of financial difficulty). Careful and long monitoring of outcomes is necessary in order for the child and his/ her family to reach satisfactory outcomes. Block et al. (2007) reported that early intervention conducted at children's home reduced many of the possible effects of the condition, so vulnerable children and families should benefit from intervention and follow-up in order to ameliorate developmental risks. Hospitalization of children with nutrition disorders in infancy and early childhood is subject of controversy, but as Martin et al. (2008) state, it offers the possibility for intensive, multiple daily feeding treatment, though it is an artificial setting that may also have unwanted effects.

Our present study has several **objectives**: (1) to investigate the impact of infants and toddlers' age, gender, degree of malnutrition, age of debut and duration of hospitalization on the acquisition of non-organic FTT; (2) to establish the influence of non-organic FTT on the child's development on several areas: fine and gross motor, cognitive, language and social-emotional at admission in and release from hospital; (3) to determine the role of the condition on infant mental health; (4) to establish the association between FTT and physical, psychological and social characteristics of children and the environment where they were nurtured before admission in the hospital. We **hypothesize** that: (1) the age of admission in the hospital and length of hospitalization are significantly higher for children with FTT; (2) the severity of malnutrition is significantly higher in children with FTT than resilient children; (3) mental health is significantly more impaired in children with FTT than children without FTT; (4) the developmental delay is significantly higher in children with FTT than in children that do not acquire the condition, both at admission and release from hospital; (5) socially depriving conditions are significantly more severe in children with FTT than children without the condition.

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Method

Participants

Sixty-nine infants and toddlers hospitalized for nutrition disorders and associated medical conditions were included in the study. The selection of participants was made targeting the sample homogeneity and exclusion criteria were severe neurological disorders (cerebral palsy), sensory disability and severe acute physical condition. *Ethical* principles were data confidentiality, anonymity, avoidance of stigmatization and discrimination, use of non-intrusive assessment and avoidance of child discomfort during data gathering. The exclusion criteria did not refer to intervention, which was accessible to all children in the clinic.

The children were considered to suffer from nonorganic FTT if, besides having a lower developmental level (which applies to the whole sample), remain below developmental level for a month (Iwaniec, 2005) after admission in the hospital and fail to gain weight despite being properly fed, compared to other children cared for in the same conditions, which formed the resilient group. An important issue is that all children are exposed, besides different other factors, to an important medical condition, namely the malnutrition. Despite the similarities in the caregiving environment, 36 children (representing a proportion of 52.2% of the total number included in our sample) were resilient and did not develop the non-organic FTT, while 33 children (47.8%) developed this condition.

The participants were aged between 2 and 28 months (mean 8.58, SD 6.03), 43.5% female and 56.5% male. Considering the presence of malnutrition, the sample distribution was 8.7% first degree, 2.9% degree I/II, 40.6% second degree, 15.9% degree II/III and 31.9% third degree malnutrition. As the number of children with malnutrition I/II was very small, these children were included in the subgroup with first degree malnutrition for data processing.

Instruments and procedure

Developmental level was assessed for all the participants by semi-structured observation, that was built on items from different instruments. Observation was considered appropriate for children's special needs and the conditions under which they were assessed, namely the hospital setting. Items from Brunet-Lezine Scale for Measuring Psychomotor Development in Early Infancy (Roşca, 1972) and Denver Developmental Screening Test (Frankenburg, 1985) were used along with data extracted from scientific literature to build observation checklists, based on which each participant's developmental level was established. Developmental level was established for five areas: (1) gross motor; (2) fine motor; (3) cognitive; (4) language and (5) social-emotional. Developmental delay in each area was operationalized as the difference between chronological age and developmental age and was established both at admission in and discharge from hospital. The assessment was only performed when baby health and state allowed and special attention was given to avoidance of discomfort during the process.

Infant mental health screening was performed using The Mental Health Screening Tool (children 0 to 5 Years), MHST 0-5, designed by California Institute for Mental Health (2000). The tool was developed by experienced professionals in the field of infant and young children mental health and proved useful for identifying children that need detailed mental health assessment. The screening instrument contains five items; the answer "YES" to any of them implies the need for further more detailed assessment of the child. The items refer to the child's history (abuse, trauma, neglect, exposure to violence), behavior (uncontrollability and/or passivity, withdrawal) and placement, childcare, education. Though it has the disadvantage of being a less detailed and elaborated instrument, the MHST 0-5 is a cost-effective, easy to use tool for a quick screening of children when admitted in the hospital. The data resulted from the detailed infant mental health *assessment* process obtained by using the DSM-IV-TR (American Psychiatric Association, 2000) are also relevant for the subject under research and will be presented.

Data from medical records, discussion with the pediatrician and the medical staff, as well as some unstructured interviews with family members were collected (demographic variables, children's medical diagnosis and characteristics, ecological particularities). All participant children had nutrition difficulties when they were first assessed and failure to thrive was established on the basis of their physical recovery after they were admitted in the hospital, given that the ecological variables were controlled for as the same amount and quality of care was provided for each individual child.

The assessment was performed individually for each child, at least a week after admission, during several sessions, after the child was considered adjusted to the new environment and caregivers. Data analysis was performed using SPSS 13.0 for Windows by both descriptive (frequency analysis) and inferential statistics. Statistical tests were selected according to the hypothesis tested and type of data: Pearson's chi square, Student's t for independent samples, Wilcoxon signed-rank test (S), Kolmogorov-Smirnov test (Z).

Results and discussion

The average age at hospital admission of children with non-organic FTT in our sample is significantly higher than that of resilient children (t=2.7, p<.01) and the severity of malnutrition also accounted for significant differences (χ^2=9.98, p<.05). As shown in figure 1, most children with first degree malnutrition did not develop non-organic FTT (85.7% of the children in this subgroup), as well as most children with second degree malnutrition (65.5% of the children in this subgroup), while large proportions of the children with II/III and third degree of malnutrition developed non-organic FTT (63.6% and 68.2%, respectively). Thus, a more severe malnutrition is an important risk factor for non-organic FTT. There were no statistically significant differences in the occurrence of non-organic FTT, depending on the participants' gender.
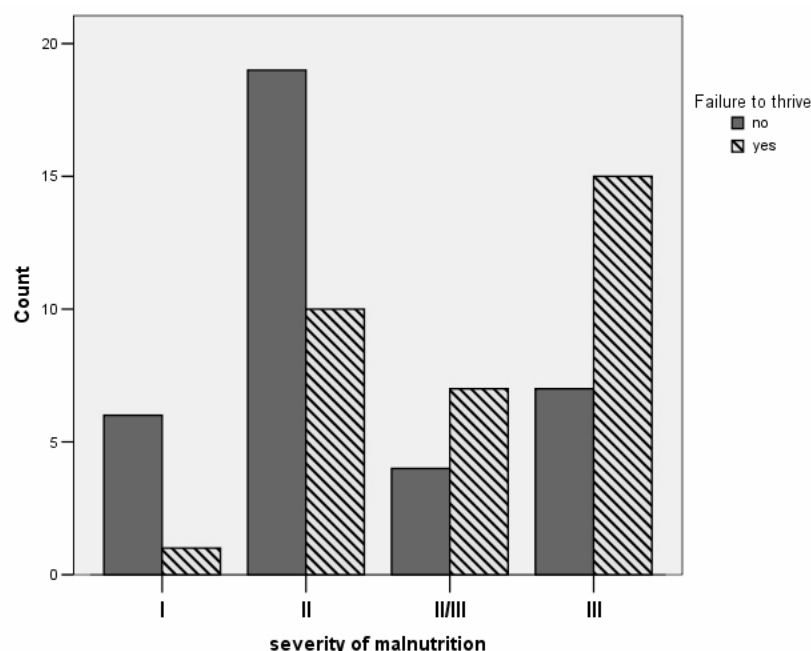
Fig. 1. Frequency of non-organic FTT, depending on the severity of malnutrition

Due to the malnutrition, all children had insufficient weight gain, several presented hypo/ hypertonia, hypotrophy, low immune response to infections, neuromuscular hyperexcitability, dehydration. *Medical disorders* associated with malnutrition were distributed irrespective of the presence or absence of FTT. We could not find associations between FTT and any medical conditions mentioned by previously cited research: 21.7% of all children did not develop FTT and had no other medical condition except the perturbations associated to malnutrition (anemia, lower weight/ height) and 15.9% of them developed non-organic FTT without having any other medical disorder. Medical disorders/ conditions found in children without FTT were: cerebral diffuse hemorrhage, coxofemural dysplasia, hepatitis, Leiner-Moussous desquamative erythroderma, gastro-esophageal reflux, medical disorders/ conditions found in children with FTT were: anal atresia, cystic fibrosis, hypothyroidism, congenital heart malformation, meningoencephalitis, Bartter syndrome, Pierre Robin syndrome and medical disorders/ conditions found both in children with and without FTT were: scabies, atrepsy (marasmus), infantile encephalopathy, palatoschisis, prematurity, celiac syndrome, malabsorption syndrome, Down syndrome, birth hypoxia. It is impossible to generalize any association between these medical conditions and presence or absence of FTT due to our sample dimension, as most of these conditions were found in one to maximum 8 children.

As for the *hospitalization* period, there were statistically significant differences between children with and without non-organic FTT (t=2.69, p<.01), the latter needed much longer hospital stay in order to recover. On the other hand, a longer hospital stay may have negative effects on the child's development and growth. Although intervention has best results when it takes place in the child's home environment, inpatient care is justified and has better results in the case of neglected, maltreated, abused and/ or children that suffer from severe FTT forms (Block & Krebs, 2005) as for these children the hospital represents a protective and predictable environment in which they are more likely to thrive than in their home environment.

The results obtained for *mental health screening* of infants and toddlers in our study show that children with non-organic FTT obtained significantly higher scores than those without FTT (χ^2=47.76, p<.001). All the children that scored zero for the mental health screening, meaning that no risk for their mental health was identified, did not develop FTT and all the children that scored a maximum of 4 points developed FTT. Most children that scored one point (87.5%) did not develop FTT, while most of those who scored two or three points developed FTT (90.9% and 85.7%, respectively). As the authors recommend, any child who scores at least one point at the screening instrument should be referred for detailed assessment as there is a risk of mental disorders.

Most children with FTT (63.6%) were exposed to abuse/ neglect/ trauma, 60.6% manifested unusual/ uncontrollable behaviors such as excessive crying, floppiness/ stiffness when held, difficult to console, tantrums, self-injurious/ self-stimulation behaviors, 97% manifested withdrawal, passivity, lack of age-appropriate verbal expression, unresponsiveness to caregiver and/ or environment, lack of awareness and involvement with surroundings, while only 12.1% exhibited behaviors difficult to manage by the parent/ caregiver due to limited possibilities, either financial or intellectual, so the child was unable to benefit from a stable environment (figure 2). Our results show that those children with nutrition disorders with higher scores at the screening instrument are at great risk for developing non-organic FTT, but maximum is not necessary for the children to develop FTT, as most of those with this condition scored a total of 2 points at the screening instrument. Intervention provided for these children should consider this risk and detailed mental health assessment should be provided.

Among the *temperamental, behavioral and emotional traits* observed in children with FTT were: absence and withdrawal, avoidance towards interactions with adults/ peers, sadness and fearfulness in the presence of others, intense startle reactions/ stiffness when touched, lack or reduced communication, fussiness, excessive crying and difficulty to soothe, emotional tantrums, high irritability and sensitivity, reduced reactivity, lack of curiosity and interest for environmental stimulation, gaze aversion, stereotype movements, flatness of affect and inexpressiveness. As for the resilient children, we found several different characteristics: apathy due to physical condition, but enjoyment of adult's company; activism, curiosity for exploration of

environment; clinginess, need for attention; sociability, participation in interactions; initiative and interest for interaction with others; cheerfulness; emotional expressivity; easy to soothe when crying; communicative, social smiling; receptiveness, alertness; self-stimulatory behaviors.
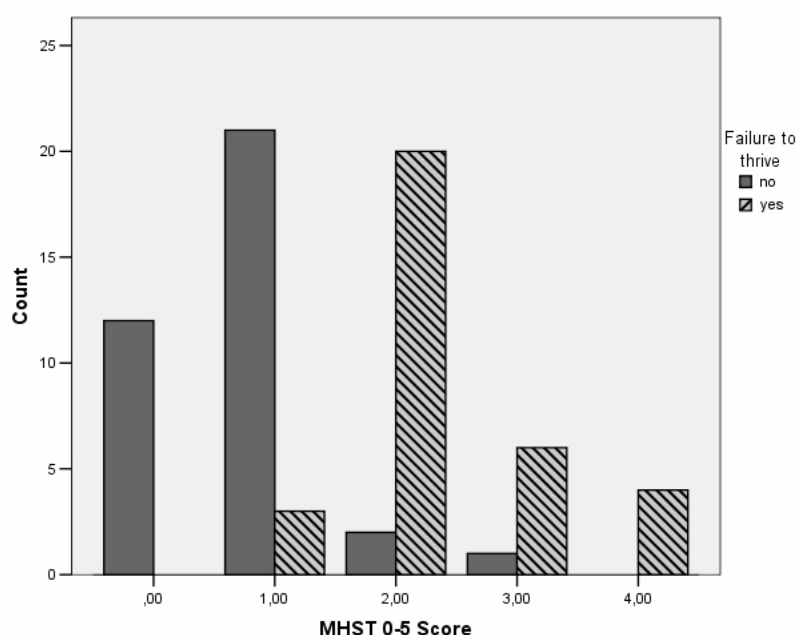
Fig. 2. Mental health screening score for children with and without non-organic FTT

DSM-IV-TR (APA, 2000) mentions several disorders first diagnosed during infancy, childhood and adolescence. Of the total number of children in our sample, 26.1% (14.5% without and 11.6% with FTT) had problematic characteristics that could not be framed in any of the disorders mentioned in the manual, and 17.4% (all without FTT) had no problem behaviors and/ or emotional traits to fulfill a diagnosis in DSM-IV-TR. The rest of the participants fulfilled criteria for different diagnosis mentioned in the manual: 24.6% (2.9% without and 21.7% with FTT) for reactive attachment disorder (RAD) of infancy and early childhood, type inhibited, 17.4% (13% without and 4.3% with FTT) for reactive attachment disorder of infancy and early childhood, type disinhibited, 8.7% (all with FTT) fulfilled the criteria for pervasive developmental disorder (autistic traits), 2.9% (all without FTT) for rumination, 1.4% (without FTT) for stereotypic movement disorder, 1.4% (with FTT) for eating disorder of infancy and early childhood. Thus, our results show that non-organic FTT is associated with severe disorders of infancy and early

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childhood and, interestingly, is only associated with the inhibited type of RAD and not associated with rumination. Certainly, given the small number of children with these conditions included in our sample, the results need further investigation. Temperamental traits, environmental factors and conditions could explain the difference between our results and those of other authors.

In order to determine the *developmental areas* most affected in children with FTT we tested the differences between developmental delays at admission and release from hospital for children that acquired and did not acquire the condition. All developmental areas were affected in children with FTT when first assessed at admission, gross motor delay was significantly greater for children that developed FTT (Z=1.54, p<.05), as well as fine motor delay (Z=1.45, p<.05), cognitive delay (Z=1.57, p<.05), language delay (Z=1.47, p<.05) and most of all the social-emotional delay (Z=2.28, p<.001). Similarly, the assessment at release from hospital revealed significantly higher delay for children with FTT within gross motor area (Z=1.79, p<.01), fine motor area (Z=1.45, p<.05), cognitive area (Z=1.80, p<.01), language area (Z=1.83, p<.01) and most of all the social-emotional area (Z=2.11, p<.001). Thus, it seems that FTT implies perturbations in all developmental areas in infants and young children, but social-emotional and language domains seem most affected.

Our results can be explained in the light of attachment theory, which states that at an early age children thrive in the context of emotional communication with the primary caregiver, and security of attachment is what encourages the child to explore the environment and learn from it. According to the self-determination theory (Ryan & Deci, 2004), relatedness is a basic psychological human need that encourages motivation and development, so if a child's need for belonging is blocked by certain factors (such as separation from mother) or the mother is unable to answer this need (as in the case of most children with FTT) the child's natural tendency toward growth and development may be perturbed.

Each child of the sample was included in an individualized *intervention* plan for sensory-motor, cognitive, language stimulation, attachment-based therapy and Focusing technique, besides the medical care given in the hospital. The intervention targeted the recovery of delays ascertained on different developmental areas, as well as the lessening of long hospitalization effects. Though progress was made by all children without FTT, we found that in the case of these children the delay at release from hospital was not different from the one at admission for gross motor, fine motor, cognitive and social-emotional areas (p>.05), but was significantly higher in the case of language (S=3.44, p<.01), which means that in order to enhance language development, proper linguistic scaffolding is needed in the child's natural environment and the enclosed and limited hospital setting is not enough for him/her to develop communication skills.

The situation of children with non-organic FTT is somewhat different. Despite the intervention, the delay in the areas of fine motor skills and social-

emotional at release was not significantly different from the delay at admission in the hospital (p>.05) and the delay assessed on gross motor, cognitive, language areas was significantly higher at release than the one assessed at admission (S=2.41, p<.05, S=2.92, p<.01 and S=4.66, p<.001, respectively), showing that especially cognitive and language development are severely impaired in these children due to their physical condition, mental health, combined with a long stay in the hospital, where stimulation, even if provided, is limited.

Poverty, low cultural level and precarious living conditions were not different for children with and without FTT, the condition was found with similar frequency in all types of *social environments*, but this conclusion needs further testing because most children in our sample came from socially deprived environments: 95.5% of the families were poor, but children coming from families with better financial conditions also developed non-organic FTT, 91% of the families had low cultural level, but FTT was equally found in children coming from families with medium/ high cultural level and 91% of the families had inadequate living conditions, but also children coming from families with proper housing presented non-organic FTT. Thus, as mentioned by above-mentioned authors, the condition is found in children coming from all social environments.

Most of the children included in our study come from similar socially deprived environments, but only a part of them acquired non-organic FTT. We analyzed the *psychosocial stressors* to which children were exposed, besides the above-mentioned low/ absence of family income, low/ absence of proper living conditions and low cultural level. The main risk factor identified in our sample was domestic violence, as 88.9% of the children exposed developed non-organic FTT and other important factors were child's abandonment in the maternity ward (6.1% of the total number of children with FTT and none of those without the condition), long and frequent hospitalization (6.1% of the children with FTT), child neglect (27.4%) due to one of the following: (1) large number of children, (2) maternal illiteracy and single motherhood, (3) adolescent and immature mother, (4) parental intellectual disability, risk of child abandonment (18.2%) due to: (1) large number of children, (2) parental intellectual disability, (3) child's diagnosis of Down Syndrome. Institutionalization was a factor for acquirement of FTT if its debut was at the age of 5 months (one of the children from our sample) and for child recovery without FTT if started at birth (one of the children from our sample). Other factors associated with FTT, found each for one child in our sample were: maternal anxiety, maternal death and parental intellectual disability.

On the other side, factors associated with child recovery from nutrition problems, without acquirement of non-organic FTT were: large family as support network (36.1%), first child of a single mother with an age over 18 years (16.7%), no psychosocial stressors (27.8%), risk of child abandonment due to maternal mental illness, schizophrenia (5.6%). Factors associated with both presence and absence of FTT were: single, intellectually disabled mother and single mother at risk of child

abandonment. Other factors from children's social environment, as well as characteristics that were not assessed or hospital setting and admission without the mother did not allow for them to be observed may explain the difference between children with and without FTT. What surfaces from our investigations is the hypothesis that mother – child bond, independent of social class or family financial conditions, may have a crucial role in child development, as argued by the presence of the above-mentioned factors and their association with either resilience or presence of non-organic FTT.

Conclusions and implications

Our first four working hypothesis were confirmed, while the data we gathered was not enough to reject the null hypothesis in the fifth case. Further investigations on larger samples of children with non-organic FTT, coming from diverse social environments are necessary in order to generalize our conclusions.

The resilience perspective places emphasis on children's strengths and protective factors that can help them overcome difficult situations. By increasing the protective factors for children at risk we can improve the outcomes of interventions that target resilience.

The results show that malnourished children, exposed to psychosocial risk factors can be resilient under certain conditions, mostly related to the environment in which they receive care: social support for the mother and support from extended family, development of child's interest towards the environmental stimuli and towards people, bonding and relating with caregivers, sensory, motor, cognitive and language stimulation, besides the medical care. Children who were exposed to extremely adverse environments, such as those marked by domestic violence, abuse, severe trauma and neglect, children abandoned at birth, children with long and frequent hospitalizations were most likely to acquire non-organic FTT, so intervention should be provided in order to limit the effects of these conditions from a very early age.

Children who are maltreated in their home environment are more likely to develop insecure and confused patterns of relatedness (Iwaniec, 2005) than disorders of attachment. Thus, the social-emotional area, along with language and communication are most affected in children with non-organic FTT. Children develop various attachment styles in order to cope with the disorders they face in their relationships with the family and/ or caregivers. FTT is a condition strongly related to the child's relational network and these connections are important to establish in order to lower the effects of the condition on the child's physical and psychosocial development.

Our results show that children with non-organic FTT are often at risk of clinical disorders, so assessment of their mental health should be considered even at this early age. The mother's mental health should also be carefully evaluated, as it strongly influences the attachment relationship and, thus, the child's development.

Intervention programs designed to approach the enhancement of parental skills, as well as the mother – child relationship, would be useful in order to prevent

the acquisition of this condition. We found that maternal immaturity could be a risk factor, so support for the single, young mothers would also be a prevention method. Social nurseries for mothers in difficulty, day-care centers to help the mother while at work could have a role in helping both mother and baby, so research could be done in order to test their efficiency.

Limitations and future research

Block et al. (2007) consider hospitalized children with FTT as the most complex and extreme cases that struggle with the condition, as many cases are treated in their natural environments. Our study only focused on hospitalized children with FTT, so future research could compare these children with the ones treated in their homes. A more detailed assessment is required for each case with FTT and larger samples should be investigated in order to establish more accurately the associations between various factors that contribute to the acquisition of the condition, as well as its mental disorders correlates.

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CONNAÎTRE ET APPLIQUER DES MESURES DE PROTECTION DE L'ENVIRONNEMENT DANS L'ÉCOLE PRIMAIRE

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ABSTRACT. This research aimed at testing a hypothesis. If pupils are involved in learning processes (extracurricular) related to environment protection and the implementation of measures of protection, they learn thorough scientific knowledge; they form cognitive abilities, right attitude and behaviour related to environment. This research took place at Dumitra Primary School, in 2009. The sample of subjects consisted of 36 pupils grouped as such: the 4th grade A was the experimental class, disposing of 18 pupils, the 4th grade B that represented the class for control, which had 18 pupils, as well. By applying both first tests and final ones, we tried to identify the declarative, procedural and behavioural knowledge of pupils in what environment is concerned, at the beginning and at the end of our didactic experiment. Throughout the entire didactic process we encouraged the pupils to take part in extracurricular activities, involving contests, such as: "*Water, a vital element of life and environment*", "*The cleaning detectives*", "*Planting and seeding ornamental trees and flowers in the school's park*", "*Excursion to the Green Garden*", "*Hiking in the forest*". The results obtained at the last study proved that the level of information pupils gathered increased in comparison with the results concluded at the initial test. This was presupposed it was a result of the persuasive extracurricular activities regarding environmental issues during the previous six months, which lead to *the knowledge progression of both groups of pupils*. Still, more obvious change was noticed at the experimental class, which was involved in supplementary activities concerning knowing and preserving the environment. Hence, we confirmed the hypothesis: *if pupils take part in various supplementary activities by which they are trained about possibilities of knowing and preserving the environment, they end up in learning scientific details, they form various cognitive abilities, rightful attitude and behaviour towards environment.*

Keywords: *education, awareness, research, activities, responsibility, experiential learning*

RESUME. Le but de cette recherche a été la vérification d'une hypothèse. Si les élèves sont impliqués dans des situations d'enseignement (extrascolaires) concernant l'environnement et l'application des mesures pour sa protection, ceux-ci reçoivent des

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fortes connaissances scientifiques, ils se forment des capacités cognitives, d'attitudes et des comportements adéquats envers l'environnement. La recherche a été réalisée à l'Ecole Générale Dumitra, en 2009. L'échantillon de sujets a compris 36 élèves : la IVème classe A – la classe expérimentale – 18 enfants; la IVème classe B – la classe de contrôle – 18 enfants. Par l'application des testes initial et final à ces deux classes nous avons poursuivi l'identification des connaissances déclaratives, des connaissances procédurales et des connaissances d'attitudes des élèves envers l'environnement au début et à la fin de l'expérimentation didactique. Le long de l'expérimentation didactique on avait encouragé les élèves dans le déploiement des activités extrascolaires : « L'eau, un élément essentiel de l'environnement et de la vie », « Les détectives de la propreté », « Planter et semer des arbres ornementaux et des fleurs dans le parc de l'école », Une excursion dans la forêt de feuillets, concours. Les résultats obtenus au teste final montrent le fait que la quantité des connaissances des élèves de ces deux classes est augmentée par rapport aux résultats obtenus au teste initial. Grace à l'activité déployée le long de six mois, *les deux classes ont connu un progrès concernant la protection de l'environnement*. Une augmentation plus visible des résultats a été obtenue, cependant, par la classe expérimentale, qui a été impliquée dans des situations d'enseignement extrascolaires pour connaître et protéger l'environnement. Par conséquent, à la fin de la recherche on confirme l'hypothèse formulée au début de la recherche: si les élèves sont impliqués dans des situations d'enseignement (extrascolaires) par lesquelles on vise la connaissance de l'environnement et l'application des mesures pour sa protection, ceux-ci reçoivent des fortes connaissances scientifiques, ils se forment des capacités cognitives, des attitudes et des comportements adéquats envers l'environnement.

Mots-clés: *éducation, prise de conscience, recherche, action, responsabilité, enseignement expérientiel*

Introduction

Le but de cette étude a été celui de trouver des réponses aux questions : Quelles connaissances devraient acquérir un élève durant le premier cycle pour avoir une attitude adéquate envers l'environnement ? Quelles mesures de protection de l'environnement peuvent prendre chaque élève ? Dans quelles situations de l'enseignement peuvent être impliqués les élèves pour acquérir des connaissances scientifiques sur l'environnement et pour s'en former des attitudes adéquates?

Vu ces faits, les objectifs de la recherche ont été les suivants : l'analyse des sources bibliographiques du domaine de la protection de l'environnement ; l'identification des connaissances et des attitudes des élèves envers l'environnement ; l'identification des connaissances nécessairement d'être apprises par les élèves afin de comprendre la réalité quotidienne et en vertu de laquelle on peut édifier l'enseignement systématique et logique ; l'identification des mesures de protection de l'environnement qui peuvent être appliquées individuellement, au niveau local, régional, national, international ; la projection, l'organisation et le déploiement des situations d'enseignement

par lesquelles les élèves reçoivent des meilleures connaissances scientifiques fortes dans le domaine *La connaissance de l'environnement* et ils forment des attitudes et des comportements adéquats envers l'environnement ; la surveillance du procès d'enseignement rendu par les élèves ; l'enregistrement, l'analyse et l'interprétation des résultats des élèves.

On en a essayé à vérifier l'hypothèse : Si les élèves sont inclus dans des situations d'enseignement (hors les activités scolaires) où on fait référence à la connaissance de l'environnement et à la mise en pratique des mesures de protection de celui-ci, ceux-ci reçoivent des fortes connaissances scientifiques, ils se forment des capacités cognitives, d'attitudes et des comportements adéquats envers l'environnement.

Des fondements théoriques

L'environnement inclut « l'ensemble de conditions et des éléments naturels de la Terre : l'air, l'eau, le sol et le sous-sol, les aspects spécifiques au paysage, toutes les couches atmosphériques, toutes les matières organiques et anorganiques, mais aussi les organismes vivants, les systèmes naturels en interaction en comprenant les éléments antérieurement mentionnés, y inclues les valeurs matérielles et spirituelles, la qualité de la vie et les conditions qui peuvent influencer le bien-être et la santé de l'homme» (Loi de la protection de l'environnement, 1995). La protection de l'environnement représente la totalité des moyens et des mesures issues afin de garder l'équilibre écologique, le maintien et l'amélioration de facteurs naturels, la prévention et la lutte contre la pollution, le développement des valeurs naturelles (Rojanschi, Bran, Diaconu, 2002, p. 20). Les chercheurs de l'Université Southern d'Illinois (États-Unis) ont proposé un cadre pour promouvoir les responsabilités concernant le comportement envers l'environnement. Ce cadre implique l'application de 4 niveaux (Hungerford, Peyton et Wilke, 1980, *apud* Costică, 2008).

Premier niveau – *Concepts écologiques* : il inclut la présentation des concepts généraux sur l'environnement, l'écologie, la politique, l'économie, la psychologie et les sciences sociales ;

Second niveau – *La prise de conscience des concepts* représente la compréhension de la manière dont le comportement individuel et collectif envers l'environnement influence la relation entre la qualité de la vie et la qualité de l'environnement ou la manière dont le comportement humain peut résoudre pratiquement les problèmes de l'environnement ;

Troisième niveau – *Investigation et évaluation* : il concerne l'acquisition des connaissances et des habitudes nécessaires pour identifier les problèmes de l'environnement et l'évaluation des solutions alternatives afin de les résoudre ;

Quatrième niveau – *Les habitudes d'action* : le développement des habiletés nécessaires pour la mise en pratique des actions positives pour résoudre les problèmes de l'environnement.

Méthodologie

La recherche a été réalisée à l'Ecole Générale Dumitra en 2009. L'échantillon de sujets incluait 36 élèves : la IVème classe A – une classe expérimentale – 18 enfants; l'enseignante Bozga Livia-Rodica ; la IVème classe B – classe de contrôle – 18 enfants ; l'enseignant Roşu Eugen. La recherche a eu plusieurs variables : une *variable indépendante* – les situations d'enseignement dont les élèves de la classe expérimentale ont été impliqués ; une *variable sujet* – les particularités de l'âge et individuelles des enfants avec l'âge de 10 ans ; les connaissances et les expériences antérieures des enfants à l'égard du milieu d'origine et à l'éducation antérieure ; une *variable dépendante* – les connaissances déclaratives, les connaissances procédurales et les connaissances d'attitudes des élèves.

Avant le début de l'expérimentation formative, pour identifier les connaissances des élèves sur l'environnement, on avait appliqué un teste initial sur les deux classes. Par l'application de ce teste on a poursuivi l'identification des connaissances déclaratives (les premiers deux sujets), les connaissances procédurales (le sujet III) et les connaissances d'attitudes des élèves sur l'environnement (sujet IV).

Test initial

(6 points) I. Répondez aux suivantes questions :
    1. Qu'est-ce que représente l'environnement ?
    2. Quelles sont les sources de pollution de l'environnement que vous connaissez?
    3. Comment contribue l'homme à la destruction de l'environnement ?

(6 points) II. Remplissez:
    1. En Roumanie, on avait pris les suivantes mesures de protection de l'environnement
    ………………………………………………………………………………
    2. Quand les citoyens ne respectent pas les lois et les normes de protection de la nature, les conséquences sont :
    ………………………………………………………………………..........
    3. Parfois, les légumes ont un goût de substances chimiques, parce que
    ………………………………………………………………….……

(10 points) III. Ecrivez la réponse aux questions :
    1. Qu'est-ce que fais-tu avec les déchets ménagers ?
    2. Qu'est ce que feras-tu avec les déchets stockés ?
    3. Comment est-ce qu'on plante les plants ?
    4. Comment est-ce qu'on prend soin des plantes ?
    5. Comment est-ce qu'on peut aider les animaux pendant l'hiver ?

(10 points) IV. Encerclez la bonne réponse.
    1. Avez-vous jeté des déchets dans la rue ? Oui/Non/Parfois
    2. Avez-vous laissé couler l'eau du robinet lorsque vous vous êtes brossé les dents ? Oui/Non/Parfois
    3. Avez-vous planté des arbres ? Oui/Non
    4. Avez-vous planté des fleurs ? Oui/Non

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5. Avez-vous fait du feu dans la forêt ? Oui/Non

6. Avez-vous rompu les branches des arbres pour cueillir des fruits ? Oui/Non/Parfois

7. Avez-vous tué des insectes seulement pour vous amuser ? Oui/Non

8. Avez-vous pris soin d'un animal ? Oui/Non

9. Avez-vous pris soin d'une plante de jardin ou des pots à fleurs ? Oui/Non

10. Avez-vous laissé l'ampoule allumée quand vous êtes sorti d'une chambre ? Oui/Non/Parfois

Pendant l'expérimentation didactique, on avait impliqué les élèves dans plusieurs activités extrascolaires inclues dans le projet éducationnel « La nature, mon amie ! », « «L'eau, un élément essentiel de l'environnement et de la vie», « Détectives de la propreté », « Une oasis de verdure où je peux me jouer et me promener » (Planter et semer des arbres ornementaux et des fleurs dans le parc de l'école) ; « Les amis de la nature » (une excursion au Jardin Botanique de Jibou); « Les trésors de la nature » (un court voyage dans la forêt de feuillets Dealul Târgului) ; « De l' air pur et sain » (concours).

Dans l'étape post-expérimentation, on avait appliqué un test final sur les deux classes pour établir les différences obtenues et l'efficacité des situations d'enseignement. On avait poursuivi l'identification des connaissances déclaratives (les réponses aux sujets I et II), des connaissances procédurales (le sujet III) et des connaissances d'attitudes des élèves à l'égard de l'environnement (le sujet IV).

Test final

(**6 points**) I. Répondez aux suivantes questions:
1. C'est quoi la pollution ?
2. Quelles sont les mesures de protection de la qualité de l'air ?
3. Qu'est-ce qu'il aura lieu si la forêt serait complètement coupée ?
4. En quoi se transforment les feuilles après leur putréfaction ?

(**11 points**) II. Remplissez :
1. Les types de polluants de l'eau qui proviennent de :
  a.) l'industrie ……...……………………………………………….…….…
  b.) l'agriculture…………………………………………………………………...
  c.) les établissements humains……………………………………………………
2. Les conséquences de la sécheresse sont :
3. Les sources de pollution de l'air sont : …………………………………….…………...
4. Les causes de la forêt sont : …………………………………………………………

(**10 points**) III. Ecrivez la réponse aux questions :
1. Comment est-ce qu'on procède quand on récolte les déchets ?
  …………………………………………………………………...……...…
2. Si nous aurions été sages, qu'est ce qu'on ferait avec les déchets récoltés ?
  …………………………………………………………………………………
3. Quel type d'engrais on devrait utiliser pour les plantes ?
  …………………………………………………………………...……………

4. Comment peut-on arrêter la destruction des espèces d'animaux sauvages ?
………………………………………………………………..…………..

(**10 points**) IV. Encerclez la bonne réponse :

1. Avez-vous jeté des débris de verre sur le pré ou à la lisière des forêts ? Oui/Non
2. Avez-vous détruit des fourmilières ? Oui/Non
3. Avez-vous jeté des déchets dans le ruisseau qui traverse votre localité ? Oui/Non
4. Avez-vous fait une sélection des déchets récoltés par catégories ? Oui/Non/Parfois
5. Avez-vous aidé un animal sauvage pendant l'hiver ? Oui/Non
6. Avez-vous jeté par terre des avions réalisés du papier ? Oui/Non
7. Avez-vous offert aux autres enfants les jeux dont vous n'avez plus besoin ? Oui/Non
8. Quand vous vous brossez les dents, vous utilisez de l'eau du verre ?
Oui/Non/Parfois ?
9. Avez-vous planté des fleurs dans le jardin de la maison ou dans les pots ?
Oui/Non
10. Avez-vous allumé les feuilles séchées dans le jardin ? Oui/Non.

Résultats

Au teste initial, les élèves de ces deux classes ont obtenu les résultats présentés dans les tableaux et les diagrammes suivants.

Tableau 1. Les résultats obtenus au teste initial par la classe expérimentale
(la IVème classe A)

Qualificatif	Connaissances déclaratives	Connaissances procédurales	Connaissances d'attitudes	Résultat final
TB	4 élèves	3 élèves	3 élèves	5 élèves
B	9 élèves	12 élèves	10 élèves	9 élèves
S	5 élèves	3 élèves	5 élèves	4 élèves

Tableau 2. Les résultats obtenus au teste initial par la classe de contrôle (la IVème classe B)

Qualificatif	Connaissances déclaratives	Connaissances procédurales	Connaissances d'attitudes	Résultat final
TB	3 élèves	4 élèves	3 élèves	4 élèves
B	8 élèves	9 élèves	9 élèves	8 élèves
S	7 élèves	5 élèves	6 élèves	6 élèves
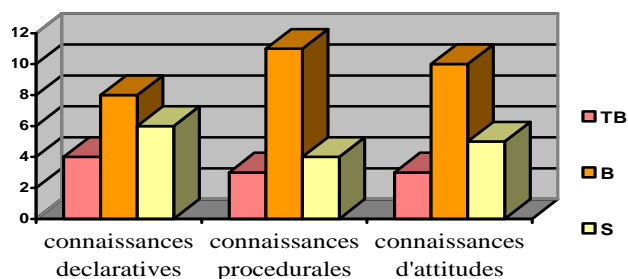
Fig. 1. Les résultats obtenus par les élèves de la classe expérimentale au teste initial
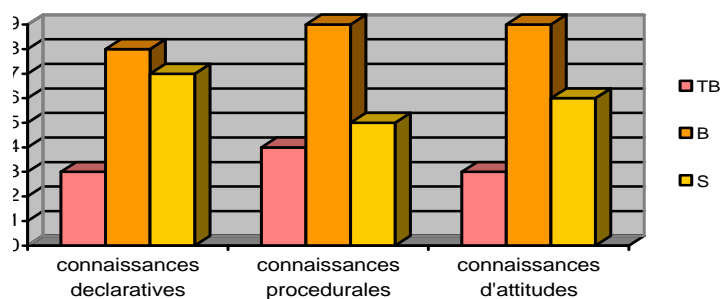
Fig. 2. Les résultats obtenus par les élèves de la classe de contrôle au teste initial
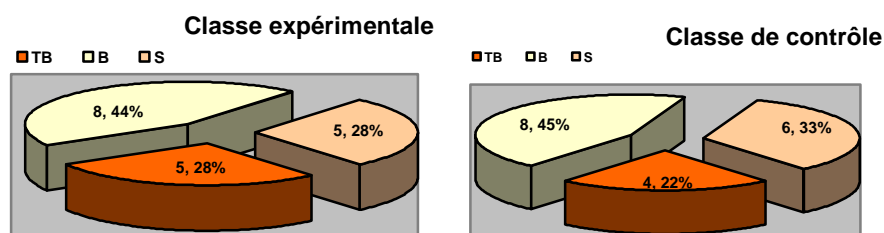
Fig. 3. Les résultats obtenus par les deux classes au teste initial

Dans les situations d'enseignement où les élèves de la classe expérimentale ont été impliqués ils ont appris des diverses connaissances et ils se sont formé des attitudes positives envers l'environnement. Dans l'activité « L'eau, un élément essentiel de l'environnement et de la vie », les élèves ont parcouru un filme documentaire, ils ont nettoyé les berges du ruisseau Târg du centre de la localité Dumitra, ils ont établi

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des modalités d'utilisation de l'eau, ils ont défini les polluants et la pollution de l'eau, ils ont identifié des sources de pollution et des polluants de l'eau, ils ont rempli dans un tableau les sources de pollution et les polluants de l'eau, ils ont rempli un texte lacunaire sur les sources de pollution et les polluants de l'eau, ils ont déduit certaines mesures de protection et certaines mesures pour le nettoyage de l'eau de l'horizon local, ils ont identifié des formes d'érosion des berges du ruisseau Târg.

Dans l'activité « Les détectives de la propreté », les élèves ont classifié les déchets, ils ont expliqué la cause de l'extension de déchets dans l'environnement, ils ont récolté les déchets de la cour de l'école et de ses alentours, ils y ont posé des affiches avec des recommandations pour la protection de l'environnement. Dans l'activité « Une oasis de verdure où je peux jour et me promener », les élèves ont identifié les plantes du parc, ils ont établi des relations entre plantes et leur milieu de vie naturel, ils ont présenté des modalités de multiplication des plantes, ils ont préparé les ronds-points pour les fleurs avec de la terre végétale et de l'engrais, ils ont planté des arbustes ornementaux dans le parc, ils ont semé des fleurs dans des ronds-points, ils ont pris soin des plantes du parc de l'école.

Dans l'activité organisée au Jardin Botanique de Jibou – « Les amis de la nature », les élèves ont identifié des plantes de divers coins du monde, ils ont établi les relations entre plantes et leur milieu de vie, ils ont précisé la manière de prendre soin des plantes, ils ont appris de ne pas rompre et de ne pas toucher les plantes du jardin. Dans le voyage organisé dans la forêt de feuillets Dealul Târgului, les élèves ont établi les points cardinaux sans s'appuyer sur la carte et sans boussole, ils ont appris d'utiliser correctement la méthode de l'orientation avec la montre, ils ont identifié des formes d'érosion du sol, ils ont analysé le milieu de vie des animaux sauvages de la forêt de feuillets, ils ont établi des mesures de protection des animaux sauvages et l'importance de la protection de leur milieu de vie, ils ont caractérisé certains animaux sauvages de la forêt de feuillets. Dans l'activité « De l'air pur et sain », les élèves ont mentionné les gaz composants de l'air, ils ont identifié les sources de pollution et les polluants de l'air, ils ont précisé la liaison entre les polluants, les phénomènes météorologiques et la couverture biotique, ils ont identifié des mesures de lutte contre la pollution de l'air, ils ont rédigé des portefeuilles, par le respect des exigences données, ils ont présenté un bref moment artistique concernant la pollution de l'air, ils ont réalisé des dessins avec le thème « Des sources de pollution de l'air ».

Au teste final, les élèves de ces deux classes ont obtenu les résultats présentés dans les suivants tableaux et diagrammes.

Tableau 3. Les résultats obtenus au teste final par la classe expérimentale (la IVème classe A)

Qualificatif	Connaissances déclaratives	Connaissances procédurales	Connaissances d'attitudes	Résultat final
TB	9 élèves	10 élèves	8 élèves	9 élèves
B	6 élèves	6 élèves	6 élèves	6 élèves
S	3 élèves	2 élèves	4 élèves	3 élèves

Tableau 4. Les résultats obtenus au teste final par la classe de contrôle (la IVème classe B)

Qualificatif	Connaissances déclaratives	Connaissances procédurales	Connaissances d'attitudes	Résultat final
TB	5 élèves	5 élèves	4 élèves	5 élèves
B	8 élèves	9 élèves	8 élèves	8 élèves
S	5 élèves	4 élèves	6 élèves	5 élèves

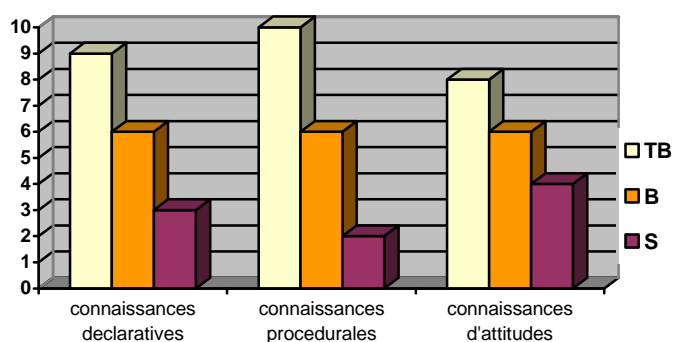**Fig. 4.** Les résultats obtenus par les élèves de la classe expérimentale au teste final
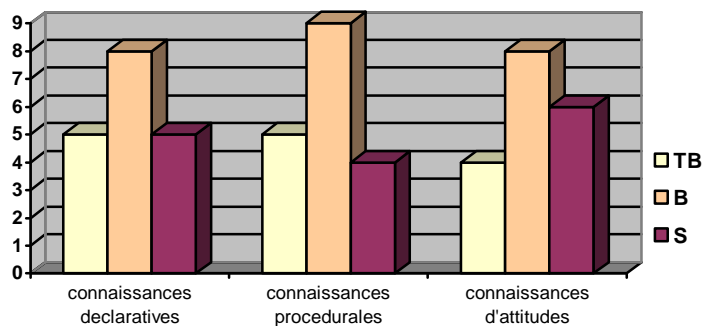

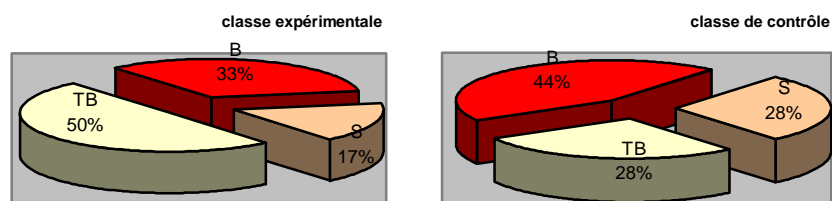**Fig. 5.** Les résultats obtenus par les élèves de la classe de contrôle au teste final

Fig. 6. Les résultats obtenus par les deux classes au teste final

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Discussions

Par l'analyse de graphiques concernant le teste initial, il résulte que les niveaux de connaissances des élèves de deux classes sont semblables, ayant un niveau moyen. On observe qu'une partie des élèves possèdent des connaissances et des attitudes correctes envers l'environnement (ceux qui ont obtenu des qualificatifs Très Bien et Bien – 72% de la classe expérimentale et 67% de la classe de contrôle). Un nombre réduit d'enfants n'ont pas les connaissances nécessaires sur l'environnement (ceux qui ont obtenu le qualificatif Suffisant – 28% de la classe expérimentale et 33% de la classe de contrôle). Ceux-ci proviennent des familles avec une formation intellectuelle réduite, soit ils prennent du sein de la famille des fausses notions concernant la vie des animaux, des plantes, des différents procès de la nature, étant dans l'incapacité de s'expliquer les causes, soit ils ont un rythme assez lent d'apprendre, soit ils ont des absences non justifiées de l'école.

Après l'application de ces activités on avait obtenu l'acquisition des connaissances scientifiques par les élèves par l'observation directe – une expérimentation de l'environnement, l'augmentation de l'intérêt pour la réalisation d'un milieu équilibré et propre, l'enrichissement de l'attitude et le changement du comportement envers l'environnement, la réalisation des posters, des dessins, des affiches, l'implication plus active des parents dans le déploiement des activités scolaires et extrascolaires.

Par l'analyse de graphiques concernant le teste final, il résulte que le niveau de connaissances des élèves de ces deux classes est augmenté par rapport aux résultats obtenus au teste initial, dû au fait que pendant les classes on avait abouti des problèmes concernant la protection de l'environnement. Une plus grande augmentation du niveau des résultats a été obtenue dans la classe expérimentale (la IVème classe A), qui a été impliquée dans des situations d'enseignement extrascolaires organisées directement dans l'environnement, par la participation directe. On remarque une augmentation des qualificatifs TB et B obtenus par la classe expérimentale de 72% à 83%, et par la classe de contrôle de 67% à 72% (pour la classe expérimentale on observe une augmentation avec 11% envers 6% au cas de la classe de contrôle). En plus, on y peut ajouter le fait que le résultat Suffisant a obtenu environ 17% par les élèves de la classe expérimentale et 28% par les élèves de la classe de contrôle, moins à l'égard des résultats du teste initial.

Par l'analyse des résultats aux sujets I et II, on constate que 50% des élèves de la classe expérimentale, respectivement 28% de la classe de contrôle, ont obtenu le qualificatif Très Bien, étant capables à démontrer une très bonne maîtrise des notions sur l'environnement, des sources de pollution de l'air, de l'eau et de mesures de protection de la végétation, des animaux, de l'air, de l'eau, du sol. Il y a aussi une augmentation avec 28% au cas de la classe expérimentale et avec 11% au cas de la classe de contrôle, par rapport aux résultats obtenus au teste initial. Le qualificatif Bien a été obtenu par 33% élèves de la classe expérimentale et 44% élèves de la classe de contrôle. Le niveau des connaissances déclaratives est plus grand aux

élèves de la classe expérimentale par rapport à la classe de contrôle, grâce au fait que les élèves de la classe expérimentale ont parcouru une bibliographie supplémentaire, ils ont dû rédiger plusieurs matériaux concernant la protection de l'environnement, ils ont participé aux diverses situations d'enseignement extrascolaires. Les réponses données par les élèves de la classe expérimentale aux questions du teste ont été plus cohérentes, logiques, plus correctes du point de vue scientifique, en s'observant l'enrichissement qualitatif des connaissances sur l'environnement, étant capables d'offrir plusieurs renseignements que les élèves de la classe de contrôle. Le qualificatif Suffisant obtenu par presque 17% (3 élèves) de la classe expérimentale, respectivement 28% (5 élèves) de la classe de contrôle, démontre que ceux-ci ont donné des réponses complètes concernant les sources de pollution, les types de polluants et les mesures de protection de l'environnement. En ce qui concerne les trois élèves de la classe expérimentale qui ont obtenu le qualificatif S, le niveau de connaissances est faible, vu leur faible intérêt pour l'école et vu leurs capacités intellectuelles réduites.

Analysant les résultats du sujet III, où les questions ont été formulées afin d'identifier les mesures individuelles de protection de l'environnement (la gestion des déchets, le soin des plantes, des animaux), on observe les suivants : 56% élèves de la classe expérimentale ont obtenu le qualificatif Très Bien, 33% le qualificatif Bien et 11% le qualificatif Suffisant ; 28 élèves de la classe de contrôle ont obtenu le qualificatif TB ; 50% le qualificatif B et 22% le qualificatif S. par rapport au teste initial, on constate une augmentation du pourcentage pour les qualificatifs TB : dans la classe expérimentale une augmentation avec 39% et dans la classe de contrôle avec 6%. Par une comparaison entre les résultats obtenus par les deux classes, on remarque les pourcents élevés pour le qualificatif TB obtenus par les élèves de la classe expérimentale vis-à-vis de la classe de contrôle, parce que ceux-ci ont été posés dans des situations concrètes de la récolte et de la sélection des déchets, de semer des fleurs, des plants, de rendre écologique la cour de l'école et ses environs, de nettoyer le ruisseau qui traverse le centre du village et de créer un parc avec des fleurs er des arbustes ornementaux, posant en pratique leurs connaissances. Selon les réponses reçues, après leur interprétation, on doit souligner une augmentation visible des résultats de TB de 17% à 45% (avec 28% beaucoup) pour la classe expérimentale et de 17% à 22% (avec 5% beaucoup) pour la classe de contrôle, une plus grande augmentation s'enregistrant pour la classe expérimentale.

Conclusions

Les résultats obtenus au teste final montrent que la quantité des connaissances des élèves de ces deux classes est agrandi par rapport aux résultats obtenus au teste initial, parc que pendant les six mois, au long des classes, on avait atteint des problèmes concernant la protection de l'environnement. Par conséquent, *les deux classes ont connu un réel progrès*. Une augmentation plus grande des résultats a été cependant obtenue dans la classe expérimentale (IVème classe A), qui a été impliquée

dans des situations d'enseignement extrascolaires pour le connaître et le protéger. La quantité des connaissances déclaratives est plus grande aux élèves de la classe expérimentale par rapport à la classe de contrôle, parce qu'ils ont parcouru une bibliographie supplémentaire, ils ont rédigé plusieurs matériaux concernant la protection de l'environnement, ils ont participé aux diverses situations d'apprentissage extrascolaire. Le nombre et la qualité des connaissances procédurale est plus grand au cas des élèves de la classe expérimentale par rapport à la classe de contrôle, parce qu'ils ont été mis dans des situations concrètes du stockage et de la sélection des déchets, de semer de fleurs, des plants, de rendre écologique la cour de l'école et ses alentours, de nettoyer le ruisseau du village, mais aussi de réaliser l'aménagement d'un parc. Les élèves de la classe expérimentale ont enrichi leur comportement et leurs attitudes envers l'environnement, ils prennent mieux conscience des règles d'un comportement civilisé et du respect pour la nature. Par conséquent, à la fin de la recherche on confirme l'hypothèse : Si les élèves sont impliqués dans des situations d'enseignement (extrascolaires) concernant la connaissance de l'environnement et l'application des mesures de protection, ceux-ci reçoivent des fortes connaissances scientifiques, ils forment des capacités cognitives, d'attitudes et des comportements propices pour l'environnement.

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LE TEMPS ET L'APPRENTISSAGE SCOLAIRE LE POTENTIEL DE VARIABILITÉ DU TEMPS ALLOUÉ PAR LES ÉLÈVES PAR CATÉGORIES D'ACTIVITÉS

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ABSTRACT. **Time and School learning. The variability of the time students allocate to different categories of activities**. The present paper approaches time as being a school learning resource. Time is basically a limited resource and learning is not the only students' time-consuming activity. School learning is an activity that competes with other student's activities, so a rational management of the student's learning time is not possible without knowing the real way the students' available time is distributed according to the curricular and extracurricular activities. Starting from this premise, following data gathered from students and teachers, the specific aim of our investigation in the present paper is to reconstruct the actual way in which students distribute their daily and weekly available time and to identify the contexts in which school learning competes with other activities for the same common and limited resource: time. At the end of the study we propose the "potential of variability of the time spent by students according to different categories of activities" factor as part of a rational management of the time required for learning, in the context of a rational distribution of the global time according to the curricular and extracurricular activities conducted by students.

Keywords: *students, school programme, time as a learnin resource, working time, free time, sleeping time, the potential of variability of the time spent by students according to different categories of activities, time management.*

ZUSAMMENFASSUNG. **Die Zeit und das Lernen in der Schule. Das Potential der Variabilität der Zeit der Schüler nach Kategorien von Aktivitäten**. Die vorliegende Studie behandelt die Zeit als Ressource des Schullernens. Zeit ist aber eine deutlich beschränkte Ressource, und das Schullernen ist nicht die einzige Aktivität welche die Zeit der Schüler verbraucht. Das Schullernen ist eine Aktivität die mit anderen Aktivitäten des Schülers konkuriert, so das eine rationale Behandlung der Zeit der Schüler die für das Schullernen verlangt wird nich möglich sein kann ohne das wirkliche Art zu kennen wie die Zeit der Schüler für deren Aktivitäten in und außerhalb der Schule aussieht. Ausgehend von dieser Prämisse, der Ziel der konkreten Untersuchungen die in der Arbeit vorgelegt werden ist auf Grund den Daten der Schüler und Lehrer die wirkliche Art wie die Schüler über deren täglichen und wochentlichen Zeit verfügen zu identifizieren, sowie die Kontexte in

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welchen das Schullernen mit anderen Aktivitäten für die selbe gemeinsame und beschränkte Ressource: die Zeit, konkurrieren. In der letzten Teil der Studie wird ein Indikator vorgeschlagen „Potenzial der Variabilität der Zeit der Schüler nach Kategorien von Aktivitäten", als Zeichen der rationellen Behandlung der Zeit die den Schülern für das Schullernen verlangt wird, im Kontext einer rationellen Aufteilung der globalen Zeit, für allen Aktivitäten in und außerhalb der Schule.

Schlüsselwörter: *Schüler, Lehrplan, Zeit als Ressource des Lernens, Arbeitszeit, Freizeit, Schlafzeit, Potenzial der Variabilität der Zeit der Schüler nach Kategorien von Aktivitäten, Zeitbehandlung.*

Introduction

La présente étude s'occupe du temps en tant que ressource de l'apprentissage scolaire, dans le contexte de l'analyse de la relation ressources – besoins. Nous prenons comme point de départ la prémisse que le problème spécial de la gestion des ressources temporelles est celui des *besoins concurrents,* c'est-à-dire le problème des besoins qui, tout en sollicitant les mêmes ressources, ne se satisfont pas simultanément, de sorte que *la satisfaction des uns bloque ou remet à plus tard la satisfaction des autres.*

De ce point de vue, *tous les besoins humains sont concurrents par rapport aux ressources temporelles.* C'est parce que *le temps est éminemment une ressource limitée,* mais aussi parce que tout besoin humain, y compris le besoin d'éducation (d'apprentissage) implique dans le processus de sa satisfaction une dépense temporelle plus ou moins importante. La très grande polyvalence du temps envisagé comme ressource, associée au caractère toujours limité du temps (il s'agit du temps physique des individus concrets) génère une permanente insuffisance du temps par rapport à la multitude des besoins qui sollicitent, pour leur satisfaction, une dépense de temps.

L'apprentissage scolaire ne fait pas exception de cette concurrence pour la ressource de temps et cela parce que *l'apprentissage scolaire n'est pas la seule activité qui consume une partie du temps des élèves.* C'est une activité concurrente à d'autres activités que l'élève réalise, de sorte que la gestion rationnelle du temps que les élèves allouent à l'apprentissage scolaire n'est pas possible en dehors de la connaissance du mode de distribution du temps dont les élèves disposent pour l'ensemble des activités scolaires et extrascolaires.

L'objectif principal de nos investigations est la reconstitution du mode réel de distribution du temps quotidien et hebdomadaire, et l'identification des contextes dans lesquels l'apprentissage scolaire entre en compétition avec d'autres activités pour la même ressource commune et limitée : le temps. Nous avons opté pour les cycles circadiens et hebdomadaires puisque le jour et la semaine scolaires sont des unités de temps avec lesquelles on opère dans le système d'enseignement et qui constituent l'objet le plus direct de la gestion du temps d'apprentissage.

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La méthodologie de la recherche

Concepts, dimensions, indicateurs

Le concept central de la recherche est celui de *structure et dynamique du temps* effectif dont disposent les élèves et qu'ils allouent quotidiennement et par semaine aux différentes activités d'apprentissage, de travail, de récréation et de repos par le sommeil. On a retenu les dimensions considérées comme significatives pour la radiographie de la situation réelle et comme base de données pour la rationalisation de la gestion du temps :

1. *Durée et programme du temps* (quotidien et hebdomadaire), à 3 indicateurs:
    a) durée du temps actif;
    b) durée du temps de repos (par le sommeil);
    c) programme quotidien (cycles circadiens):
      - heure du début du temps quotidien actif;
      - heure de la fin du temps quotidien actif.

2. *Structure et dynamique du temps actif* (quotidien et hebdomadaire), à 4 indicateurs:
    a) temps institutionnalisé d'apprentissage, avec ses composantes:
      - temps pour activités collectives d'apprentissage (l'horaire scolaire);
      - temps pour les activités indépendantes/individuelles d'apprentissage;
    b) temps optionnel/facultatif d'apprentissage;
    c) temps de travail (activités sans rapport avec l'apprentissage scolaire);
    d) temps libre.

3. *Structure des activités* (quotidiennes et hebdomadaires), à 4 indicateurs:
    a) activités obligatoires liées au programme scolaire institutionnalisé:
      - participation au programme (l'horaire) scolaire obligatoire;
      - réalisation des devoirs et préparation des leçons;
    b) activités optionnelles d'apprentissage (en rapport avec l'école mais non imposées par l'école);
      - cours privés pour certaines disciplines;
      - d'autres activités optionnelles d'apprentissage;
    c) activités récréatives (de divertissement) à caractère facultatif:
      - visionnement de programmes TV;
      - travail sur ordinateur (INTERNET, jeux, etc.);
      - activités récréatives libres (sport, musique, etc.);
    d) activités (tâches) de travail imposées par la famille.

Échantillons de recherche

Dans la sélection des échantillons nous avons opté pour *la technique de l'échantillonnage stratifié*, technique qui permet de faire des extrapolations valides pour des populations étendues sur un nombre relativement restreint d'échantillons (ou de strates) à des effectifs restreints pour chaque échantillon. Nous avons opté

pour cette technique aussi parce qu'à l'école il y a une stratification naturelle des échantillons d'élèves (âge, classe), chaque classe pouvant être considérée comme un échantillon représentatif pour toutes les classes du même niveau des institutions de même profil et qui fonctionnent dans des contextes similaires ou, au moins comparables. À l'intérieur de cette stratification naturelle, chaque échantillon a été sélectionné pour représenter un type de population scolaire en fonction de deux critères :

1. *Critère de l'âge scolaire*, en fonction duquel ont été sélectionnés trois types d'échantillons :

a) échantillons pour la 8-ème (niveau collège);

b) échantillons pour la 10-ème (niveau lycée moyen);

c) échantillons pour la 12-ème (niveau fin lycée).

2. *Critère du type d'école*. Sous cet aspect nous avons opté pour la solution d'établir des écoles représentatives pour des catégories représentatives d'élèves, les échantillons étant sélectionnés à partir de chaque type d'école:

a) pour *les lycées:* un lycée théorique « d'élite » (« colegiu național » en roumain), un lycée économique, un lycée technique;

b) pour *les collèges*: un collège d'élite (du centre ville), un collège « de quartier » (commun), un collège « marginal » d'un milieu social défavorisé.

L 'effectif total de l'échantillon stratifié a compris 348 élèves.

En ce qui concerne l'échantillon des professeurs, nous avons utilisé la même technique de l'échantillonnage stratifié sur classes et types d'écoles; ont été constitués en fait des pairs d'échantillons élèves-professeurs, chaque échantillon de professeurs étant composé de tous les professeurs qui enseigne à une même classe. Nous avons opté pour cette solution parce que l'objectif de la recherche a été de connaître le mode de distribution du temps des élèves sur l'ensemble des disciplines d'enseignement, par l'addition de *toutes les sollicitations* que *tous les professeurs* qui enseignent à la même classe adressent aux élèves.

Instruments de recherche

La recherche a eu principalement le caractère d'une investigation sociologique où, pour la collecte des données sur les échantillons inclus dans la recherche, on a utilisé deux questionnaires:

- *le questionnaire pour élèves;*

- *le questionnaire pour professeurs.*

L'élaboration des questionnaires a été faite sur la base des dimensions et des indicateurs du concept *structure et dynamique du temps réel*, à chaque indicateur correspondant un ou plusieurs items dans la structure des questionnaires.

Après l'application des questionnaires et après le traitement des données, nous sommes revenus sur quelques aspects par *la technique de l'interview non-directif*, dans le but d'obtenir des informations supplémentaires sur les situations sur lesquelles il n 'y avait pas assez d'informations concluantes.

Analyse des données et commentaires

Le temps quotidien d'un élève modèle

Au début nous tenterons de définir la composante considérée comme centrale du temps des élèves, à savoir *le temps nécessaire aux activités institutionnalisées d'apprentissage*, respectivement le temps alloué à la fréquentation des cours et le temps nécessaire à l'étude individuelle et aux devoirs. Evidemment, les données concernant le temps alloué à la participation aux classes sont directement accessibles par l'observation de l'emploi du temps. Les données concernant le temps alloué aux activités scolaires et extrascolaires en dehors de l'horaire et de l'école sont plus relatives, dépendant des relations des élèves et des professeurs.

En ce sens, le questionnaire commence par une question qui demande aux élèves de préciser *combien d'heures leur seraient nécessaires pour tous les devoirs à la maison et pour bien préparer toutes les leçons pour lendemain*. Nous avons sollicité des réponses sur deux niveaux : *tout au plus, au moins*.

Les données ont été synthétisées par le calcul de *la moyenne arithmétique pondérée* entre la fréquence des variantes de réponses et le temps correspondant à chaque variante, qui a eu pour résultat le temps dont un *élève moyen* a besoin pour faire *tous les* devoirs et pour bien préparer *toutes les leçons* pour le lendemain. Un tel calcul mène aux constatations suivantes:

- un élève moyen en *VIII-ème* considère qu'il a besoin *d'au moins 2,6 heures* et de *tout au plus 4,4 heures;*
- un élève moyen en *X-ème* considère qu'il a besoin *d'au moins 2,8 heures* et de *tout au plus 4,5 heures;*
- un élève moyen en *XII-ème* considère qu'il a besoin *d'au moins 3,2 heures* et de *tout au plus 4,5 heures;*

Si nous prenons en considération le fait que les plans d'études comprennent, en règle générale, 30 heures de programme scolaire obligatoire par semaine, respectivement une moyenne de *6 heures par jour*, alors « une journée d'école normale » comprend au moins 8,5 heures et tout au plus 10,5 heures consacrées aux activités scolaires, respectivement au temps institutionnalisé d'apprentissage. Si nous prenons en considération une situation moyenne de 9,5 heures pour le temps institutionnalisé d'apprentissage, à laquelle nous ajouterons au moins deux composantes nécessaires du temps quotidien – respectivement 8 heures pour le repos par le sommeil et environ 2 heures pour d'autres activités quotidiennes nécessaires (repas, hygiène, déplacements) –alors nous obtiendrons une première configuration de la distribution de temps quotidien de l'élève représentée dans la *Figure 1*.

Si nous rapportons les données ci-dessus aux attentes habituelles des professeurs, nous pouvons affirmer que ces données traduisent une situation assez optimiste vu que la plupart des professeurs n'attendent pas que leurs élèves consacrent plus de 3-4 heures à l'étude individuelle et aux devoirs.
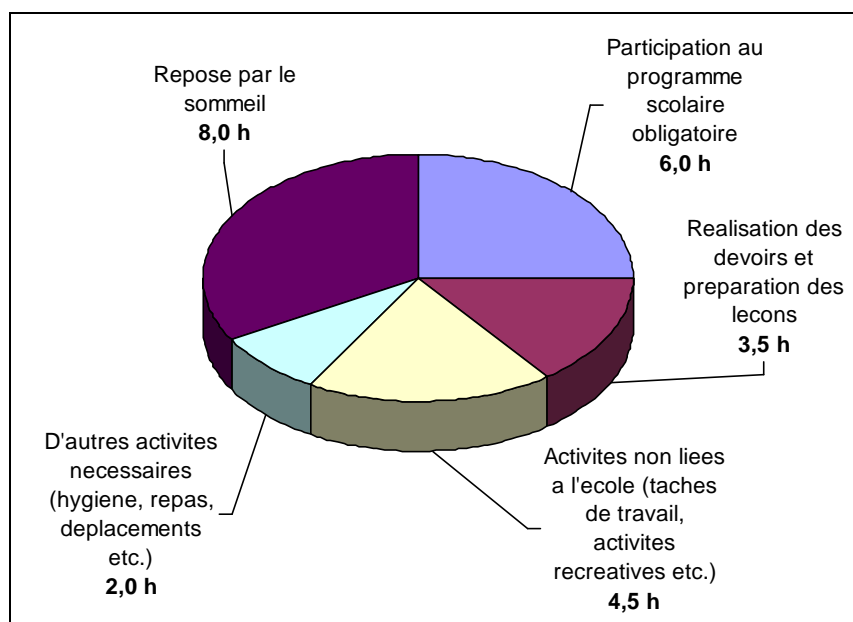
Fig. nr. 1. Structure du temps quotidien de l'élève « moyen »

Nous devons toutefois observer que la question que nous analysons demandait aux élèves de mentionner non pas combien de temps ils allouent, mais de combien de temps *ils croient avoir besoin* pour l'étude individuelle et pour les devoirs. C'est pourquoi, pour déterminer plus correctement la signification des réponses, le questionnaire avait prévu une question de vérification (la question 2) par laquelle on demandait aux élèves de mentionner combien de leurs collègues ont l'habitude de faire *tous les devoirs* et de préparer *toutes les leçons*. La fréquence des réponses à cette question est présentée dans le Tableau 1.

Tableau nr. 1. Fréquence des réponses à la question 2 (questionnaire pour les élèves)

Classes	Nr. sujets	Nr. réponses	Fréquence des variantes de réponses					Non réponses
			a) Tous les élèves	b) Assez nombreux	c) Pas trop	d) Peu	e) Aucun	
VIII	118	118	-	18	62	34	4	-
X	115	115	-	48	43	23	1	-
XII	115	115	-	24	50	40	1	-
Total	**348**	**348**	**-**	**90**	**155**	**97**	**6**	**-**

Les données du tableau attestent que les estimations faites par les élèves sur le temps nécessaire à l'étude individuelle et aux devoirs se rapportent plutôt à ce que les professeurs exigent d'eux qu'au temps effectif alloué par les élèves. Aussi la fréquence la plus grande dans le cadre des réponses données par les élèves appartient à la variante *d – pas trop d'élèves* (44,5%), à laquelle on peut ajouter le pourcent de 28% des élèves qui considèrent que *peu d'élèves (quelques-uns)* réalisent intégralement les tâches visant les devoirs et l'étude individuelle.

Par conséquent, nous pouvons affirmer avec assez de certitude que le diagramme de la Figure nr. 1 ne reflète pas la situation réelle de la distribution quotidienne du temps des élèves. Il reflète plutôt l'image d'un *élève* modèle, plus au moins fictif, image qui persiste cependant quand les professeurs tracent les tâches d'étude individuelle et les devoirs, et qui se maintient même quand le feed-back avertit de manière répétitive sur le fait que les élèves n'accomplissent pas leurs tâches d'apprentissage en dehors de l'horaire scolaire obligatoire.

Pour donner contour entièrement au programme quotidien des élèves, le questionnaire a compris au début une question (nr. 4) par laquelle on demandait aux élèves de préciser *à quelle heure commence* et *à quelle heure finit* le programme d'une journée d'école habituelle. Les réponses à cette question sont synthétisées dans le Tableau 2.

Tableau nr. 2. Fréquence des réponses à la question nr.4 (questionnaire pour les élèves)

Classes	Nr. sujets	Nr. réponses	Fréquence des variantes de réponses														Non réponses
			Le programme quotidien commence à:							Le programme quotidien finit à:							
			Avant 6 h	6 h	7 h	8 h	9 h	10 h	Après 10h	Avant 20h	20h	21h	22h	23h	24h	Après 24h	
VIII	118	118	-	20	82	16	-	-	-	-	-	8	34	56	14	6	-
X	115	111	8	37	63	1	1	-	1	2	-	6	41	41	17	4	4
XII	115	114	9	46	57	2	-	-	-	-	2	3	11	39	41	18	1
Total	**348**	**343**	**17**	**103**	**202**	**19**	**1**	**-**	**1**	**2**	**2**	**17**	**86**	**136**	**72**	**28**	**5**

Les données du tableau relèvent une situation assez prévisible. La plupart des élèves commencent leur programme quotidien (se lèvent) entre 6h et 7h et l'achèvent (se couchent) entre 22h et 24h, avec une remise à plus tard de l'heure du coucher vers 24h et même au-delà dans le cas des lycéens. Il reste cependant à remarquer que, pendant que l'intervalle horaire 6-7 est désigné par la plupart des élèves (90%) comme intervalle de commencement du programme quotidien, l'heure du coucher est plus variable, se situant entre 21h-22h et même au-delà de minuit.

En corroborant les présentes données, nous pouvons donner contour au programme quotidien de l'élève moyen le long d'une « journée d'école habituelle », programme qui se déroulerait de la manière suivante:
- 6h-7h: réveil et programme matinal;
- 7h-7h30/8h: départ pour et déplacement à l'école;
- 8h-14h: participation à l'horaire scolaire obligatoire;
- 14h-16h: retour au domicile, déjeuner, petite pause;
- 16h-20h: devoirs et préparation des leçons à petites pauses intercalées;
- 20h-22h/23h/24h: activités non liées à l'école et fin du programme quotidien.

Nous avons appelé ce programme *le programme d'un élève modèle* puisque, même si on peut le confirmer sur un certain nombre de cas, il ne reflète cependant ni la variété des situations réelles ni les tendances saisissables dans la réalité scolaire actuelle. C'est dans une grande mesure un modèle idéel et dépersonnalisé qui, quoique respecté de temps en temps par certains élèves, il est fréquemment infirmé par la réalité des élèves proprement dits, étant plutôt un guide pour l'observation des déviations que pour l'organisation de l'activité.

De l'élève modèle aux élèves réels

Dans l'esprit des considérations ci-dessus, nous partons de la prémisse que l'image de la distribution du temps de l'élève proposée dans la Figure nr. 1 est trop simple et trop pauvre en informations par rapport à la réalité concrète. La principale lacune apparaît en ce qui concerne le segment *temps libre*, respectivement temps à la disposition de l'élève entre les deux contraintes majeures: le temps institutionnalisé d'apprentissage et le temps nécessaire au repos par le sommeil. Comment est utilisé ce segment de temps, par quelles activités et en quel pourcentage ? Combien de ces activités correspondent réellement à ce qu'on qualifie de temps libre ? Quel est l'impact des activités de temps libre sur le temps nécessaire à l'apprentissage ? Et sur le temps nécessaire au sommeil ?

Mais il y a d'autres aspects aussi par lesquels la réalité de l'emploi de temps par les élèves s'éloigne du modèle. Par exemple, la plupart des élèves n'allouent pas une période compacte de temps aux devoirs et à l'étude individuelle. D'habitude, ils préparent une discipline, considérée comme « plus urgente », après quoi ils font autre chose, parfois ils remettent pour la soirée les leçons à préparer, ils le font de manière expéditive ou bien y renoncent à cause des activités intercalées ou/et de la fatigue.

Pour collecter des informations plus détaillées sur ces aspects, le questionnaire a inclus une question (nr. 6) par laquelle on demandait aux élèves de *décrire une journée d'école habituelle (de lundi à vendredi) tout en précisant combien de temps leur prennent les principales activités quotidiennes scolaires et extrascolaires.* Il faut préciser que cette question demandait aux élèves non pas d'estimer, mais de *relater* le temps effectif alloué aux activités respectives.

Nous avons sollicité des réponses sur deux niveaux: *tout au plus, au moins*. Le traitement des réponses a été fait par le calcul de la *moyenne arithmétique* pondérée entre la fréquence des réponses et le temps mentionné pour chaque activité, exprimé en heures/journée. Une situation moyenne, entre *au moins* et *tout au plus,* est présentée dans la *figure nr. 2*.
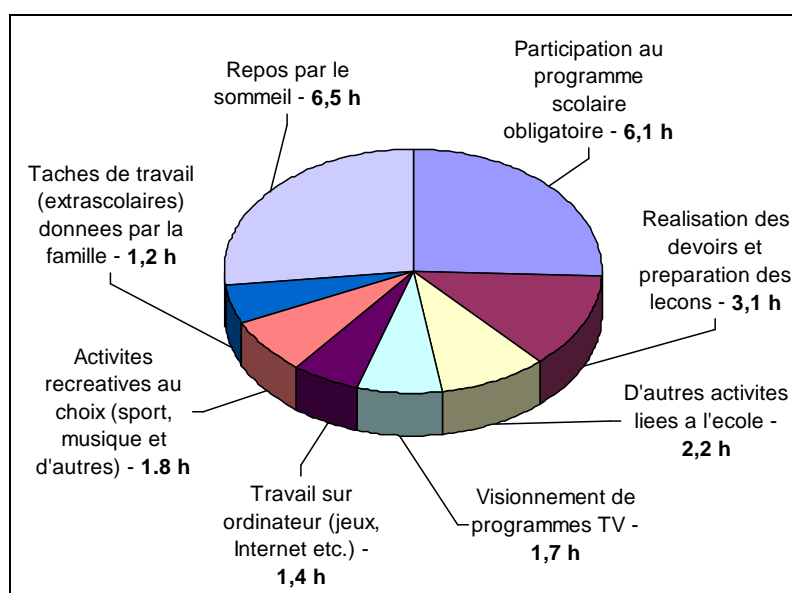
Figura nr. 2 Distribution quotidienne du temps des élèves

Les données représentées dans la figure nr. 2 sont relevantes par elles-mêmes et n'imposeraient pas une analyse spéciale. Toutefois nous devons mentionner quelques inadvertances, voire paradoxes, par rapport aux constatations antérieures, mais aussi par rapport aux observations courantes concernant le mode réel d'emploi du temps par les élèves. En ce sens, il faut remarquer que – lorsque nous étudions la variété des activités déroulées par les élèves – nous constatons l'existence d'une sorte d'*expansion du temps* par l'addition d'activités sans que, apparemment, le temps alloué aux activités scolaires diminue de manière significative.

Quelles seraient les explications possibles du mode de distribution du temps présenté dans cette figure?

Certes, une des explications relève de la technique du questionnaire: les élèves n'ont pas calculé la somme des durées des différentes activités et non pas été préoccupés de s'encadrer dans les 24 heures/jour. Il est probable que les élèves ne déroulent pas chaque jour toutes les activités respectives, ou bien ils ne leurs accordent

pas le même temps chaque jour. Expressément, les opérateurs d'enquête n'ont pas demandé aux élèves, dans le cadre des instructions, de prendre en compte les limites du temps quotidien. Mais on est revenu sur cet aspect dans le cadre de l'interview non-directif organisé après l'application du questionnaire.

Il y a d'autres explications possibles du phénomène d'expansion apparente du temps. Nous croyons que la plus plausible doit être cherchée dans la *dynamique et la variété très grandes du mode réel dont les élèves distribuent leur temps*. Et, en effet, dans le cadre des interviews, nous avons constaté que *le temps réel des élèves ne se distribue pas conformément à un standard quotidien préétabli,* mais plutôt *par une dynamique des ajournement et des récupérations,* des renoncements et des compensations qui s'équilibrent au-delà de l'horizon quotidien, vers celui hebdomadaire ou bien encore plus loin. Par exemple, il y a des élèves qui allouent durant 3-4 jours de suite plus de 4 heures/jour au travail sur l'ordinateur et aux programmes TV, pour récupérer le temps pour les leçons ou d'autres activités scolaires le lendemain au les jours suivants, le plus souvent à la fin de la semaine (le samedi et surtout le dimanche après-midi et soir).

Le potentiel de variabilité du temps alloué par catégories d'activités

Une autre explication plausible du phénomène d'apparente expansion du temps consiste dans le fait que la distribution du temps entre les différentes activités a non seulement une détermination sociale et socialement imposée, mais aussi une *détermination subjective*, psychologique, différenciée en fonction de l'âge et de la personnalité des élèves. Autrement dit, le temps des élèves se distribue entre contraintes et tentations, entre impositions et autoimpositions, entre motivations intrinsèques et motivations extrinsèques, cognitives et affectives, positives et négatives.

La combinaison entre les déterminations objectives et les déterminations subjectives génère, pour chaque activité, un certain *potentiel de variabilité du temps alloué* à l'activité respective. Ce potentiel de variabilité est différent d'une activité à l'autre, étant presque nul pour certaines activités (par exemple, pour le programme scolaire obligatoire de 6 heures/jour, si nous tenons compte du fait que la plupart des élèves vont cependant à l'école chaque jour) et maximal pour d'autres, à différents niveaux de variabilité entre minimal et maximal.

La connaissance de ce potentiel présente une importance particulière car il influence directement l'activité d'apprentissage scolaire et, en général, les ressources de temps sur lesquelles les professeurs peuvent compter dans l'activité de projection didactique. Les recherches que nous avons menées ont permis un classement des activités du point de vue du potentiel de variabilité du temps alloué, que nous allons présenter dans ce qui suit.

1. Le potentiel de variabilité le plus réduit, presque nul, appartient aux *activités imposées par la famille*. Cela veut dire qu'en réalité la plupart des élèves n'osent pas ignorer ce que leurs parents leur demandent (imposent), même si, dans

certains cas, ils n'accomplissent que de manière formelle leurs obligations (par exemple, ils « miment » l'apprentissage pendant les *n* heures imposées par les parents). Le temps alloué aux obligations imposées par la famille est très peu variable aussi dans le cas des activités qui n'ont pas de rapport avec l'école (par exemple, dans le cas des différents travaux exécutés à la maison).

En bref, la durée des activités imposées par la famille doit être considérée comme un repère très important dans la projection didactique et, en général, dans le management éducationnel du temps, parce que sa variation dépend très peu ou pas du tout de l'influence de l'école, des professeurs ou des élèves. *Miser sur un temps dont les élèves ne disposent pas et que l'école ne peut pas contrôler est à la fois inefficace et non pédagogique.*

2. Un potentiel de variabilité réduit, mais non pas absent, est celui du *temps alloué à l'horaire scolaire obligatoire,* autrement dit, à la fréquentation des cours. Et en effet, les données de la recherche convergent vers la conclusion que la plupart des élèves fréquentent l'école, et les 6 heures/jour en moyenne représentent une durée invariable pour eux. En règle générale, les différences d'emploi du temps apparaissent *après* cette durée. L'absentéisme répété et en masse a des déterminations spécifiques et impose des mesures que nous n'analysons pas ici.

La durée du programme scolaire obligatoire n'est cependant pas un repère invariable. Il existe aussi un absentéisme modéré, accepté entre certaines limites, intentionnel ou même planifié (surtout dans le milieu des étudiants). En concurrence avec d'autres activités, principalement avec celles imposées par la famille, mais aussi avec celles désirées par eux, les élèves « volent » de temps en temps le temps nécessaire à ces activités à l'horaire scolaire. Parfois, l'absence est associée au fait qu'ils n'ont pas préparé leurs leçons en vue d'un examen imminent, alors cette absence s'ajoute au temps du non apprentissage.

3. Un potentiel de variabilité un peu plus grand, mais moindre que l'on ne croit d'habitude, est celui des *activités choisies par les élèves,* soit des activités liées à l'école ou ayant des objectifs éducatifs, soit des activités récréatives, de divertissement, des hobbys et d'autres. Contrairement à l'appréciation de bon sens que l'école pourrait contrôler le temps alloué par les élèves à ce genre d'activités, en fait les élèves défendent subtilement et efficacement leur droit au temps, au temps nécessaire aux activités spécifiques de l'âge, proportionnellement avec la mesure dans laquelle l'école essaie de l'accaparer. Le potentiel de variabilité du temps pour ce genre d'activités a deux notes distinctives très importantes, dont on doit tenir compte dans le management éducationnel du temps:

   a) la première consiste en cela que le temps alloué aux activités choisies par les élèves *ne peut pas être nul dans le plan réel*. Au-delà des impositions de l'école et de la famille, les élèves assument leurs temps comme un droit inaliénable, dans lequel ils n'acceptent pas des immixtions et qu'ils se réservent avec beaucoup d'habileté, le « glissant » souvent contre les différentes contraintes.

b) la deuxième consiste en cela que la variabilité de ce segment de temps *décroît vers moins et croît vers plus* en ce sens que, au dessous d'une certaine limite, le temps pour les activités choisies par les élèves ne se réduit plus (ne varie plus), mais peut augmenter jusqu'à la limite où il est l'équivalent de tout le temps actif dont disposent les élèves à la fin du programme scolaire obligatoire.

Au-delà de toutes considérations, cette tendance « naturelle » de l'élève de se préserver un certain temps *pour soi-même*, loin d'être négative ou à réprimer, est dans la plus grande mesure bénéfique, et dans le cas des excès de l'école ou de la famille, elle agit comme un *facteur de normalité*.

4. Le potentiel de variabilité du *temps alloué au sommeil* est très grand, comme durée et comme programme. Comme *durée,* le temps destiné au sommeil est assez changeant, surtout dans le sens de la diminution. Les 8-9h recommandées par la biophysiologie du sommeil sont fréquemment réduites à 6-7h, voire moins, étant parfois compensées par une courte période de sommeil diurne. La principale constatation que permettent les données de la recherche sous cet aspect est que dans la concurrence entre le temps nécessaire à la préparation des leçons et celui que les élèves réservent aux activités choisies par eux, le plus souvent *c'est le temps destiné au sommeil qui perd*. Ce phénomène se produit surtout quand les tâches scolaires sont très pressantes, dans les conditions où, sans renoncer à leur temps libre, les élèves résolvent le problème sur le compte du sommeil.

Sous l'aspect du *programme,* la variabilité du temps alloué au sommeil est aussi élevée. L'heure du coucher varie entre 20-21h, (probablement à cause de certains états conjoncturels de fatigue accentuée) et 23-24h et après minuit (le plus fréquemment à cause de certaines activités de « temps libre »). Le retard de l'heure du coucher est associé, le plus fréquemment, au retard de l'heure du réveil ou/et à l'état de fatigue du début de la journée (à savoir justement dans l'intervalle où l'efficacité de l'apprentissage devrait être maximale). La fluctuation très grande du programme de sommeil est aussi inquiétante. L'heure du coucher et l'heure du réveil ne s'encadrent pas dans un programme quelconque, toute règle étant difficile à saisir, le plus souvent le facteur décisif étant l'état de fatigue conjoncturel.

De point de vue pragmatique, la conclusion principale de ces circonstances est que la durée et le programme du sommeil ne peuvent pas être réglés entre des limites normales sans une réduction du temps sollicité aux élèves pour les activités scolaires obligatoires, pour les activités imposées par la famille et, en général, pour toutes autres activités imposées ou perçues par les élèves comme des contraintes. L'idée que les élèves pourraient régler la durée et le programme du sommeil en renonçant à l'ordinateur, à la télé, aux jeux ou à d'autres « divertissements inutiles » en faveur de l'apprentissage scolaire n'est pas confirmée par la réalité et n'est pas productive sous aspect pragmatique. Autrement dit, *sans une rationalisation du temps institutionnalisé d'apprentissage, particulièrement du temps en dehors de l'horaire scolaire, on ne peut réaliser ni une rationalisation de la durée et du programme du temps de sommeil, ni une rationalisation globale de l'emploi du temps par les élèves.*

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5. Le plus élevé potentiel de variabilité appartient au *temps alloué aux devoirs et à la préparation des leçons* (étude individuelle). Pratiquement, le segment de temps alloué à ces activités peut varier de zéro (les élèves n'apprennent pas du tout en dehors des heures de cours) jusqu'à des valeurs dominantes par rapport au temps alloué aux autres activités. Le potentiel de variabilité du temps alloué aux devoirs et à l'étude individuelle se distingue par deux caractéristiques:

a) d'abord, le temps alloué à ces activités varie en fonction des catégories d'élèves mais aussi dans le cadre de la même catégorie. Les recherches ont relevé le fait que de point de vue statistique peuvent être identifiées différentes catégories d'élèves, depuis la catégorie de ceux qui allouent très peu ou pas du tout du temps à la préparation des leçons et à l'étude individuelle, jusqu'à la catégorie de ceux qui allouent presque tout leur temps libre à ces activités. D'autre part, en réalité ces catégories ne sont pas trop stables. Dans le cadre de la catégorie des élèves qui allouent très peu ou pas du tout de temps aux devoirs et à l'étude individuelle apparaissent des étapes et des circonstances où le temps alloué à ces activités augmente brusquement à 3-4h par jour (par exemple, dans la période des épreuves écrites ou devant la menace d'être recalé). Dans la catégorie des élèves qui allouent systématiquement du temps aux devoirs et à l'étude individuelle apparaissent aussi des étapes où le temps alloué à ces activités est nul ou très réduit (par exemple quand ils ont une situation scolaire certaine ou quand d'autres activités concurrentes interviennent).

b) deuxièmement, le potentiel de variabilité du temps alloué aux devoirs et à l'étude individuelle dépend en grande mesure de la variabilité réelle du temps alloué aux autres activités. Nos investigations attestent que le temps alloué aux devoirs et à l'étude individuelle varie non seulement en fonction de l'importance intrinsèque de ces activités, mais aussi en fonction de la variation du temps alloué à d'autres activités concurrentes. Souvent, le temps des devoirs et de l'étude individuelle apparaît comme une sorte de réserve de temps, grande au début, mais qui va en diminuant jusqu'à l'anéantissement par sa « redistribution » au profit d'autres activités.

Ce classement des activités du point de vue du potentiel de variabilité du temps alloué a été confirmé statistiquement par les données offertes par le traitement des réponses au questionnaire, mais aussi par les observations que nous avons faites en milieu scolaire.

En même temps, la variabilité réelle de chaque type d'activité – même si elle se maintient en tant que tendance – est dépendante en grande mesure de toute une série de facteurs contextuels. Par exemple, dans le milieu rural, dans les familles ayant beaucoup d'enfants et une situation matérielle précaire, le temps que prennent les activités extrascolaires imposées par la famille (particulièrement pour toutes sortes de tâches et de travaux domestiques) a un potentiel de variabilité très réduit ou nul, même quand la situation scolaire de l'élève est précaire, se maintenant au-delà du risque d'être recalé et de ne pas être scolarisé.

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EXPERIENCES ON TEACHING QUESTIONNAIRE DESIGN

IULIANA MARCHIŞ

ABSTRACT. In this article an experiment on teaching questionnaire design is presented. The questionnaires made by 67 first year students were analyzed in order to find the most common design mistakes. After students have analyzed the gathered data, they were asked to evaluate their questionnaire in the view of the obtained results and draw some conclusions about what they should have done differently. It turn out, that they have learnt more from experiencing the difficulties coming from the bad question design, than from the presented questionnaire design principles.

Keywords: *teaching ICT, creating surveys, self-regulated learning*

ZUSAMMENFASSUNG. In diesem Artikel wird ein Experiment, auf das Lehren Fragebogen-Design präsentiert wird. Die Fragebögen, die von 67 Studenten im ersten Studienjahr analysiert wurden vorgenommen, um die Suche nach den am häufigsten Design-Fehler. Nachdem die Schüler haben, analysiert die gesammelten Daten, wurden sie gebeten, ihren Fragebogen im Hinblick auf die erzielten Ergebnisse zu bewerten und einige Schlussfolgerungen darüber, was sie hätte tun müssen anders zu ziehen. Sie wiederum darauf hin, dass sie gelernt haben, mehr von den Schwierigkeiten erfahren, die aus den schlechten Frage Design, als von den vorgelegten Fragebogen Design-Prinzipien.

Stichworte: *ICT-Unterricht, Umfrage erstellen, selbstregulierend Lehrnen*

1. Introduction

Information and communication technologies (ICT) contain all the methods/tools that help in collecting, processing and disseminating information. Survey is an efficient process for collecting useful information. The main tool of a survey is the questionnaire. Thus development of questionnaire designing skills could be integrated in the objective list of teaching ICT. Questionnaire design is an efficient ICT exercise: it needs to know and follow some rules, but in the same time the designer has to be creative.

The aim of the article is to present an experiment of the author on teaching questionnaire design for first year Psychology and Pedagogy students at Babes-Bolyai University. The questionnaires of 67 students are analyzed and the most common design mistakes are identified. After analyzing the data, students were asked to evaluate their questionnaire in the view of the obtained results and draw some conclusions about what they should have done differently.

2. Theoretical background

Principles in designing questionnaires

"A survey is a data-gathering and analysis approach in which respondents answer questions or respond to statements that were developed in advance." (Kasunic, 2005) Thus the survey is a process. The main steps of conducting a survey are the following: the identification of the research objectives and of the target audience; the design of the sampling plan; the development of the questionnaire; the pilot test of the questionnaire; the distribution of the questionnaire; the analysis of the results, and the writing of the report (Kasunic, 2005). We observe, that the questionnaire is the instrument of a survey. The most important steps for designing the questionnaire are: to determine the questions to be asked; to select the item type for each question; to formulate exactly the questions; to design the question sequence; to design the overall questionnaire layout. Nowadays the survey design has developed, the online questionnaire became usual. Online surveys has many advantages, they are cost efficient, the delivery of them are faster, the response time is shorter, the gathering of data is quicker, and they are environmental friendly (Yung & Trumbo, 2000). The contras regarding online survey are related with spam/privacy concerns and the possibility of multiple submissions. One important disadvantage of online surveys is, that the demographic profile of the Internet users does not represent the general population (Walonick, 2004). Thus online questionnaires are useful only, when the target group is those using frequently the Internet.

The effective design of a survey was the concern of many works, among which Dillman, 1978; Sudman & Bradburn, 1982; Dillman, Tortora & Bowker, 1998; Brace, 2004; Bradburn, Sudman & Wansink, 2004; Iarossi, 2006; Dillman, 2007; Brace, 2008. In the following we mention the most important principles.

The questionnaire has to have a welcome text, which should motivate the respondent to fill in the questionnaire (Dillman, 2000). This text should contain the purpose of the survey, the ways of using the data, and general instructions on how to fill in the questionnaire. Instructions are essential in order to get accurate data. It is important to give also information on how long will take to answer the questions (Iarossi, 2006).

The used language should be simple, spelling and grammar should be accurate. If we use sophisticate words or jargon there is a high probability that the respondent won't understand the question. Spelling and grammar mistakes, beside the possibility of misunderstanding the text, give an unprofessional impression about the designer of the questionnaire. The text should use the special characters of the language of the questionnaire.

When formulating the questions, we have to be sure that they are easy and quick to answer (Iarossi, 2006).

It is essential to choose carefully the type of each question. Drop-down menus are effective if the list of possible responses is long, but not for questions

with only few options. Drop-down menus or radio buttons can be used only when the response options are mutually exclusive. Open-ended questions could be used when asking about feelings, opinions, and attitudes. In many cases respondents leave these questions blank, because it is difficult for them to express their feelings, opinion, or/and because it need more time to write down the answer (Brace, 2004). Thus the percentage of open-ended question in a questionnaire shouldn't be high. In case of multiple-choice questions (drop-down menus, radio-buttons, check boxes, etc) all reasonable response alternatives should be included. If it is impossible to enumerate all the possible alternatives, give the most likely ones and let an "other" alternative to the respondent, to write his/her own choice.

Questions, which address two issues at one, should be avoided (Dillman, 2000). Negative or double negative expressions in a question could lead to incorrect answer, so they shouldn't be used when formulated a question. Leading questions influence the results of the survey, so shouldn't be used.

Questions should be grouped by topic and order logically.

3. Research

Research design

The research took place in the first semester of the 2009/2010 university year. In the research the first year Psychology and Pedagogy students were participated from Babes-Bolyai University.

ICT is a compulsory subject for Pedagogy students and optional for Psychology students. As a semester ending project, students were asked to design a survey: to find a topic for the survey, to identify the objectives and target group, to design the questionnaire, to develop the online questionnaire, to send the link of the questionnaire to their colleagues in order to collect as many answers as possible, to analyze the data, to write a report, and to edit a presentation to present their finding. Conducting a survey is a complex task, which gave the opportunity to review most of the knowledge learnt during the semester and to evaluate students' complex ICT competencies.

67 students have developed a questionnaire. The topic of the questionnaires covers a variety of thematic, just some examples: how students use their free time, how first year students have managed to get used with university life, what kind of music students listen, do students try to eat healthy food, do students smoke, do students find important to protect the environment, etc. There was one questionnaire, which looked more as a knowledge test about animals. All the other 66 questionnaires really tried to explore different aspects of students' life. These questionnaires were analyzed in order to identify the design mistakes made by the students. After students have analyzed the gathered data, they were asked to evaluate their questionnaire in the view of the obtained results and draw some conclusions about what they should have done different.

Results

In Table 1 the identified mistakes are collected.

Table 1. *Identified mistakes when designing a questionnaire*

Mistake	Frequency (in how many questionnaires this mistake appears)
There is not a description of the questionnaire in the beginning.	67
The text of the question contains spelling or grammatical mistakes.	27
There is question, which is textbox type, but should be multiple-choice type (checkbox or radio buttons).	26
There is a multiple choice type question, where it is highly possible that the respondent have different choice that those enumerated, but there is no "other" choice.	16
There is question, which is checkbox type, but should be radio button type.	14
There are not enough choices in case of some multiple-choice questions.	12
The choices in a radio button (where only one choice could be selected) type question are overlapping.	11
In a radio button or checkbox type question the last choice contains a textbox too.	10
There is question, where there are only 2-3 choices, but the list type item is used.	9
There is question, which require an estimation made by the respondent related with the opinion of others.	5
The question is containing more questions.	5
The questionnaire contains leading question(s).	3
There is question, which is radio button type, but should be checkbox type.	3
There are very similar questions.	1
The questionnaire is more a knowledge test.	1
There is incomplete question.	1
There is a multiple choice and a textbox type question in one question.	1
The choices are numbered in a multiple choice type question.	1
The choices for a question are written in a different language than the language of the questionnaire.	1
The text of the question is not explicitly written.	1

In the following we will discuss these mistakes.

All the students neglected the recommendation of writing an introductory text for their questionnaire. They didn't consider it necessary and they found it time consuming to write welcome text and instructions.

Concerning the language used in the questionnaires, it is surprising that 27 (40,30%) of the questionnaires contain spelling or grammatical mistakes. These questionnaires were written in Hungarian language, and 12 questionnaires (17,91 %) of them didn't use the special characters for Hungarian language. One questionnaire contains choices for a multiple-choice question written in Romanian.

The texts of the questions are not always rigorously formulated. In Example 1 there are two connected questions. The first question is almost well-formulated (maybe is missing the place of the Internet connection: at home, at the university, etc.), but the second question can't be understood without the first one.

Example 1. Do you have Internet connection?
    ○ yes   ○ no
    And mobile?
    ○ yes   ○ no

Another group of mistakes are related with the right choice of the question type. In 26 questionnaires (38,81 %) there is at least one question, which is textbox type, but should be multiple-choice type. These questions are related, for example, with the university, faculty, and age of the student. Making a list of the possible ages or possible faculties and formulate the question as a multiple choice one, it makes the analysis of the result much easier. The high percentage of the questionnaires with this mistake is surprising, as the teacher has underlined the importance of using multiple-choice questions where possible in order to be easier to analyze the data by computer. In 14 questionnaires (20,90 %) there is at least one question, which should be radio button type questions (where only one choice could be selected), but checkboxes are used. In Example 2 the choices are mutually exclusive, thus checkboxes should be used. Because of the high number of choices, it is even better to use drop-down menu (list). There are 9 questionnaires (13,43 %), where the drop-down menus are used for a 2-3 choice question.

Example 2. How many hours do you listen music?
    ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

In 12 questionnaires (17,91 %) there are not enough choices in case of multiple-choice questions. Example 3 is a question related with free time, but gives only four choices (maybe the designer of the questionnaire put his/her own choices). Different persons could use their free time in a great variety of ways, so the choice

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list should be longer, and the last choice should be "other", with a textbox near, giving the possibility to enumerate other free time activities too. Actually, in case of 16 (23,88%) of the questionnaires there are multiple-choice questions, where the list of choices should be long and is high likely that the designer can't cover all of the possible responses, but there is not an "other" choice included.

Example 3. What do you like to do in your free time?

taking a rest ☐
watching TV ☐
walking ☐
partying ☐

In 11 (16,42%) questionnaires the choices in a radio button type question are not mutually exclusive. See Example 4.

Example 4. Do you use to listen music?
○ yes ○ no ○ never ○ rarely ○ often

In 5 questionnaires (7,46 %) there is at least one question, which requires that, the respondent estimate the answers of his/her colleagues (Example 5). This kind of question doesn't give accurate information.

Example 5. In your opinion, how many percentages of the students prepare their homework for the next day before going to a party?
○ 70% ○ 50 % ○ 30% ○ less than 30%

Example 6 is a contra example for formulated questions. It contains more questions in one, these questions should be different type items.

Example 6. If you are in love, are you loosing weight? Are you trying to look better? Why? Or are you not care about your body?
○ Yes, I loose weight, because I want to look better.
○ I don't care about my body, if my boyfriend/girlfriend loves me, he/she likes me how I am.

After analyzing the data, students were asked were asked to evaluate their questionnaire in the view of the obtained results and draw some conclusions about what they should have done different. All of the students (100%) who have used textbox type questions where multiple-choice questions would have been more adequate, have identified the difficulty of analyzing the obtain data for these questions (for example, asking the faculty, some students wrote "Psychology", some "Pedagogy", some "Psychology and Pedagogy", some "Psychology and Educational Sciences", so it was impossible to process this data by the computer) and said, they will be more careful in the past with this kind of questions.

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6 students from 12 (50%), who have used multiple-choice questions without enough choices, have identified this mistake when drawing the diagrams. 7 students from 11 (63,64%), whose radio button type question contains not mutually exclusive choices, had the conclusion, that they can't obtain accurate information from that question.

Unfortunately, the other mistakes identified in this article weren't discovered by the students.

4. Conclusions

Designing a questionnaire is a complex activity. It requires the knowledge of some important questionnaire designing principles, creativity, careful designing, and a deep overview of the researched topic.

Solving creative ICT tasks, in many cases students are ignoring any rules, and trying to finish the task as soon as possible, without trying to do the job as good as they can. The analyzed questionnaires reflect this attitude of the students.

The main conclusion of this research is that students follow more the principles/ rules, if they discover them, or if they experience the difficulties obtained, when they ignore some important principle/rule.

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CHARACTERISTICS OF THE EFFICIENT TEACHING. RESULTS OF AN ASCERTAINED STUDY

DANA JUCAN

ABSTRACT. The aim of our approach was to investigate and outline to a realistic educational level the existent situation regarding the general opinions of the teachers upon the efficient teaching. We intended to discover, the characteristics of an efficient teaching, methods used by teachers to discuss and systemise information during courses and seminars, the stimulation degree of the students' reflexivity during courses and seminars, modalities to facilitate the absorption of information by the students, the claim to note taking during courses/seminars.

Keywords: *Efficient teaching, methods, systemise information, students' reflexivity, taking notes, objectives of the course/seminary, key-terms, individual study.*

ZUSAMMENFASSUNG. Der Zweck unserer Schritte war zu forschen und umrissen die vorhandene Lage auf Niveau der Fachausbildungsrealität, hinsichtlich allgemeinen Meinungen des im Lehrgang hineingezogenes Lehrkörpers, über einem wirksamen Unterricht in allgemeinen. Wir waren befangen die Charakteristiken des wirksamen Unterricht aufzufinden, die Art und Weise wie der Lehrkorp verarbeitet und systematisiert die Informationen von Unterrichten und Seminär, wie weitgehend die Reflexivität bei Unterrichten und Seminären angereizt ist, die Art die von den Studenten aufgenommenen Infromationen erleichtert, in welcher Maß erfordern den Studenten Notizen bei Unterricht und Seminär aufzunehmen.

Stichworte: *Wirkungsvolle Belehrung, Methoden, Informations Sisetematisierung, Studenten Reflexivität, Notiz nehmen, Zielpunkte des Unterrichts, Schlussausdrücke, indivudäl Studium.*

Introduction

The aim of our approach was to investigate and outline to a realistic educational level the existent situation regarding the general opinions of the teachers upon the efficient teaching.

We intended to discover:

➢ The characteristics of an efficient teaching
➢ Methods used by teachers to discuss and systemise information during courses and seminars

> ➢ The stimulation degree of the students' reflexivity during courses and seminars
> ➢ Modalities to facilitate the absorption of information by the students
> ➢ The claim to note taking during courses/seminars

Design and procedure

We applied a semi structured interview to assistant lecturers, lecturers and professors. The interview contains 10 questions about the teaching methods. We will further analyse the answers of the interviewed teachers to our semi structured interview.

The first question in the interview solicited the teachers to deeply analyse the teaching process, especially their point of view about the characteristics of an efficient teaching process. Table I.1. illustrates the answers to the first question.

Table 1.I.

Answers to item 1 of the interview

Which are the characteristics of an efficient teaching in your opinion?
fulfilled objectives
understanding of the content of the lesson
permanent positive feed-back during the entire course/seminary
communication with the students
creation of problem-situations
memorizing the essential aspects of the content
exercising specific abilities: looking for information, solving problems
involvement during the lesson from all the students
situations soliciting students to reflect and analyse
activities responding to the students' needs

Analysing the answers to the first item, we reached the conclusion that the teachers are centred first on the information content of the teaching process and second on exercising the students' learning abilities. One teacher stated: "An efficient teaching process is realised when the teacher is capable of finding specific teaching strategies to motivate the students to involve in the teaching activity." Special credit is also given to the permanent feed-back from the students as a guarantee of an efficient teaching.

The answers to the second item of the interview: „Do you present the objectives of the course/seminary in its introduction?" complete the opinions of the interviewed persons regarding an efficient teaching.

In a hierarchy according to their frequency, the answers to item number 2 shows that the majority of the interviewed teachers state that they always present the objectives of the course/seminary in its introduction (rank I). An analyse on Table 2.I shows the frequency of other variants of answers: the teachers usually present the

objectives of the course/seminary in its introduction (rank II); the teachers usually do not present the objectives of the course/seminary in its introduction (rank III) and the teachers never present the objectives of the course/seminary in its introduction (rank IV).

Table 2.I.

Distribution of answers to item 2 of the interview

Do you present the objectives of the course/seminary in its introduction?	Rank
Never	IV
usually no	III
usually yes	II
Always	I

The exact number of teachers responding in a specific manner to item number 2 of the interview is graphically presented in Diagram 1.I.

Diagram 1.I.

Distribution of answers to item 2 of the interview
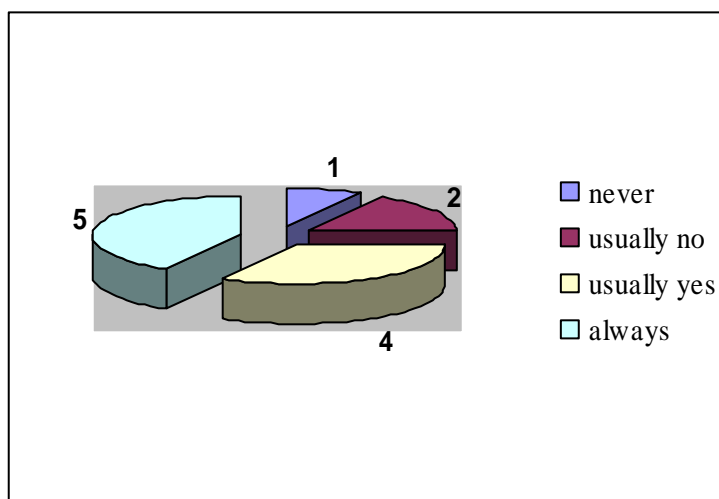
Five interviewed professors answered that they always present the objectives of the course/seminary in its introduction. A smaller number of four teachers answered that they usually do present the objectives of the course/seminary in its introduction. A much smaller number of two teachers answered that they usually

do not present the objectives of the course/seminary in its introduction. Only one teacher answered that she/he never presents the objectives of the course/seminary in its introduction. (see Diagram 1.I.).

The third item of the interview interrogates upon another characteristic of the teaching process – whether the teachers do or do not present the key-terms in the introductory part of the course/seminary.

Table 3.I.

Distribution of answers to item 3 of the interview

Do you present the key-terms of the course/seminary in its introduction?	Answers
Never	3
usually no	5
usually yes	2
Always	2

Most teachers, a number of 5, answered to the third item of the interview that they usually do not present the key-terms of the course/seminary in its introduction. A number of 3 teachers stated that they never present the key-terms of the course/seminary in its introduction and a number of 2 teachers stated that they usually present the key-terms of the course/seminary in its introduction. A number of other 2 teachers answered to the third item of the interview that they always present the key-terms of the course/seminary in its introduction (see Table 3.I).

The answers to this item show that few teachers consider the presentation of the key-terms in the introductory part of the course/seminary as a characteristic of the efficient teaching.

Another characteristic of the efficient teaching is discussed through the fourth item of the interview: "Do you use plans, diagrams, tables, cognitive organizers while teaching?"

Table 4.I.

Distribution of answers to item 4 from the interview

Do you use plans, diagrams, tables or cognitive organizers while teaching?	Answers
Never	1
usually no	4
usually yes	5
Always	2

The majority of the interviewed teachers, a number of five of them, answered that they usually use plans, diagrams, tables or cognitive organizers while teaching. Other 4 teachers answered that they usually do not use plans, diagrams, tables or cognitive organizers while teaching. A number of 2 teachers answered to this item that they always use plans, diagrams, tables or cognitive organizers while teaching (see Table 4.I.). Only one professor stated that his teaching manner never includes plans, diagrams, tables or cognitive organizers. Our conclusion to this item is that the teachers do not seem interested in the way their students synthesize information from courses and seminars.

The credit given by the teachers to an efficient teaching is reflected by the answers to the fifth item of the interview. This item was created to reveal us the real preoccupation of the teachers for the way their students understand the informational content of the course/seminary. The above mentioned preoccupation is concretized in item number 5 by the teachers' activity of addressing their students feed-back questions.

Table 5.I.

Distribution of answers to item 5 of the interview

Do you address feed-back questions to the students in order to verify the degree of understanding of the informational content of the course/seminary?	Answers
Never	1
usually no	3
usually yes	4
Always	4

A number of 4 teachers answered "always" to item number 5. "Usually yes" was the answer of 4 teachers to the same item. A number of 3 teachers answered to item number 5 that they usually do not address feed-back questions to the students to verify the degree of understanding of the informational content of the course/seminary. Only one teacher answered that she/he never addresses feed-back questions to the students for verifying the degree of understanding of the informational content of the course/seminary (see Table 5.I.). The answers to this item show, from our point of view, that the teachers are giving a high credit to the informational content of the course/seminary, being in the same time preoccupied of the students' good understanding of the informational content.

The sixth item of the interview shows the importance the teachers give not only to the informational content of the course/seminary, but also to its reception and understanding by the students. We designed this item in order to reveal whether the teachers are interested in creating time for reflection or individual study during the course/seminary.

Table 6.I.
Distribution of answers to item 6 of the interview

Do you create time for reflection or individual study during the course/seminary?	Answers
Never	2
usually no	4
usually yes	5
Always	1

Table 6.I. reveals the fact that six teachers affirmed that they usually create time for reflection or individual study during the course/seminary. A number of 4 teachers affirmed that they usually do not create time for reflection or individual study during the course/seminary. The answers from the extremes poles of the answering variants were offered by a small number of teachers. Only one teacher affirmed that she/he always create time for reflection or individual study during the course/seminary and only 2 teachers affirmed that they never create time for reflection or individual study during the course/seminary. In our opinion, the interviewed teachers do not seem interested in using the students' reflexivity during the educational process. They do not either seem interested in assuring necessary and usefull moments of individual study during courses/seminars.

Item number seven of the interview refers to the effective learning activity, especially to their approach of different learning tasks.

Table 7.I.
Distribution of answers to item 7 of the interview

Do you ask students to describe their approach of different learning tasks?	Answers
Never	5
usually no	4
usually yes	2
Always	1

The answers to this item indicate the fact that the teachers do not seem interested in the learning techniques their students use. The answers are as follows: 5 teacher answered that they never ask the students to describe their approach of different learning tasks; 4 teachers answered that they usually do not ask the students to describe their approach of different learning tasks; 2 teachers answered that they usually ask the students to describe their approach of different learning tasks and only one teacher answered that she/he always asks the students to describe their approach of different learning tasks (see Table 7.1.).

Analysing the answers to this item lead us to the conclusion that teachers are centred more on the teaching activity to the prejudice of the observance of the effective learning process.

Item number eight of the interview solicits the teachers to identify effective strategies for the students' support in the process of information absorption.

One teacher answered to this item: "I try during the teaching process to use interactive teaching techniques and I ask students to prove me in practice that they have understood the theoretical part of the course/seminary."

Table 8.I.

Distribution of answers to item 8 of the interview

Enumerate at least three strategies you are using in order to facilitate the information absorption by the students	Answers
I use modern materials	9
I use modern didactic strategies	9
I draw schemes	7
I use explanation as didactic method	4
I write on the blackboard the main ideas	4
I emphasize the important ideas	3

We introduced this item in order to verify if the teacher reflect upon their teaching techniques as facilitation means for the absorption of information by the students. We grouped the answers in categories and formed a hierarchical system on the base of their frequency, as seen in Table 8.I.

Diagram 2.I.

Distribution of answers to item 8 of the interview

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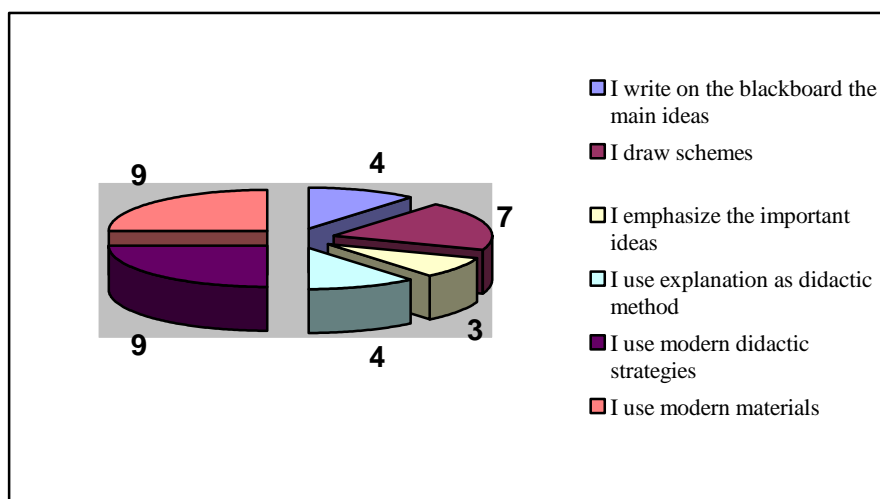
Diagram 2.I. indicates that the techniques of the teachers for facilitating the absorption of the information by the students are: 9 answers show the teachers are using for the described purpose modern didactic strategies; another 9 answers reveal the use of modern materials; 7 answers state that the teachers use schemes for the intended purpose; 4 answers reveal the use of explanation as didactic method; other 4 answers reveal schemes drawn on the table as technique to facilitate the absorption of information by the students; a number of 4 answers are strategically centred on writing on the table the main ideas of the course/seminary; a number of 3 answers indicate highlighting of the main ideas during the course/seminary as preferred technique by the teachers.

We intended to observe using question number nine if the teachers ask students to systemize information during courses and seminars.

Table 9.I.
Distribution of answers to item 9 of the interview

Do you ask students to systemize information during courses and seminars?	Answers
Never	4
usually no	6
usually yes	1
Always	1

Table 9.I. shows that systemizing information is strictly the students' option. Most teachers, 6 of them, stated that they usually do not ask students to systemize the information they receive during courses and seminars. Other teachers, 4 of them, stated that they never ask students to systemize the information they receive during courses and seminars. The number of teachers asking students to systemize the information they receive during courses and seminars is small. Only one teacher stated that she/he always asks students to systemize the information. Also one teacher stated that she/he usually asks students to systemize the information they receive during courses and seminars.

Studying the answers to question number ten gives us perspectives upon the concrete demands the teachers make to their students while note taking.

Table 10.I.
Distribution of answers to item 10 of the interview

Which are the requirements in case you ask student specific things to note?	Answers
I ask them to note all the definitions	4
I ask them to note everything I teach	2
I only ask them to note the examples I give	2
I ask them to note the important ideas I highlight	4

We observed while quantifying the answers to item number ten of the interview that the majority of answers describe two ways of taking notes. The number of teachers asking the students to note all the definitions is 4. Other 4 teachers ask the student to note the important ideas highlighted by the teacher. The other answers show that only 2 teachers ask their students to note all the information and also 2 teachers ask their students to note only the given examples. (see Table 10.I.). Analysing all the answers reveals a lack of interest regarding the students' technique for taking notes. The examples sustain our conclusion.

A last item of the interview refers to the final evaluation of the students and its most frequent criteria.

The answers to this item are as follows: 5 teachers, most of them, stated as criterion the answer to the final evaluation test; 2 teachers indicated the students' activity during the course as criterion; 2 teachers indicated the students' activity during the course and also during the seminary as criterion for the final evaluation; only one teacher considers the students' work during the entire semester as criterion for the final evaluation; only one teacher uses as criterion the number and the quality of the practical examples given by the students; only one teacher centres his evaluation on the students' capacity to make connections between pieces of information. (see Table 11.I.). One teacher answered to item 11 as follows: "I consider several aspects when I evaluate a student: his answers during the final evaluation test, the quality of the material he presented for the seminars and the student's expressed interest for the discipline."

Table 11.I.

Distribution of answers to item 11 of the interview

Which are the criteria most frequently used for the students' evaluation?	Answers
the students' activity during the course	2
the students' activity during the course and during the seminar	2
the students' work during the entire semester	1
the students' answers from the final evaluation test	5
the students' capacity to make connections between pieces of information	1
the number and the quality of the examples given by the students	1

While analyzing the answers to this item, we observed a pregnant preference of the teachers for the students' answers during the final evaluation test as criterion of the evaluation. In the same time, the role of students' capacity to analyse and to make logical connections between pieces of information has an insignificant role in the process of the final evaluation.

We state the following conclusions to our study:

- ❖ most teachers are centred during an efficient teaching process on the transmission of the contents and on exercising the necessary abilities of the students during their learning process;
- ❖ most of the interviewed teachers presents the objectives of the course/seminary in its introduction;
- ❖ few teachers present the key-terms of the course/seminary in its introduction;
- ❖ most teachers synthesize the information they present to the students;
- ❖ teachers pay a significant attention to the understanding process of the informational content of the lesson;
- ❖ teachers do not seem interested in the individual study of the students for the discipline;
- ❖ teachers do not associate the learning efficiency with the students' capacity to describe their approach of the learning process;
- ❖ teachers use and teach with the help of the modern didactical methods and means;
- ❖ a small number of teachers recommends taking notes methods to their students;
- ❖ teachers do not seem interested in the taking notes techniques used by their students;
- ❖ teachers strictly evaluate the answers of the students during a final evaluation test.

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METHODOLOGICAL GUIDELINES FOR A QUALITY LEARNING

ION ALBULESCU

ABSTRACT. The assimilation of information and transforming it in knowledge does not include only a simple taking over, a supply and a later mechanical reproduction. In fact, we are talking about a complex procedure of processing data which is realized in many steps and the individual must make a series of operations. In this study, I tackled the learning as a complex process of mentally processing the information. The result of this process is the fact that the pupil creates notions and opinions, develops understanding, convictions and competences. The identification and the development of those are conditions making the activities more efficient.

Keywords: *the learning, the processing of the information, the understanding.*

ZUSAMMENFASSUNG. Die Informationsaufnahme und Transformation von Wissen ist nicht nur eine einfache Akkumulation und später Reproduktion, sondern ein in der Tat komplexes Verfahren der Datenverarbeitung, der, in mehrere Etapen und Operationen von Individum realisiert wird.

In disem Artikel habe ich den Lernprozess als ein komplexes psyhisches Verfahren konzipiert. Das Ergebnis dieser Verfahrens ist dass die Schüler sich eine eigene Meinung und Vorstellung bilden und gleichzeitig die Fähigkeiten und Überzeugungen selbst entwickeln können. Identifiezierung und Entwicklung der Lernbedingungen streben nach mehr Efizienz im Lernprozess und erhöht dessen Wirksamkeit.

Stichwörter: *Lernen, Verarbeitung von Information, Verständnis*

What means to learn?

Generally, by learning, we understand acquiring new knowledge, creating new intellectual abilities and skills. Regarding the first aspect, we can characterize the knowledge as it follows: information assimilated by a person, information he understood and he can use them when he realizes explanations and solve problems. So, information memorized only mechanical, information you can reproduce without understanding it and without being capable to use it later, it is not knowledge, and memorizing it does not mean the learning. The learning purpose is not resumed to keep information, to register them in the memory to be able to be reproduced and which aims and develop those capacities to allowed using the received information from an independent, productive and creative activity.

For many years, educational sciences promotes the idea that instructive-educational activity can be focused on developing intellectual-operational capacities and consolidated logic-formal pupils thinking. Learning does not resume only to simple knowledge accumulation but it creates competences, which name thinking operations used in ideas and theories elaboration. We do not follow the passive, mechanic reflection of knowledge in pupil's intellect and developing a reproductive thinking but their intellectual education, by developing productive, creative thinking. At the superior levels, according to Jean Piaget the thinking is before all, a logic operation system. So, to think means to operate, fact that can develop intellectual capacities and which is decisive to learn and to intelligence progress.

Learning is realised many times new knowledge are assimilated and they shape/improve new competences. The person is confronted with new problematic situations and succeeds to offers acceptable solutions on formative consequences. By learning he succeed to understand what he did not understood previous, to identify new aspects of its financing, to solve problematic aspects ignored previous or without solutions, to makes predictions using theoretical bench-marks and to promote the desirable evolutions and to avoid the evaluated evolutions as being dangerous, harming. The activities formative outcome named generic „learning" is the dominant characteristic, but there are situations which attributes informative purposes to learning (assimilating information for a further reproduction of them). An also, the formative finalities are many times reduced to assimilations of the „making modalities" by which the person is prepared, for example to behave as a working force. The pupil learn what the professor says and the way he says but this is a homogenize learning and not one opened towards innovation, towards developing the capacity to information operate to solve optimum the problem situation.

Conscious knowledge by reception is active only in the measure in which the pupil proves capable to realize the interrogator senses and to prove a self critical sense. Knowledge assimilation is a process rarely reduced to the simple data memorize, it involves the processing of received messages, in order to become knowledge or to be integrated in their own cognitive structures. Information assimilation does not mean a simple add but their integration in a cognitive structure, after a previous adequate processing, a dynamic integration of mental activities, by understanding their own sense, by explaining the relations involved, by filtering and hierarchic criteria for generality and importance. So, the pieces of knowledge are pieces of information integrated in „intellectual structure" of the receiver; they can gradate and expend the further interpretation possibilities, but can also generate immutably, reconsidering the further interpreting possibilities.

The Information Processing

Knowledge is information assimilated by the person, and assimilation is a process in which we exercised the necessary abilities to receive information, to

process and to value them. When a receiver, receive an information or a message, in his mind we have a cognitive process, not a process to process the received information. By information mental processing, he analyses and ordinate message elements make many selection operations to recognize it and make them different and unified, being evaluated and the information being interpreted according to several criteria: relevance, signification, intelligibility, context, value, and unity (Gh. Dumitru, 1998). Inside the information mental process, the person forms notions, opinions, and developed the understanding, the motivations, and the convictions, the competences the attitudes and the behaviour. He learns to know, to communicate, to interaction ate and to have modalities more efficient and creative.

Assimilating information implies decoding the information, interpreting it, and sense according, by reporting to what is already known, to personal culture, to motivational and affective structures. According to this determinants, the informational content of messages received from many sources, is processed. The main steppes of the process are the following:

1) The decoding - the receiver decipher the message to receive it sense without any distortions,

2) The interpretation - the receiver analyses, synthesize and establishes rapports, noticing the information implicit the information signification included in the message to understand it,

3) The appreciation - the receiver express a value regarding the value;

4) The notion extension - the receiver conceive the implications, the consequences of the information received;

5) The application - the receiver uses the information from a given situation (problem solving, research, personal study).

For example, in a *Civic culture* lesson, we talk about the need to solve the conflicts between pupils. The teacher makes the following statement: „In the primate's collectivities that we can see the imposed of the strongest supremacy. The man had the power to replace the force by the low force". Receiving the message, the pupil tries to decode it, the get the sense, so the following: „In human interrelations it is necessary to create a tolerance and respect climate, because on tolerance base and on mutual respect, conflicts can be solved peacefully". There is a interpretation of this purpose, which can involves an analyses of „tolerance" notion, its relations with other notions too, as other as „negotiation", „respect" and „compromise", the identification of the way in which „correctness force can avoid the aggressive manifestations, explaining the way in which the intolerance manifestations can occur. Briefly, the interpretation can be the following: „By tolerance we understand the knowledge, the recognition and the acceptation of the different way of persons and groups around us. This „different way" refers inclusive especially at the interest, opinions, ideas, values, beliefs, convictions differences. The notion of „respect" brings in the evidence the other acceptance, as it is, the desire to get rich of personal experience by the contact with the others different way of being. When in a

group and in a society, different interest, convictions, passions clink, it is necessary to negotiate between the concurrent parts, to avoid tension degeneration in conflict. By negotiation, we can follow the consensus of involves parts on final result, or the final outcome or the compromise, respective the solving solution to negotiate the conflict and each can obtain certain advantages, accepting to make compromises regarding other problems.

Obtaining the consensus or the compromise depends by parts dialogue, when is necessary, and by the mediators and conciliators efforts. The value judgement from the end is the following: „It is good as in their relations; the pupils may manifest tolerance and mutual respect, because only this way, they can solve peacefully the conflicts". The next step is the implication conceiving by the students of the received information: „If in relation with our kind, we prove tolerance and respect, we succeeded to avoid the conflicts, and we will arrive to intolerance, to incapacity and lack of will to know, to recognize, to accept the other different way of being. In extreme cases, the intolerance goes to other's dignity and freedom trespassing or even to murder". Then, the pupils will try to apply the knowledge identifying intolerance cases to which they confronted during every day life and they will realize a groups play, as it follows: we propose a subject which presents interests and passions, they chose a mediator and they seek a solution for which pupils can express the consensus and the compromise between the opposite parts. In the end, the groups communicate one to each other the obtained results.

We can say that the success in acquiring knowledge depends especially by the information correct requiring and by their valorisation in the processes made later by the person. An information becomes a knowledge when two base conditions are fulfilled:

1) assures a knowledge enough detailed on interest object;
2) the person which has it, is capable to identify the situations in which can be used.

For example, when we memorize texts in order to reproduce them later, we do not form knowledge coherent systems, so we do not learn yet. We must keep in mind the fact that learning becomes useful when we must solve different and difficult problems. Regarding the competences, this is capacities to process the information and to realize actions for using them in problem solving. „Knowing what you do…" is a way of saying, „you have competences". Between the current uses of words „to know", we can differentiate, first, the ones who indicate a certain competence and the one who presents assertions on real or hypothetic states, which can be correct, incorrect or false. G. Ryle (1949) operated the distinction between „knowing how" and „knowing that", showing that „knowing how" means to know how to do a certain thing, the proof of having this kind of knowledge, being the capacity to unfold successfully a certain action (activity). So, the proof for „knowing that" can be made by a verbal, intellectual activity. The contrast between „knowing how" and „knowing that" can appear when the person offers descriptions and explanations regarding what he knows, but his concrete outcomes are under the expected level.

The school offers to the pupils a certain information volume and follows to produce modifications at intellectual capacities level.

So, she involves thinking and the „intellectual gymnastics", saying according to J. Piaget (1988, p. 79) to develop it. An instructive-educational action desired efficient, can not adjust only to knowledge communication, and may involves mental operations development, as central aspect of intellectual formation. Saying that the pupil must know certain subjects, according to H. Aebli (1973), this means that he must learn to execute some operations (analyses, synthesis, determinations, classifications, comparison, interpretation) considered knowledge general instruments, because them aide to notions formations and make possible the knowledge options presentation. That's way in the teaching-learning objectives of a study discipline; we can see a different class, which presents the formation and the development of operational capacities. Presented in every learning space to assure it, new qualities, this capacities presents the core of what psycho pedagogy names „formative" (I. Neacşu, 1990). It constitutes in cognitive structures, and by them we can realize knowledge.

Teaching and learning involves operations which condition ate the pupil's cognitive acquisitions. In this sense, forming a specific cognitive-instrumental complex and educating using it in different cognitive aspects presents a special importance. We will illustrate this:

1) Analyses - operation exercised on: concepts signification, concepts rapports, affirmations, ideas, theses from a text, a metaphor's sense, its own life experiences, phenomena, nature processes, society processes, the interference between study discipline and other disciplines.

2) Synthesis - possible operation: realizing generalizations on concepts formation, expressing understanding, extracting key concepts, main ideas and arguments in a text, organizing necessary data for problem solving, realising thematic synthesis.

3) Definition- operation which makes possible the sense and signification determination of a concept and of an expression, analysing a concept content, introducing new senses for a concept, instituting a convention regarding concepts signification, interfering as a rule in demonstration.

4) Classifying - operation by which we can obtain: notions types, reports types, phenomena and processes types, hierarchies.

5) Comparison - operation which has an object: understanding concepts, different definitions gave to the same concept, ideas, interpretation, different arguments phenomenon and social process, establishing analogies, similarities and differences, different conceptions.

We add to these, other operations, such generalization, abstractization, on concept formation bases. The operation makes possible the intellectual exercise contributing to the elucidation of cognitive contents.

Discursive-rational knowledge is mediated by many operations, which mediate knowledge acquiring, organising and structuring them, to have a unitary and coherent character. Notions assimilation involves such operations according to which, the operation is a mental activity form. That's why, operational structures development in instructive process is a very important objective, being determined by transmitting and acquiring knowledge by the subjects who knows the facts.

The intellectual formation is conditioned by capacities development to effectuate operations. That's way is necessary as pupils to be entrained in learning activities which involves these operations. Learning progress is realized by consolidation of operator structures, with a greater importance in knowledge. The teachers must organises learning situations, which does not admit pedagogic lead of acquired operations but also prom ovate it, offering to the pupil the way of executing effectively the operations in the course of trying it: „Who speaks about a thinking formation, speaks about operations formation, and who speaks about operation formation, speaks about their building. Constructing operations is made in research course and any research starts from a problem", writes G. F. Kneller (1973, p. 101). That's way, in approaching instructive-educational duties it is desired to have active-participative strategies, so the education would become a process of cognitive construction, not only a simple and passive knowledge receiving. That's way, the pupils acquires its own cognitive competences. Teacher's duty is to organize situations in which the operations are not only presented to pupils, but they to be provoked to build by themselves the operations in order to acquire them.

The Understanding

To understand a message, involves a systematic processing, by which we follow the identifying the message significations, the possible connexions with other messages significations, appreciating the significations to identify the differences. The whole evolution of individual knowledge is the result of interpretation ability. For example, the pupil receives the following message, transmitted by the teacher or enclosed in book (textbook): „We do not behave at a random in society or according to every one wish, but we behave according to some rules". Interpreting the informational content of the message can be centred on find out concrete answers on eventual interrogations: What are the rules? What express the rules? Why it is not desirable to behave at a random or according to my own wish? What does it mean to behave according to the rules? What happens if I broke the rules? The behaviour of each person is determined by its own cognitive system, by certain knowledge. The behaviour of each person is determined by its own cognitive system, in fact by knowledge kept, by a certain reflection degree, organization and information processing, of which origin must be searched in the information type received. The interpretation idea suggest the fact that the one who realizes involves an activity to examine an informational content to decrypt its signification and to understanding it. Beside,

by receiving significations, this operations puts in the light the rules which allows the information selective information in thinking and action structures, and also the rules which guides the situation and the contexts. Many times in many contexts „the interpretative reasoning" tries to get closer, some times until confusion, by description and explanation procedures. Generally, we must consider the interpretation as a rational activity, as a passing from a description to an explanation, a transformation of an informational corpus in a starting point towards the theoretical explanations.

A message is correct understood when by its own interpretation; its significations are not modified, when the comparison becomes possible with its own interpretation of the field to which the message refers to. Essential for understanding is the way in which the information stored in memory is already conjugated, the first being a code towards the second. If the person does not have enough knowledge and did not develop certain mental capacities, he will not be able to decode the signification. To realize an adequate understanding, it is necessary to make a selection regarding the activating of the old knowledge, regarding information sorting. To found when you need the proper information, this might enter in a resonance with the mind climate created, to be detached to enter in the sphere of the ones who deserve to be taken into consideration. This thing is not possible even if the information is in a rich and dynamic network of relations with person knowledge assembly. The information received is useful for the person in order to be mobilized, in different efficient combinations. Reproduced information without being understood does not enter in resonance with others, with the mental activity, generally speaking and it becomes a lumber. So, to understand new information it means putting it in connection with mental activity ensemble, and at the end, it includes this acquisition in this ensemble dynamics. As far the integration is more complete, more polyvalent realized (by its connection with a greater diversity of information), so the understanding is fullest, and the acquisition is more efficient to knowledge and action.

If in a first stage of learning it is not possible to understand the message, the situation must be interpreted as a clue that misses those capacities involved in its analyses. In these cases, the learning must be organized to sustain the formation of those capacities; when we obtain the understanding, we have the necessary clue to considerate the formed and used qualities. If we see interpretation errors, they are clues of involved capacities limits. The frequent errors from the understanding process are: rash interpreting, the simplifications and the deformed generalizations.

As we showed before, according to Piaget's theory at the base of developing child thinking is the operation. Regarding the pupils from small classes, according to D. P. Ausubel and F. G. Robinson (1981), using the notions, is connected with the inductive generalizations, starting with the concrete experience, meanwhile the pupils from bigger classes can get notions through assimilation, because they are capable to notice the direct relations between abstract things, without having the need for empiric concrete supports. Conscious learning produces only when the student tries to keep in mind an idea connecting it with what he knew before, his

cognitive structure, which confers it a certain senses. The quoted authors continues an old idea, of J. Dewey, according to which in the childhood, the understanding of notions and exact principles is realized by direct and concrete experience, from where the need to use active methods in the first educational cycles. The pupil at adolescence is in formal operation state, being capable to effectuate the logic operations and hypothetic-deductive operations of theorization and critics. He receives an increased stock of abstract notion and becomes capable to manipulate mental those notions, without an intuitive-empiric support. The received notions are mentally examined, processed and integrated in it cognitive structure, indifferent by the way they are obtained. The conscious learning involves more than a simple registration of some notions well done in the existent cognitive structure as it follows:

1) The relevance appreciation to decide to which from ideas received already, can be reported easier the new educational duty,
2) Reconciliation, if it is the case, between the new ideas and the old ideas,
3) Rewording the new propositions according to the vocabulary and the idea structure of the one who learns, to be more easily integrated in reference frame.

We presume that the teacher speaks to the pupils about "guilt and punishment". He explains them the meaning of the two notions, he explains their guilt and what kind of punishment involves. The knowledge received are relevant for the pupils in the perspective of knowledge and of understanding the way social life is settled by low. For this to be integrated by pupils in their own cognitive system is necessary to relation ate them to old knowledge, regarding the notions significations, such as: „norm", „value", „right", „lows system", by the existent connections, by the norms and values types (moral, judicial), by the actions and behaviour according to those, by the relations between judicial norms and human rights. Only in this way, we can obtain a coherent knowledge, well articulated and complete on the discussed question. The pupils can have a priori representations on those matters, formed after the life experience and which are not according to what I have already learned, for example, regarding applying the low in solution ate processes. In such a situation, confronting the new knowledge received by the previous representations is necessary, to realize an adequate knowledge. An explanation, of course, of transposing the informational content at language development level and of pupils knowledge is, also, necessary, for them which are not capable to arise at specialized discoursed level, very intimate for a jurist.

Conclusions

All the people realizes learning activities, but few of them asked how is possible this and what can they do improve the developing ways to becomes more perform ante. The consequence is one predictable: using superficial the own intellectual capacities. Over passing the superficial attitude will open other action

horizons for the persons involved, to ameliorate their own capacities to process information and to make efficient learning activities. Learning activities, which are different to one person from another, result from existent differences regarding information abilities processing. Referring strictly to school learning, one pupils succeed to accommodate superficial to educational process and others does not arrive to the expected performances, fact explained by intellectual procedure absence and by mental operations proper to complexity degree of information engaged by a study object or by another. If learning make the difference between pupils, if the results marks strong their life and not only the professional results, is obvious that each persons to be interested to „learn how to learn", developing the intellectual instruments necessary for such a step. The organization and effective realization of learning is essential for every body's life.

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THE IMPORTANCE OF ADVISORY BOARDS IN UNDERGRADUATE CHEMISTRY TEACHING

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ABSTRACT. This paper investigates the usefulness of advisory boards from the perspective of a University Chemistry Department. It is shown that the impact of secondary school teachers on the Teaching Advisory Board contributes positively to maintaining congruence between post-16 pre-university courses and first year undergraduate courses. Several examples are provided where this board has provided valuable direction to the teaching at year 1. For a Chemistry (Science) department it is also important to have an Industrial Advisory Board populated with active industrialists. This board contributes towards the later stages of the degree programme and ensures that graduates are well prepared for employment. A newer advisory board, borne out of the creation of a Centre for Excellence in Teaching and Learning shows how a diverse group can also be an effective advisory board. The key element for success is having well defined terms of reference and clear objectives.

Keywords: *industrial, teaching, advisory board, consultation, school-university transition*

Introduction

Kenny [1] outlines the very great potential benefits offered to any organisation by a well functioning advisory board. There are myriad possible ways that an advisory board can help an organisation from providing new expertise, information and contacts, to acting as a critical friend. However, there are two important factors that are paramount to ensuring a successful and well functioning advisory board; both are obvious but often overlooked. First, there needs to be clear terms of reference for the advisory board, i.e. what is its role and objectives. Second, the composition of the advisory board must be carefully chosen to realise the objectives [2]. Isaacson et al. (1994) discuss the importance of a scientific advisory board in the context of

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business but the principles translate perfectly well into the academic arena. Although industrial advisory boards in academia are now common place in Engineering and Science Faculties [3,4] it would appear that teaching advisory boards are less common or that little has been reported about them. There are indeed sizeable barriers to establishing an advisory board such as the expense (time and financial) of organising and holding such meetings and convincing appropriate candidates to become board members, convincing academic colleagues that a board is a profitable investment. Sadly, there are many people who have experiences of ineffective advisory boards and this builds up antagonism towards these structures. In this article we describe the role and effectiveness of three advisory boards that operate within the School of Chemistry at the University of Bristol. These are the teaching advisory board, the industrial advisory board and the advisory board for Bristol ChemLabS [5]. We will concentrate on the first and third that focus on teaching.

1. The teaching advisory board

In previous articles [6,7] we have discussed the impact of a School Teacher Fellow on a range of activities within a Science department. In many cases financial constraints mean that it is not possible for a department to employ a School Teacher Fellow, how then can it review its teaching practice? One way is to establish a teaching advisory board (TAB). There are several examples of a teaching advisory board that we know of in Physical Sciences in the UK and each has its own particular set of objectives and structure. Some contain only members from their own institution, and may involve members from allied disciplines as well as ones that are totally unrelated to their subject. In addition, they may also contain members that represent support services. Very few teaching advisory boards, if any, contain members from outside the institution. This lack of outside involvement may be because every department in Physical Sciences in the UK is likely to have at least one external examiner reviewing the examination process each year and in many cases institutions appoint a panel to review courses on a regular basis. However, in only a few cases are secondary school teacher's part of any teaching advisory board. We have a TAB that is composed of equal numbers of secondary school teachers (representing as wide a range of schools and examination boards as possible) and academics from the department, eight each. Prior to the Bristol ChemLabS project this advisory board met twice a year and now that we have a full time School Teacher Fellow, it is only necessary to meet just once a year for an afternoon. More than two meetings a year proved to be too difficult for the teachers to attend and meeting in the afternoon allows teachers to travel during the morning.

Examples of how the TAB influenced the chemistry curriculum at Bristol.

The broad objective of the TAB is to ensure that there is congruence between chemistry teaching at year 13 at secondary school (final year pre-university students at secondary school) and the first year of undergraduate studies.

For each meeting a particular topic of relevance to undergraduate teaching is chosen and a presentation from an academic and a secondary school teacher are given followed by an informal discussion. Much emphasis has been placed on the school to university transition and how the many changes to the secondary school schemes of work at

General Certificate of Education (GCSE)[5] and Advanced (A)[6] level in the UK will impact on tertiary education. Topics that have been covered in the recent past include;

- Practical skills that students develop at A level and how this should shape first year undergraduate practical chemistry classes. This meeting was the start of a fundamental change in the way we approached practical teaching in chemistry and led to the establishment of Bristol ChemLabS a multimillion pound project [5].
- IT competency at secondary school, which included a demonstration of effective use of interactive white boards (IWB) in secondary schools. This meeting was the impetus to install IWBs in the School of Chemistry. A TAB meeting showing examples of school students' IT within chemistry resulted in the removal of a compulsory word processing course in Year 2 as the majority of school students were already competent. An on-line and Chemistry specific word processing and spread sheeting IT course was developed to support students that had not been through UK schooling or who simply needed to refresh their memory of the ways in which a science report should be formatted. This animated tutorial is available to all Bristol Chemists as part of the Dynamic Laboratory Manual (DLM).
- Mathematical competency required for degree level chemistry is a topic much discussed by university chemistry teaching staff. The TAB meeting focusing on this was part of a larger survey that assessed what a GCSE qualification in Mathematics really meant in terms of competency in the mathematical skills required by undergraduate chemist in the UK [8]. This meeting was part of a series of meetings that has led to the School of Chemistry raising its entry requirements from a C at GCSE to a top level pass at A level in Mathematics from October 2011.
- Another meeting looked carefully at assessment methods at secondary school and how these compare with first year undergraduate assessment. Discussion of the way various elements are assessed in both secondary and tertiary education were highlighted, in particular, in written examinations how questions are presented and worded differently at undergraduate level and this has led to a refocusing of university tutorials and other support structures for undergraduates to aid the students with this transition.
- Recently at a TAB meeting it looked at new innovations in school science qualifications such as the Science Diploma [9]. Although this is something that is to be introduced in the UK in 2012 the meeting allowed us to discuss what the diploma might look like, what skills and competencies it would yield and how we might prepare at University to accept students with this qualification. In other words the School of Chemistry was looking proactively at this rather than the more normal university stance of behaving reactively. Decisions as to the appropriateness and acceptability of the highest level of entry of this course in consideration of application to Bristol's Chemistry degree courses have now been formulated.
- We have also discussed public engagement and how the School of Chemistry can support science teaching at secondary level. Many of the ideas have been incorporated into the portfolio of outreach activities that have been discussed elsewhere [10-14].

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[5] The GCSE is a UK national qualification for 16 year olds at the end of compulsory education.
[6] A Level is the 'gold standard' of the several pre-university examination systems. It is taken by the majority of students wishing to enter universities in England and Wales.

The TAB has a very specific role which its membership can very ably address. A body of school teachers acting in this way has been very profitable to the School of Chemistry, particularly with the many changes at pre-university level courses in the last decade.

In the UK the A level changes considerably in both content, optional modules availability (currently there are no options available) and how the courses are assessed. The latter does not just affect the number, type and structure of the externally assessed examinations but also the requirements on the internally assessed practical skills. The experience of current first year undergraduates in terms of knowledge, assessment experiences and the support that school students receive in the latter needs to be understood within the university system. In the UK roughly two thirds of the content of A level courses produced by the examination boards is common for any first year cohort of students. What is assumed to have been taught by university lecturers from one year to the next and even within a year is not necessarily what the students have experienced. An examination system within a university that has been suitable for students for decades that does not take into account the examination skills of the current cohort does the students a disservice. The TAB meetings can highlight these changes.

Future meetings will discuss Fresher's Week and the run up to starting University. 'Fresher's Week' is the name given to the first week of activities that first year undergraduates experience on coming to university. We will be discussing what we can do to make the start to University as positive an experience as possible for our young chemists.

What's in it for the secondary school teachers? Each meeting provides them with a valuable insight into the workings of a University department and also helps to shape their teaching at A level, in terms of preparing students for University entry. The networking opportunity also has other spin-offs such as access to equipment, advice, information and even to access academics to be visiting speakers.

2. Industrial advisory board

Another advisory board that operates in the School of Chemistry is the Industrial Advisory Board (IAB). It is similar to the TAB in structure (eight academics and eight industrialists) but has a different remit. In part the IAB is tasked with keeping the School of Chemistry up to date with the needs of industry, to ensure that graduates have the necessary skill sets that industry is looking for. Therefore there is scrutiny of the later stages of the degree courses in terms of content and practical skills.

When the complete replacement of all practical work was undertaken the IAB were consulted as to which practical and other skills the chemical industry wanted. These skills were then allocated to year groups starting with the basic skills in the first year, how these would develop in years 2 and 3 and which higher order skills were to be incorporated. The experiments were then designed to develop these skills. One consequence of all this was to remove the artificial borders of inorganic organic, and physical practicals (and to divorce the practicals from the lecture courses).

In addition, the IAB looks to build partnerships and to assist in the establishment of research centres of excellence. Most recently, the IAB has contributed to successful bids to establish Doctoral Training Centres for PhD students in Chemical synthesis and was an important component of the bid to become a CETL (see next section).

3. The Bristol ChemLabS advisory board

The Bristol ChemLabS project will be described in a forthcoming article in more detail and will only be briefly described here. In 2005 the Higher Education Funding Council for England set up 74 Centres for Excellence in Teaching and Learning (CETL) in England and the School of Chemistry at Bristol was the only one specializing in practical chemistry. The project was called Bristol ChemLabS (Bristol Chemical Laboratory Sciences) and has been a considerable undertaking. It has involved the total refurbishment of the teaching laboratory space and a number of innovations, including the development and implementation of a Dynamic Laboratory Manual (references [15,16] describe aspects of the Manual), an e-learning resource to support pre-laboratory preparation, a full time School Teacher Fellow [7,8] to advise on teaching at the School-University interface and to conduct public engagement, and a University Teacher Fellow whose role was to focus on developing new practicals for undergraduate teaching.

In order to run this project it was important to establish a variety of working groups which meet on a regular basis and who have a very clear and tightly defined remit. In addition both a management board which meets two times a year and an advisory board that meets once a year were established. The Management Board's role was to have an overview of the activity of the various working groups to ensure that they were on task. However, the advisory board has two main roles, first to hold the management board to account and to ask questions about how the project was run and to be a critical friend. Second, the advisory board has a remit to 'horizon scan', i.e. to bring advice and expertise to the project where needed, or to point the project towards outside groups or activities. In addition to Bristol ChemLabS staff (group 1), the Advisory Board consists of staff within the University who reside outside the School of Chemistry (group 2), as well as external members (group 3). Members from group 2 include

- The Dean of the Faculty of Science whose role is to run the whole of the Science Faculty. The Dean has been able to offer advice on funding opportunities and synergies with other departments.
- The Pro-Vice Chancellor for Education, whose job is to oversee Education across the whole of the University, has been able to advise and champion the spreading of best practice learned from the Bristol ChemLabS project to other parts of the University.
- The Head of the Education Support Unit in the University has also been able to work with the Pro-Vice Chancellor for Education to spread best practice but has been invaluable in helping the team to complete reports and to provide support in areas such as assessment and evaluation.
- The University IT unit is also represented and this has been helpful in practical issues such as equipment compatibility.
- The Head of the other CETL at Bristol in Medical Sciences called AIMS (Applied and Integrated Medical Sciences) [17]. A very close synergy has existed between the two CETLs and this has led to important economies of scale in terms of operation.
- Student representatives have been invaluable to the advisory board. Both undergraduate and postgraduate students have contributed very important information regarding both the day to day running of the activity but have also provided suggestions for innovations within the project. They are of course an excellent sounding board.

Members from group 3 include;

- The Chairman of the Heads of Chemistry UK, who has provided excellent advice and support, in particular on how to disseminate best practice to UK Chemistry Departments.
- Head of Education from the Royal Society of Chemistry, who has been able to liaise with our learned society in the UK.
- A representative from the Physical Sciences Centre within the Higher Education Academy. They have been able to assist with evaluation and assessment and were extremely helpful when we were formulating the bid.
- An independent assessor from a UK Chemistry department has been able to provide impartial advice and enquiry regarding operations. They have also been able to provide independent assessment of the success of the project and to draw attention to areas for further improvement.
- Representatives from industry and the Society of Chemical Industries, who have advised on equipment purchase, sponsorship strategies and in raising the profile of the project.

Overall, the advisory board meetings have always been positive, in that they have enhanced the project. There are many examples of actions arising from these meetings that have benefitted the project as a whole. It is rare to assemble such a diverse group together and they have not only been loyal to the project over the five years of its initial phase, but the whole is clearly greater than the sum of its parts.

An example of the use of the advisory board is a report on the project by our external evaluator [18] following a week spent at the Centre observing. They noted that, 'The most obvious point to an outside observer is the purposeful air and committed attitude of the students at all three levels. The labs were full and there was a buzz of expectancy and enthusiasm at each level.'

Conclusion

This paper does not advocate a proliferation of advisory boards. However, from the perspective of a University Chemistry department, having secondary school teachers advising on the School-University interface and industrialists advising on later stages of the degree course has been extremely beneficial to the operation of this large, successful department, which has advantages to the undergraduates and to academic staff alike.

These benefits include; that the graduating chemists have the practical skill set that the modern chemical industry and academic research demands. There is less repetition of IT and science coursework covered at secondary school. The transition from school to University is smoother and we are aware of issues that are coming up (proactive) rather than learning about them as they happen (reactive) through the presence of a TAB and School Teacher Fellow. The work of a personal tutor has been reduced because the students are better prepared to start undergraduate courses and have more focused support. The impact of the Bristol ChemLabS project

on the teaching of practical Chemistry at Bristol has been the most significant item in teaching for the last twenty years. Without the TAB and IAB the original bid to become a CETL would have been markedly weaker and their advice in shaping the CETL as it was established was very significant.

Acknowledgments

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ROMANIAN MEDIA REPRESENTATIONS OF DISABILITY

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ABSTRACT. Media portrayals in different ways persons with disabilities, and this is not just because of the societal stigma. This article represents a contribution to the representation of people with disabilities theme, from a Romanian perspective and it will help to underline the evolution and the transformation of these representations in a crucial economical period for Romania, the years of socio-economical transition (1991-1999). Enumerative analysis will present the descriptive elements, but also the substance of the article, emphasizing the society's difficulties and the changing from a negative representation of disability (the impact of disability) to a positive one (the possibility of improving the condition of person with disabilities). The final of the paper will point out the political, social and economical factors which influence the formation of Romanian media social representations of disability.

Keywords: *media portrayals of disability, impact of disability, possibility of improvement of the condition of persons with disability*

ABSTRAKT. Die Medien stellen die behinderten Personen unterschiedlich dar, was aber nicht nur auf das soziale Stigma zurückzuführen ist. Die vorliegende Arbeit versteht sich als ein Beitrag aus einer rumänischen Perspektive zur Darstellungsproblematik der behinderten Personen und trägt bei der Aufnahme deren Entwicklung und Transformation, während einer wirtschaftlich grundlegenden Zeitspanne für die Entwicklung Rumäniens nach Dezember 1989, während der Jahre des wirtschaftlichen - sozialen Übergangs (1991-1999), bei. Die aufzählende Analyse wird eine Aufnahme der deskriptiven Elemente aber auch der Elemente, die an der Substanz des Artikels gebunden sind, ermöglichen, wobei die Schwierigkeiten der Gesellschaft beim Übergang von einer negativen Darstellung der Behinderungen (Behinderungsauswirkung) auf eine Positive (die Möglichkeit einer Verbesserung der Lage der behinderten Personen) dargestellt werden. Zum Schluss werden die politischen, sozialen und wirtschaftlichen Faktoren hervorgehoben, die die Gestaltung der sozialen Darstellungen der Behinderung durch die rumänischen Massenmedien beeinflussen.

Schlüsselwörter: *Behinderungsdarstellungen in Massenmedien, Behinderungsauswirkungen, Verbesserungsmöglichkeit der Lage der behinderten Personen*

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Problem formulation

Attitudes, beliefs and misconceptions of society constitute a major barrier for people with disabilities. Attitude change can follow heightened awareness of, increased contact with and increased meaningful communication between people with or without disabilities. Although personal interaction is the most effective medium for conveying the personal experience of disability, the media can be an effective vehicle for bringing about greater understanding and a consequent gradual change in public perceptions of people with disabilities (Dahl, 1993).

Higgins (1992) noted that as a society we **construct disability** through our language, the media and other public and visible ways, such as photography, art and literature. People with disabilities are portrayed as "different" or as people who may not fit within the mainstream. This affects the public's view on disability, as well as the self-concept of people with disabilities (Nelson, 1996).

The representation of disabilities in the Romanian cultural arena is an interesting topic, because the modalities in which the media has framed disability will cover an unexplored field of Romanian research.

This paper represents just a part of a complex research project that includes an enumerative analysis of the Romanian written press from 1989-1999 and 2003, and it will focus only on the publications from 1991-1999, because these years represents the years of economical transition and will underline the importance and the influence of these factors on the formation of Romanian media portrayals of people with disabilities.

The article will begin with a presentation of general media models of disability, as described in the research literature, in order to create a frame for reporting the criteria which will be used for enumerative analysis.

The questions of the research will then be framed. After it, the presentation of the design of research will follow, identifying the time periods of the present investigation, the sources of evidence and the description of the method used for the research. This research is qualitative, which is an important new element for Romanian research field, where traditional quantitative research exists for a long time, but the option of this article will go for the enumerative analysis, which is the known the "cvasi-quantitative method" from qualitative methods.

The analysis and interpretation of the results will be the next part and it will contain a general overview of the investigated publications. It is presented in a pertinent intra-cultural comparison between the years of investigation. The final conclusions will highlight the major findings of the research.

General Media Models of Disability

Media are a product of society. This does not mean however that they reflect existing attitudes exclusively and under all circumstances. They may also open new horizons or try to educate their audience. Nevertheless, they stay rather close to the ideas cherished by their consumers (Ciot, 2009). Therefore, an analysis must first of all list the stereotypes and prejudices concerning people with disabilities.

For centuries, disability and people with disabilities have been looked upon as an accident of nature. Homer in his "Iliad" describes how the Olympian Gods mock Hephaistos because he is limping, and throw him out of heaven. In Sparta disabled children were exposed to death. In the Old Testament people with a physical deformation were excluded from the priesthood. Even the German reformer Martin Luther writes in his diary about a disabled child: "If I were sovereign, I would throw the cripple into the river to be drowned". The climax of such social hostility to people with disabilities was reached during the Third Reich when the Nazi regime murdered about 100,000 physically or mentally disabled persons. Though times have changed, the new discussion on prenatal diagnosis and abortion show, that even in our days, general opinion is not so much in favor of any disabled existence. It is against this background that we have to evaluate the role of media and the way they take "responsibility" in this matter (Radtke, 2003).

In the beginning, the media portrayed disabled persons in a very negative way. For a long time evil character was closely related to physical deformation. When disabled persons made their appearance in theatre plays, they were always characters to laugh at or to be despised. The stuttering man, who becomes the fool of the whole community, is such a well-known stereotype (Czech opera "The Bartered Bride", by Bedrich Smetana).

Media images depicted *wheelchair use* as the main symbol of disability. Wheelchair use dominated modern news photographs, as well as popular culture images such as films (Norden, 1993). Knoll (1988) noted that disability might include symbols as: medical equipment, cues for impaired immobility, beds, bandages, twisted hands. These allow to a person to be labeled as having a disability, without it being stated.

In journalistic terms, wheelchairs and other disability-related equipment may pull viewers through the rhetoric of tragedy and a sense of people "coping with adversity", themes that won important journalistic awards (Haller, 2000, Singletary, Lamb, 1984). Disability in photos shows drama and human interest, two long-held values in journalism. Another journalistic value, oddity, fits well with how editors might view photos or video footage of disability (Fedler, 1997). Although disability is manifested in many forms, media imagery relies on one type of disability – mobility impairment that requires wheelchair use.

Dahl (1993) made an analysis of the whole of the media in promoting images of disability. She was speaking about *disability as a metaphor*, especially about the *Evil Crip* as a stereotype for representing disability.

There was also an issue of gender and racial dimension in representation of people with disability. Media images portrayed disability as Caucasian and male. In terms of gender, this image conflicts with the incidence of disability among women. A study made on the representation on photos of persons with disabilities showed that 46% were men and 40% women. According to some studies, women have disability more often than men and there are slightly more women than men in the population.

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Although these images do not represent the racial and gender of disability, they do accurately reflect the disability rights movement, which is composed of many white males. Many disability researchers currently believe that the incidence of disability in minority racial groups has been underestimated in the past. With a reliance on pictures of white people with disability, the media framed disability as a "White issue" (Haller, 2000).

Similar to the above affirmation, Zola (1985) and Makas (1993) found most people with disabilities on TV to be *young, single, White males*.

By allowing visibly people with disabilities a few opportunities to be seen as socially acceptable and attractive human beings or as valuable employees, the media have not disrupted the seemingly indissoluble link between these images that were forgotten by advertising. The missing element from the disability media research is the recognition of the extent to which human conduct is affected by how other people look at them (Hahn, 1997).

Research Question

The present study has the following question as its starting point: *Are there any specific political, social, and cultural factors or positive and negative elements that characterize the Romanian media models of disability?*

Research design

Taking into account the political and social importance of certain years when the investigated publications appeared, we confined the present article to the following *time periods*: 1991-1999, the years of Romanian economic transition to capitalism. Examining these years will help us to witness the evolution of the type of disability framed by different type of article as well as the impact of disability on individual's life of family members and the possibility of improvement of the condition of the person with disabilities.

The design of the research also identifies the sources of evidence and the research method. The *sample of publications* was drawn in the following manner: the study includes all the daily, weekly, and monthly publications from the year 1991-1999 at the central and local levels with a circulation level of more than 500,000 and with specific social and political elements. In figures, the situation of the investigated publications is as follows:

The *method* used for this study was **content analysis**, with **enumerative analysis**. Even though this method isn't the most modern one, for Romanian research context, the use of a qualitative method represents a novelty and the use of it represents the connecting and a starting point for the creation of a bridge between the traditional quantitative methods and the actual methods of research.

Table 1.

The situation of investigated publications for the investigated years 1991-1999.

Investigated year	Number of investigated publications	Total of investigated publications
1991	11	
1992	13	
1993	13	
1994	13	
1995	13	115
1996	13	
1997	13	
1998	13	
1999	13	

As a key for selecting newspaper articles for content analysis, a list of words and phrases relating to a wide variety of disabling conditions was constructed. The base of this list were the study developed by Keller et al. (1990) and the dimensions of *quality of life* concept constructed by Schalock (2002, 2006).

Two major areas were considered for ***enumerative analysis***. The first included *descriptive information* related to (a) whether the disability was a major or a minor focus of the article, (b) the type of impairment covered (intellectual impairment, hearing impairment, visual impairment, physical impairment, the use of the general term of handicapped or impairment, and "other" for additional terms of the list), and (c) the type of article (feature, news, editorial, soft news article, notices, and "other"). The feature article is a reportage, which focuses on events; it is the story of a fact, the description of a certain place, based on the information taken directly from the event. The news article contains always impact information, making in this sense the difference from soft news article, which doesn't contains impact information. The editorials are opinions articles, written often by one of the editors and giving the paper's opinion on a matter, rather than reporting information. The notices are referring to announcements.

The second area focused on the *substance of the article*, considering the article's portrayal of *the impact of the disability* and *the possibility for improvement of the condition of persons with disabilities* as it is described in the following table:

Table 2.

The criteria of *substance of the article*, the second area from enumerative analysis.

		Physical Well-Being
		Emotional Well-Being
	Negative	Material Well-Being

Impact of Disability on Individual's Life or Family Members		General Well-Being	
		Interpersonal Relations	
	Positive		
	Neutral		
Possibility of the Improvement of the Condition of the Person with Disabilities	Yes	Intervention	Therapy
			Medicine
			Education
			Other
		Personal effort	
		Religion	
		Charity	
		Social contact	
		Technology	
		Other	
		No Reason Given	
	No		
	Neutral		

Analysis and interpretation

This part will offer a general overview of the publications investigated. It is presented in a pertinent intra-cultural comparison between the years of investigation, which will frame the principal Romanian differences and commonalities between the periods of investigation. These comparisons will reveal the evolution of the influence of specific cultural, social, political, and economic factors in the construction of images of disability. Each of the investigated years has its own characteristics that played a role in shaping the evolution toward a complex image of disability.

The results will be presented in tables, each table containing the results identified after a certain criterion. The interpretation of the data from the tables will be resumed.

The first criterion of analysis was *the number of articles focusing on disability*. A synthetic table of the results identified after this criterion on each investigated year shows the following situation:

Table 3.

The distribution of articles after the *number of articles focusing on disability* criterion for the years 1991-1999.

Year of investigated period	Number of articles focusing on disability (%)	Number of articles with a major focus on disability (%)	Percentages for the articles with major focus on disability (%)
1991	58	58	100.00
1992	47	45	96.75

1993	51	48	94.12
1994	46	41	89.13
1995	64	60	93.75
1996	39	33	84.61
1997	62	54	87.10
1998	69	54	78.26
1999	98	89	90.82

This period of investigation is very interesting. It has a sinuous curve of evolution. The deepest point of this curve is the year 1996, when the number of articles decreased considerably (from 64 articles in the previous year to 39 articles in 1996), followed by an increasing of 23 articles for the next year (1997), with a total of 64 articles. The considerable number of articles from the last year of this period (1999) must be mentioned, 98 articles, underlying the importance of this topic on the media agenda and the increasing tendency of reporting this subject (disability). For the percentages that represent the articles with a major focus on disability, the tendency is to "close the circle" that began at 100% (for 1991) and ended at 90.82% (for 1999).

The *type of disability* presented in the articles was the second criterion of enumerative analysis. The situation is as follows:

Table 4.

The distribution of articles after the *type of impairment* criterion for the years 1991-1999.

Year	Intellectual impairment	Hearing impairment	Visual impairment	Physical impairment	*The use of the general term of handicapped or impairment*	Other terms
1991	5 articles-8.62%	2 articles-3.45%	3 articles-5.17%	11 articles-18.97%	36 articles-62.07%	1 article-1,72%
1992	2 articles-4,25%	-	11 articles-23.41%	12 articles-25.53%	22 articles-46,81%	-
1993	-	3 articles-5,88%	4 articles-7,84%	17 articles-33,33%	25 articles-49.02%	2 articles-3.92%
1994	4 articles-8,7%	5 articles-10.87%	6 articles-13.04%	6 articles-13.04%	21 articles-45,65%	4 articles-8,7%
1995	2 articles-3,125%	2 articles-3,125%	8 articles-12,50%	5 articles-7,81%	40 articles-62,50%	7 articles-10,94%
1996	-	1 article-2.56%	5 articles-12,82%	7 articles-17,95	18 articles-46,15%	8 articles-20,51%
1997	2 articles-3.23%	4 articles-6.45%	5 articles-8.06%	17 articles-27,42%	26 articles-41,94%	8 articles-12,90%
1998	3 articles-4.35%	6 articles-8.70%	10 articles-14.49%	18 articles-26.09%	27 articles –39.13%	5 articles-7.24%
1999	2 articles-2.04%	4 articles-4.08%	10 articles-10.20%	16 articles-16.33%	54 articles-55.10%	12 articles-12.24%

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A general look on the table indicates that the category mental disability is missing for two years (1993, 1996), also hearing impairment (for 1992) and "other" (for 1992). The distribution of the number of articles is similar for each year of investigated period: the general term of handicapped/disability is the most represented category, followed by physical disability, visual impairment, "other", hearing impairment and mental disability. This tendency is obvious and it can be seen at the enumerative analysis for each year of the period 1991-1999. The arguments are the same as mentioned in the detailed enumerative analysis: the predominance of the general term of handicapped signifies the interest that the media had in different categories of disability (the presence of the term handicapped still signifies the lack of the evolution in the emancipation process; this will be underlined by the subcategories from "other" category), visual impact determined the number of articles for physical disability and visual impairment. The next categories are "other", hearing impairment and mental disability.

The complex distribution of disability of different types could be noticed: mental, physical, hearing impairment, visual impairment. This is an improvement since the pregnant image of disability from Western researchers was physical disability and the Romanian image for the year 1990, was mental, physical or both.

The increased interest the media had in this topic at the end of period is obvious, so the distribution is a sinuous curve with an ascendant tendency.

Table 5.

The distribution of the subcategories from *"other"* category for the period 1991-1999.

Year of investigated period	Autistic	Double disability/ deficiency	Language disorders	Educational Special Needs	Malformations	Unprivileged children	Multiple handicaps	Paralyzed	Infirmity	Assisted person	Senssorial Disorders	Abandoned	Institutionalized	Invalid
1991	1 article (1.72%)	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	-	1 article (50%)	1 article (50%)	-	-	-	-	-	-	-	-	-	-	-
1994	-	1 article (25%)	-	1 article (25%)	1 article (25%)	1 article (25%)	-	-	-	-	-	-	-	-
1995	-	-	-	3 articles (42.86%)	-	-	1 article (14.28%)	3 articles (42.8%)	-	-	-	-	-	-
1996	-	1 article (12.5%)	-	5 articles (62.5%)	-	2 articles (25%)	-	-	-	-	-	-	-	-
1997	-	-	1 article (12.5%)	3 articles (37.5%)	-	-	-	-	2 articles (25%)	1 article (12.5%)	-	-	-	-
1998	1 article (20%)	1 article (20%)	-	2 articles (40%)	-	-	-	-	-	-	1 article (20%)	-	-	-
1999	1 article (8.33%)	-	2 articles (16.67%)	3 articles (25%)	-	2 articles (16.67%)	-	-	-	1 article (8.33%)	-	1 article (8.33%)	1 article (8.33%)	1 article (8.33%)

The diverse subcategories that composed the "other" category are very interesting (see Table 5). The distribution of the terms used for describing people with disabilities increased during this period. It was observed that some of the words disappeared after their first use (malformations, multiple handicaps, paralysed, infirmity, sensorial disorders), others appeared for the first time in the last year of the investigated period (1999 – abandoned, institutionalised, invalid) and the rest of the terms appeared more frequently than in just one year. "Abandoned" and "institutionalised" hide the disability elements in reference to the articles where they were used. The connotations went behind the simple understanding; for instance a child could be abandoned because he/she has a disability or he/she will be institutionalised because he/she was abandoned or because he/she has a disability.

The permanent presence of the term "educational special needs" from 1994 until 1999 is to be noticed. It seems that the media understood the importance of the use of this syntagm and it fulfilled its role of opinion shaper. The majority of terms keep a negative stigma and they disappear by the last year of investigation as a visible result of intense work from this field (by organizations, authorities, media) and of the emancipation movement. The impact of social and political factors is evident.

The last criterion from the first major area of research was the *type of articles*. The situation for the period 1991-1999 is:

Table 6.

The distribution of articles by the type of articles criterion for the period 1991-1999.

Year of investigated period	Feature	News	Editorial	Soft news article	Notices
1991	19 articles – 32.76%	12 articles – 20.69%	22 articles – 37.93%	-	5 articles – 8.62%
1992	26 articles – 55.32%	7 articles – 14.89%	10 articles – 21.28%	-	4 articles – 8.51%
1993	21 articles – 41.18%	12 articles – 23.53%	17 articles – 33.33%	-	1 article – 1.96%
1994	12 articles – 26.09%	19 articles – 41.30%	11 articles – 23.91%	4 articles – 8.70%	-
1995	32 articles – 50%	24 articles – 37.50%	7 articles – 10.94%	1 article – 1.56%	-
1996	19 articles – 48.72%	13 articles – 33.33%	7 articles – 17.95%	-	-
1997	32 articles – 51.61%	24 articles – 38.71%	4 articles – 6.45%	2 articles – 3.23%	-
1998	33 articles – 47.82%	32 articles – 46.38%	3 articles – 4.35%	1 article – 1.45%	-
1999	52 articles – 53.06%	41 articles – 41.84%	5 articles – 5.10%	-	-

There is a predominance of features (with one exception, for the year 1991, when editorials were predominant and for 1994, when news were articles predominant). For all investigated periods there was the permanent presence of three types of articles: feature, news and editorial. The predominance of opinion articles indicated the importance that the media gave to the topic of people with disabilities due to its understanding of its opinion shaper role. Soft news articles and notices appeared sporadically and never together. The presence of these last types of article signifies the diversification of interests for this category of people (expressing an opinion regarding people with disabilities and informing about them). The last year of the investigated period (1999) brought a balance between information and opinion, demonstrated by the presence of certain types of articles (feature and editorial/ news).

The second major area of investigation from the enumerative analysis was the *substance of the article*, considering the articles that portrayed the impact of disability and the possibility of improvement of the condition of people with disabilities.

First, the kind of impact– negative, positive, or neutral –each type of disability, mentioned in the article had on the individual's life or on the life of family members mentioned in the article was monitored:

Table 7.

The distribution of articles by the impact of disability upon individual's life or the lives of family members' criterion for the period 1991-1999.

Year of investigated period	Negative impact of disability	Positive impact of disability	Neutral impact of disability
1991	6 articles - 11.35%	-	52 articles – 89.65%
1992	6 articles- 12.76%	1 article – 2.14%	40 articles – 85.10%
1993	13 articles – 25.49%	3 articles – 5.89%	35 articles - 68.62%
1994	31 articles – 67.39%	5 articles – 10.87%	10 articles – 21.74%
1995	38 articles – 59.57%	7 articles – 10.74%	19 articles - 29.69%
1996	25 articles – 64.10%	2 articles – 5.13%	12 articles – 30.77%
1997	38 articles – 61.30%	7 articles – 11.29%	17 articles – 27.41%
1998	41 articles – 40.58%	4 articles – 5.80%	24 articles – 34.78%
1999	73 articles – 74.49%	4 articles – 4.08%	21 articles – 21.43%

The figures show a fluent predominance of the negative and/or neutral impact. The neutral category appears only from 1990, as an effect of access to information. The neutral answers led for three years (1991, 1992, 1993) – maybe as a result of the trust in the possibility of improvement the situation for people with disabilities – after which the balance was in favour of negative impact. We should also notice the fact that the neutral impact was well represented in all years and the presence of positive impact (which could express the compensation process in a positive way) is nothing else than a step forward for the inclusion movement.

Concerning negative impact, some other criteria were established which will reveal important aspects:

Table 8.

The distribution of articles by the categories at negative impact criteria
for the period 1991 – 1999.

Year	Physical well-being	Emotional well-being	Material well-being	General well-being	Interperso-nal relations
1991	1 article – 16.67%	-	1 article – 16.67%	4 articles– 66.66%	-
1992	1 article – 16.67%	2 articles – 33.32%	1 article – 16.67%	2 articles – 33.32%	-
1993	3 articles – 23.08%	1 article – 7.69%	4 articles – 30.77%	5 articles – 38.46%	-
1994	5 articles – 16.13%	4 articles – 12.90%	7 articles – 22.58%	12 articles – 38.,71%	3 articles – 9.68%
1995	3 articles – 7.89%	10 articles – 26.32%	8 articles – 21.05%	17 articles – 44.74%	-
1996	3 articles – 12%	6 articles – 24%	5 articles – 20%	11 articles – 44%	-
1997	4 articles – 10.53%	5 articles – 13.16%	4 articles – 10.53%	25 articles – 65.78%	-
1998	12 articles – 29.27%	7 articles – 17.07%	1 article – 2.44%	21 articles – 51.22%	-
1999	13 articles – 17.81%	6 articles – 8.22%	14 articles – 19.18%	38 articles – 52.05%	2 articles – 2.74%

The categories of negative impact were established according to the quality of life theory (Shalock and other, 2002, 2006). We can easily see that a disability affects every field of an active life: physical, emotional, material and interpersonal relations. A pleasing fact is the weak presence of the negative impact in the interpersonal relations category. This is a proof that disability does not necessarily create handicap (which is a social construct which determines social isolation). Of course, disability has physical and emotional effects, which affect general well-being, but the most important thing is that people with disabilities can have a normal social life.

The last criterion from the enumerative analysis was the *possibility of improvement of the condition of people with disabilities*. There were three possible answers: yes, no or neutral. The situation was:

The distribution of articles by the possibility of improvement of condition of the person with disability criteria for the period 1991-1999.

Year	Yes answer	No answer	Neutral answer
1991	42 articles – 72.41%	2 articles – 3.45%	14 articles – 24.14%
1992	36 articles – 76.60%	-	11 articles – 23.40%
1993	47 articles – 92.15%	1 article – 1.97%	3 articles – 5.88%
1994	43 articles – 93.48%	1 article – 2.17%	2 articles – 4.35%
1995	61 articles – 95.32%	1 article – 1.56%	2 articles - 3.12%
1996	39 articles – 100%	-	-
1997	62 articles – 100%	-	-
1998	68 articles – 98.55%	-	1 article – 1.45%
1999	97 articles – 98.98%	1 article – 1.02%	-

The possibility of improvement criteria is a sign of the existence of an emancipation movement. All the answers were in favour of yes. Even if we recognize that disability has a major negative impact on the life of the person with disabilities and his/her family, we all think that his/her situation **could** be improved. The media, as a spokesman for public consciousness, shows this fact by evidencing this possibility for improvement.

The following table is clear proof for the meanings through which we can all overcome the presence of disability in someone's life.

At "yes" category a reason was stated how the condition could be improved, using the following categories: (a) personal effort, (b) religion, (c) charity, (d) intervention (medicine, education, therapy, others), (e) social contact, (f) technology, (g) other, and (h) no reason given. The distribution of reasons was:

The distribution of articles by the subcategories at yes answer at possibility of improvement of the condition of the person with disability criteria for the period 1991 – 1999.

Year	Personal effort %	Religion %	Charity %	Intervention				Social contact %	Technology %	Other %
				Med %	Ed %	Th. %	Oth %			
1991	7.14	2.38	9.53	-	19.04	-	-	4.76	2.38	54.77
1992	2.78	-	8.33	2.78	8.33	-	-	2.78	5.56	69.44
1993	12.76	-	8.51	4.26	8.51	2.13	-	4.26	8.51	51.06

1994	20.93	2.33	2.33	9.30	9.30	-	-	9.30	9.30	37.21
1995	8.25	-	4.92	4.92	14.75	-	4.92	4.92	1.64	52.46
1996	5.13	-	5.13	5.13	25.64	-	15.38	2.56	2.56	38.46
1997	12.90	-	4.84	3.23	4.84	4.84	3.23	1.61	1.61	62.90
1998	13.24	-	5.88	-	26.47	7.35	10.29	1.47	1.47	33.83
1999	11.34	-	12.37	1.03	8.25	3.09	1.03	1.03	-	52.58

As the above table shows, personal effort and intervention-education category are the best represented, with the exception of the "other" subcategory that will be described below. Only a good policy of emancipation, moving in the direction of inclusiveness, could underpin and assist the person's capabilities and the power of education and community. Social contacts, technology and intervention through medicine and therapy will enlarge the circle of support in the best interest of people with disabilities.

Table 11.

The distribution of articles by the subcategories of "other" category from the *possibility of improvement* criterion for the period 1991-1999.

Year of investigated period	Legislation	Changing attitude	Financial	Administrative reason	Eliminating social ignorance	Media	Legislation+ changing attitude	Human solidarity	Accessibility	Pity	Social protection
1991	18 articles – 78.26%	4 articles – 17.39%	1 article – 4.35%	-	-	-	-	-	-	-	-
1992	11 articles – 44%	11 articles – 44%	1 article – 4%	1 article – 4%	1 article – 4%	-	-	-	-	-	-
1993	18 articles – 75%	4 articles – 16.67%	2 articles – 8.33%	-	-	-	-	-	-	-	-
1994	11 articles – 68.75%	-	3 articles – 18.75%	-	-	2 articles – 12%	-	-	-	-	-
1995	24 articles – 75%	4 articles – 12.5%	-	-	-	1 article – 3.125%	3 articles – 9.375%	-	-	-	-
1996	9 articles – 60%	5 articles – 33.33%	-	-	-	-	1 article – 6.67%	-	-	-	-
1997	24 articles – 61.54%	9 articles – 23.08%	-	-	-	-	5 articles – 12.82%	-	1 article – 2.56%	-	-
1998	12 articles – 52.17%	6 articles – 26.09%	-	-	-	-	1 article – 4.35%	-	3 articles – 13.04%	1 article – 4.35%	-
1999	43 articles – 84.31%	1 article – 1.96%	-	-	-	-	-	-	3 articles – 5.88%	-	4 articles – 7.84%

The distribution of subcategories of "other" category is very interesting (see Table 11). The subcategories from the "other" category demonstrated that the improvement of situation for people with disabilities is possible through proper

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legislation and attitude. Both have to be changed. These subcategories were present during the whole period of investigation (with the exception changing attitude for the year 1994). The combined subcategory legislation + changing attitude expressed the understanding of the convergent action from both directions. The media could also influence the improvement of the situation for people with disabilities and the presence of this subcategory proves the people's trust in the media's power to influence mentalities and disseminate information. Social protection is a subcategory linked to legislation and changing attitude, expressing the aim of their actions. Accessibility appears in legislation as a direct effect of changing attitude movement. Social protection could be the final result aimed for by all the actions exerted by all actors involved. Its presence in the last year of this period signifies the final understanding of the social and political actions.

Final Conclusions

The cultural, political and social elements specific to Romanian culture influenced, through media channels, the formation of the Romanian images of disability – this is the answer of the question of the article. From these elements we could mention: collectivism (group representations), social perception ("Other"), emotional experience (victimization, discrimination, moral abuse) – as *cultural factors*; political regime (communism and post-communism), transition characteristics (for the institution for persons with disabilities, for the media system, for social policies, for legislation for persons with disabilities, and with a direct link to the evolution of the national economy), political orientation of government (social democratic or liberal orientation with its effect on social policies and legislation), pre-adherence to the EU process (criterion regarding people with disabilities that has to be realized with effects on social policies, legislation, and social protection: de-medicalization, equalizing of chances, European Social Charta, design for all) – as *political elements* and group mentality evolution (from a segregationist view on persons with disabilities to an integrated and then to an inclusive approach), group image, social intervention mechanism, the competencies of media vectors that contributed to the changing attitude process (advocating mission), advocacy/empowering actions of organizations for persons with disabilities (proposals for improving legislation for persons with disabilities, public manifestations, disseminating the information in media channels), and the reform of the educational system regarding children with disabilities (integrated classrooms, then inclusive projects adapted to characteristics of the Romanian educational system) – as *social elements*.

Social injustice will be always present. Social representations have an identification function. Only by comparing the cognitions of specific groups, the social representations that they have could be discovered. The expression of these groups for this research was written/printed media.

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The knowledge of different social image of disability could compose a basis for the program of improving the lives of people with disabilities. The beginning could be the identification of the social representations of disability from common consciousness, followed by communication or actions of dissemination. By facilitating the access of professionals to social representations of disabilities, human actions toward a better direction could change.

The enumerative analysis of the articles revealed the fact that social representations of disability reflect the socio-economic and political context of the investigated years; it is quite clear that there are positive and negative images for a person with disabilities.

Written media fulfils its role of informing the population, but also to emancipate the readers, being in this context a real advocate for the empowerment movement for people with disability.

By the type of disability presented, by the type of articles used to focus on disability, written media had its own evolution process. It reflected the evolution of collective consciousness very well. It contributed to the removal of social barriers. This could happen only through civic participation. The handicap is exclusively diminished only by social mechanism that aimed to remove the obstacles from social integration of individual.

Acting as a social element, the media succeeded in fulfilling its role of constructing a better attitude toward people with disabilities. Print media acted as an advocate for people with disabilities, with a major contribution toward enlarging knowledge about disability and a real understanding of this minority.

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ENGLISH NEWSPAPERS: EXPLORING INNOVATIVE METHODOLOGICAL PARADIGM
(A STUDY INTO CLASSROOM DYNAMICS)

NAVEEN K MEHTA[1]

ABSTRACT. Newspapers are considered as one of the most powerful sources of sharing information and enriching knowledge bank. The basic reason of selecting English newspapers as a teaching tool is very pragmatic as English newspapers cover an array of information and knowledge and that too within the reach of our students' wallet. The English Newspapers can be used as an efficacious teaching tool to improve the language skills of the students. The use of English Newspapers will certainly encourage and motivate the students and help them to sharpen their LSRW (Listening, Speaking, Reading and Writing) skills. The present paper aims to study issues that are interwoven with teaching English through English newspaper in an ESL classroom.

Keywords: *Newspapers, teaching tools, LSRW skills, role- play, interactive Activities etc.*

Introduction

The newspapers are regarded one of the most reliable, easily available, less expensive and effective sources of sharing information and knowledge. The newspapers offer us a wide range of knowledge and in-depth analysis of incidents and events. Generally, people prefer to read out the newspapers along with their morning cup of tea or breakfast. The newspapers are published in various languages with a great number of supplements and editions. In country like India, as per the latest statistics available, the country consumed around 100 million copies of newspapers that have made it the second largest market in the world. As India is a country of great diversity and here we have various sects, religions and languages. So we have a large pool of International/National/Regional/Local newspapers. The reputation of any newspaper largely depends upon its circulation, number of editions, printed copies, number of readers, coverage and scope. Even after the advent of electronic media, importance and readership of newspapers are stable and it is quite striking to mention here that there is a great increase in the readership of all the leading newspapers. Reading newspapers on regular basis is considered a good habit. It is

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observed that the students those who read newspapers regularly are more proficient and aware about the happenings that occur near or far away world. By reading newspapers, the students can gather information on varied subjects including social-political-business issues, sports, entertainment, art, culture, music, education etc. Moreover, the practice of using English newspapers helps the students in the ESL classroom and in the mundane affairs of their life. They can also be encouraged to improve their vocabulary, grammar and thinking skills as regular reading of newspapers can provide them an opportunity to express and exchange their ideas on a wide variety of issues.

Historical Perspective

In an ESL classroom, English newspapers can be used as a very effective teaching tool. Fenholt (1985) offers numerous activities that are based upon the use of newspapers as a learning resource to enhance reading and life skills of the students. Carolyn Hunter and Janice Mc Nearney (1988) have developed a series of 12 lessons that use the newspapers in an adult basic education curriculum. Each lesson focuses on a particular letter of the alphabet and provides a list of vocabulary items required for the lesson along with hints on how to impart them in the classroom and suggested activities. According to Chandler (1988) Newspaper like *'the Tulsa'* would also introduce a special programme for adult "Read Up" that combined use of daily newspapers with a telephone hotline to facilitate the students to improve reading skills. Monda, Vail and Koorland (1988) highlighted that the newspapers can be very potentials for the LD (Learning Disabled) institutions to build an individualized institutional programme. Howden (1990) stated that the "Palm Beach Post" in Florida offered a workplace literacy programme with six classes in three different programmes viz Adult Basic Education, English as a Second Language and High school Equivalency in preparation of a Diploma Programme. Learning Disabled (LD) students can also be benefited by using newspapers in the classroom. Many practitioners (Chavira, 1990; Hess, 1987; Salas-Isnardi, n.d.; Toben, 1987) have compiled detailed and level-appropriate lists of classroom activities for using the newspaper as text. Kenji Kitao (1995) suggested a number of activities pertaining to teaching of English Language. Paul Sanderson (2002) stated that a very important thing that enhances success in using newspapers in the classroom is the careful design of *tasks.* "Grade the task – not the material' is a well-known maxim in language teaching'. Asahi, (2003) and Asahi (2004) both give practice in finding information in vocabulary-glossed leads and in short news articles. Lindsay Clandfield and Duncan Foord (2006) stated that newspapers are much more current than course-books, they make an excellent springboard for lessons, and they feature different types of language (narratives, stories, letters, advertising, reports, etc.). Vilma Tafani (2009) analyzes the importance of using mass media in the classroom and finds the ways on using printing and audio-visual media.

Why to Use English Newspapers in an ESL Classroom?

The use of Newspapers in the classroom on regular basis will inculcate habit of intensive and extensive reading. In India, Newspapers like *"The Hindu", "The Times of India"* etc are very popular among the learners of English Language as they have a special column/feature to sharpen the English Language Skills of the readers. English newspapers are also less expensive and full of varied information and details. Anybody can afford them easily. In urban area that too in metro and semi-metro cities, readers prefer to read English newspapers. The students those who are living in such places, fond of reading English newspapers in comparison to the students of country side. The circulation of English newspapers in country side is not regular due various reasons. It is also seen that newspapers arrive one or two day late after its publication. But still, for the sake of sharing the information and improving English Language, it can be used as a learning resource. Following are the main advantages of using English newspapers in an ESL classroom:

1. Provide motivation for reading and discussion in English
2. Develop affection and interest towards the use of English Language.
3. Make the process of learning interesting and innovative.
4. Flexible and adaptable to all curriculum areas and grade levels.
5. Promote good reading habits that will help in a better understanding.
6. Offer a wide variety of knowledge and information -- news, sports, weather, editorials, and comics.
7. A very cost-effective way to impart learning.
8. Contain practical vocabulary and the best models of clear, concise writing.
9. Develop writing, speaking and listening skills of the students.
10. Explore and unfold the world of knowledge and information.
11. Lessons take time to prepare. Once a teacher finds an interesting material, he/she may use it over and over again.
12. Helpful in learning grammatical usages, carefully crafted sentence structures and idioms and phrases besides new words.

The English Newspapers can be used for ESL learners of all levels. For beginning students, the large-print headlines, recognizable symbols and numbers, and many color and black-and-white photographs can communicate information that students understand. At an intermediate level, the newspaper offers exposure to print, to graphic devices, and to punctuation. Advanced students can read English newspapers much as a native speaker would, skimming some articles, reading others completely, and ignoring those parts of the newspaper of small interest to them. The English newspapers report the current international events, new important technological breakthroughs, the changing world and society. It's clear that the newspapers follow the time closely and the contents are new and attractive. In this way,

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they can always keep students motivated and up-to-date. The English newspapers present English learners a wide variety of writing written in authentic language. Different kinds of texts such as narratives, stories, letters, reports, and advertisements, etc, can serve as examples of writing and be made use of to hone students' writing ability. Further, the English newspapers provide various materials for students to broaden their knowledge. Through reading one can come across with foreign cultures, foreigners' value of life, ways of thinking, belief, behaviors and life trend better.

Language is a powerful means of communication. Through reading of English newspapers, students discover life as it happens. With the development of the language ability, students' consciousness of social accountability, cultural backdrop and critical thinking are also developed to a great extent.

How to Develop Habit of Reading English Newspapers amongst the Students

A daily reading of an English newspaper would do a world of good to students and bring about a genuine affection for the language. The practice of using Newspapers does not only help the students in the ESL classroom. A teacher has to be very innovative in organizing various interactive exercises based upon English newspapers. In Indian context, it is very imperative for an English teacher to remove the students' fear of learning English language and to guide them to use the English newspapers judiciously. Following measures can be applied as to develop habit of reading English newspapers among the students:

1. Motivate the students to read at least one English newspaper on regular basis for a month or two.

2. Ask the students to select the most interesting part of the newspaper that appeals them. They can read it and report back to other classmates.

3. Encourage the students to read outside class as much as possible.

4. Help the students to become better learners. Reading is a great way of acquiring language. It will be very handy in developing their reading skills, writing skills, and vocabulary.

5. Talk about reading and comprehension of English texts with your learners as well, and share strategies that they can use when reading.

6. Encourage the students to keep and refer an authentic dictionary while reading the newspaper. At the initial stages, the students can be asked to understand the meanings of hard/new words with the help of context so that flow and interest during reading can be maintained.

7. Try to encourage the students to comprehend the story/feature/article as a whole. They should be made enable to have their focus on getting a complete picture rather than getting stuck with the parts that they do not understand at ease.

8. Encourage the students to pen down the details/information that are relevant and useful for them as it will enable them to develop writing notes/précis/ essays/paragraphs/ summary etc.

What Do English Newspapers Contain for ESL Classroom Exercises?

With the recent development of print and electronic media, the contents of newspapers have become rich and vivid and the newspaper language at the same time has become more trendy, vivacious and realistic. Some newspapers are easy to read, easy to use. The dedicated teachers can plan exercises to build up reading comprehension, critical thinking skills, writing skills, grammar skills, vocabulary, map/chart reading skills, geography skills and social study skills. As a matter of fact, the English Newspapers contain a wide range of information like feature stories, business news, sports news, special columns, reviews, notices, advertisements, editorials, entertainment schedules etc. A learner can easily pick up the reading material(s) of his/her interest. Following are the main ingredients of the English Newspapers:

1. *News Stories:*

The front page is considered as the mirror of any newspaper. It contains all the breaking or important news in it. The headlines of the front page are prepared meticulously with an aim to draw the attention of the readers.

2. *Feature Stories:*

Feature stories are very helpful in sharing information on the topics of reader's interest. These stories may be based upon a trend, event, situation etc.

3. *Special Features:*

Special features are meant to have a healthy discussion on a specific issue or a special case/event/story.

4. *Editorial and Letters to the Editor:*

Editorial columns reflect the views of the editor/ editorial team/guest writer. Editorial columns are considered very insightful and thought provoking ones. They help the readers to build up their thoughts and views and promote a high level of thinking skills. The Letters to the Editors represent the opinions of the readers. It is helpful in bringing out the views of the readers before other readers.

5. *Advertisements/Classified:*

The advertisements/classified items are very helpful for the readers to know more about an existing or a newly launched product(s).

6. *Miscellaneous Items:*

In a newspaper, the readers can easily find time table of Trains/Flights, schedule of events, television, theatre, movies etc. we can also get useful information on weather, fashion, share-market, trade and business etc.

ESL Class-Room Activities Through the Use of English Newspapers

Newspapers are also a great source for ESL teachers. They can be used as teaching materials to develop students' language skills. They can be used effectively with a wide range of levels from Elementary to higher. The ESL teachers should be careful to organize a certain activity using them.

At the Beginners Level
- ❖ Ask the students to cut out pictures of things they like in the newspaper and then write sentences about the pictures.
- ❖ Encourage the students to read aloud a few news items from the page of their interest and ask them to write them down.
- ❖ Try to use pictures found in the newspaper and tell the students to write sentences about the pictures using prepositions to describe the spatial relationships.

At the Intermediate Level
- ❖ Advise the students to circle words that they do not comprehend and ask them to figure out the meaning from the situation and explore the definition in the dictionary.
- ❖ Try to cut out headlines from various articles and match headlines with stories.
- ❖ Ask the students to analyze advertisements. Students may report their findings by writing a paragraph.

At the Advanced Level
- ❖ Form groups to write letters to the editor.
- ❖ Ask the students to follow a news item over a period of time and discuss the events that occur.
- ❖ Encourage the students to read an article that describes a problem and discuss the problem's cause and effects.

Miscellaneous Classroom Activities

Exploring the Meaning:
Remove the headlines from a number of news stories. Display the headline-less stories on a classroom bulletin board. Provide students with the headlines, and ask them to match each to one of the stories.

The students can be asked to locate following in an English newspaper:
- ❖ A simple present tense verb representing a simple past action e.g. India wins the match.
- ❖ Omission of 'and, a 'be' verb or an article e.g. U.S- India sign a historic treaty.

❖ Omission of the verb in representing Present Continuous Tense e. g. India Retail Market blooming.

❖ 'to' with verb representing future tense. e.g. The Mongolian Prime Minster to visit India.

❖ Abbreviations. e.g. SEBI cuts down the exchange rate. (Security Exchange Board of India)

❖ A participle form used for passive voice e.g. Man of the Match Trophy given to Dhoni.

Enrich Vocabulary:

Assign each student a letter of the alphabet. Request students to look through the newspaper, find five unfamiliar words beginning with the assigned letter, and look up the definition of each. Ask students to look in the newspaper for any of the following:

❖ words with a particular suffix or prefix

❖ words containing a particular vowel sound or consonant blend

❖ compound words

❖ words in the past, present, and future tenses

❖ possessives

❖ plurals

Role Play Activity:

Distribute the English Newspapers, one for each group of two or three students. Tell the students that they have a time limit with which to skim through the newspaper. When the scheduled time is over, ask two groups to get together and report to each other everything they remember that is in the news. They must do this in English and cannot refer to the newspapers.

Speaking Activities:

Ask the students to cut out some photographs from the newspaper of recent news items which are familiar/relevant/of interest to them. Ask them to do the following:

❖ Describe what is in the picture

❖ Speculate about what the news story could be .

Sharpening Writing Skills:

Ask the students to read some of the letters and discuss in pairs which ones they find most interesting/controversial/easy to understand. Letters in the letter to the editor section can ignite discussion. Afterwards ask the students to write their own letter to the editor. They must write between 25 and 75 words.

Group Discussion:

Identify an issue discussed in the newspaper. Ask the students research the issue by reading all relevant articles, editorials, letters and opinions. Encourage the students to write a paragraph on the topic, voicing an opinion that is supported by detailed facts.

Conclusion

Technology enabled English Language learning tools are only available in some schools, It is quite imperative for a ESL teacher to use resources which are readily available to them, including English newspapers. In planning a lesson using a newspaper, the teacher should take into consideration the length of the article, paragraph, the complexity of the language, the density of information, the subject-matter and content, the time available and the level of the students (Tafani 2009). This is high time that scholars must work out a strategy on developing a new teaching model about using the English newspapers as an effective tool to improve English as a language. Hence, the students are expected to be trained in such a manner so that they can be able to read the English newspapers in an organized manner and avail the optimal mileage to hone their English language skills.

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ROMANIAN CREATIVITY. CREATIVE THINKING IN ROMANIA

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ABSTRACT. This is an exploratory study of creative thinking in Romania. The Torrance Test of Creative Thinking (TTCT) was administered to 46 Romanians (19 high school students, 18 university students, and 9 adults). A profile on the TTCT of the Romanian sample was identified for the global Standard Composite Score and Creativity Index, with the five normative scales (Fluency, Originality, Abstractness of Titles, Elaboration and Resistance to Premature Closure), as well as the thirteen criterion-referenced Creativity Strengths. A significant difference was discovered between the Romanian profile of creative thinking and the American profile of creative thinking. Implications are examined.

Keywords: *creativity, creative thinking, Torrance, normative scales*

Creativity has been defined as: sensing problems, searching for possible solutions, drawing a hypothesis, testing and evaluating, and communicating the results to others (Torrance, 1969). The creative process includes developing original ideas, different points of view, breaking out of the mold, recombining ideas, and seeing new relationships among components (Torrance, 1969). In a sense, creativity can be viewed as a type of problem solving used when conventional solutions do not work. It indicates an adaptability and flexibility of thought (Moran, 1988).

The basis of creative thinking is the ability to evaluate a product or idea, combined with the facets of divergent thinking. Divergent thinking is the ability to process diverse stimuli, organize thoughts flexibly, and generate ideas about varied subjects (Guilford, 1967). Creative thought (divergent thinking) is thus innovative, exploratory, and venturesome while non-creative thought (convergent thinking) is cautious, methodical, and conservative (Kneller, 1965). Traditionally, intelligence tests measure convergent thinking. The present research will focus on divergent thinking.

E. Paul Torrance (1969), a pioneer in creativity, defined creativity using four different categories: fluency – the ability to produce a large number of ideas: flexibility – the ability to produce a large variety of ideas; elaboration – ability to

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develop, embellish, or fill out an idea; and originality – the ability to produce ideas that are unusual, statistically infrequent, not banal or obvious. This model of creativity is still influential in current creativity research. Based on this model, Torrance developed a set of tests to assess creative thinking.

The Torrance Test of Creative Thinking (TTCT), an assessment of creative thinking is designed to measure the basic thinking processes that lead to creative products. The underlying assumption of this assessment is that creativity is a multiple construct that can be expressed verbally or visually (figural). Both expressions of creativity (verbal and figural) are composed of the factors of: fluency, originality, and elaboration. The Figural Form of the TTCT does not require the domain of specific knowledge.

Torrance (2002) concluded that basic assumptions about the abilities involved in being creative are universal: that everyone possesses the abilities to be creative to some degree, and, further that these abilities are capable of being increased by training. Moreover, when creativity is manifested early in the life cycle, its development depends on supportive experiences in the social and physical world, along with consonant values of the cultural environment.

Environmental factors have also been identified as contributing to creative thinking and problem solving. Research suggests that culture influences creative and conforming behaviors (Ng 2003, Chan and Chan, 1999). Western culture perceives itself as free of the relationships of hierarchy and exchange that govern social ties. Individuals in this autonomous culture imagine that he or she lives in an inviolate region (the extended boundaries of self) where he or she is free to choose. (Shweder, 1991) This culture is classified as an individualistic culture/society.

This can be contrasted with the collectivist culture/society which is often defined as a society where people are from birth integrated into strong cohesive in-groups that protect them throughout their life, in exchange for unquestioning loyalty (Hofstede, 1991). This holistic world-view shares similarities with context-dependent people in that no attempt is made to distinguish the individual from the state. Moreover, in both views it is found that obligations and rights are assigned by the role and/or group, and people are not inclined to assign intrinsic moral worth to people just because they are people (Shweder, 1991). The holistic culture embraces a sociocentric concept of the relationship of individuals to society and may perceive context and social relationships as conditions for behavior (Shweder, 1991).

Perkins' (1993) research identified two different student groups: group dependent and group independent. Conforming and group-dependent students showed a high need for nurturance, deference, order and control in contrast to group-independent students who showed a high need for achievement, autonomy, aggression, and creativity. Living in a collectivist society (such as, Communism) accentuates the needs for validation and similarity within the social group, which leads to conforming behavior. Living in an individualistic society (such as, democratic) accentuates the psychological need for uniqueness and differentiation thus leading to individualistic behaviors. Research has found that members of individualistic societies scored higher in fluency than members of collectivist societies (Ripple, 1989).

This collectivist harmony may lead to conventional behavior while independence may lead to more unconventional and creative behavior (Runco, 2007). The emphasis on harmony may lead people in collectivist societies to look either upwards toward authority or towards the traditions of the past for guidance (Runco, 2007). When the emphasis is on harmony, socialization is homogenizing and does not encourage the child to extend the boundaries and behave creatively (Cropley, 1973).

Ng's (2003) research indicated that individualistic members with an independent self-construct find it easier to engage in creative behavior compared to collectivists. Culture has an indirect influence on creativity by the way it shapes the psychological make-up of each person and supports addressing the issue of culture when researching creativity (Ng, 2003).

Past cross-cultural research on creativity has been based on explicit theories of creativity and investigated differences in creative performance and expression across cultures (Niu and Sternberg, 2002). This assumes that there is a universal concept of creativity that can be measured by a standardized or a universally meaningful test. This assumption ignores the idea that creativity may be culture and domain specific. This would then mean that measurements of creativity would need to incorporate culture and domain factors.

However, cross-cultural creativity research based on explicit theories yielded contradictory results. The TTCT was found to yield higher results for Arabs living in modernized societies with high levels of intellectual freedom (Mar'i & Karayanni, 1983). Niu and Sternberg (2002) indicated that similar studies with Asians did not correlate modernized society into higher TTCT scores for Asians. Torrance and Sato (1979) found that Japanese students do better than Americans in flexibility, originality and elaboration on the Figural Form of the TTCT.

Niu and Sternberg (2002) summarized that the universal core characteristics of creativity shared between the East and the West include: originality, imagination, intelligence, independence, and high energy/activity levels. People in Eastern cultures, however, emphasize the social and moral components of creativity, while Western societies emphasize the value of personal success as a creator and the expression of individual characteristics (such as, humor & aesthetic tastes).

Romania has historically been a collectivist society, but it is now moving to more western and democratic values. The country, however, remains a highly traditional culture. Traditional cultures typically do not emphasize individuality and independent thought. As an emerging democracy, the following questions bear investigation. Is the creativity pattern of Romanians changing as they change from a collectivist society to a democratic society? Are teaching styles changing as the government changes? A post-revolution research project addressing teaching styles and creativity in Romania identified that Romanian children (age 5-7) taught with child-centered learning strategies in an early childhood development program were found to be more creative than children in traditional Romanian educational programs. TTCT-Verbal flexibility on Unusual Tasks was found to be highly significant ($p<.001$), with an effect size of .432 (Brady Dickinson, Hirschler, & Cross 1999).

Purpose

The study itself is exploratory, based on a rich sample of convenience. The purpose of this study is to examine the creative thinking patterns of a sample of Romanian high school students, university students, as well as adults. The primary question to be investigated is: Does a difference exist between a Romanian profile of divergent thinking and the American profile of divergent thinking? What is the pattern of creative thinking for the sample of Romanian students on the Torrance Test of Creative Thinking- Figural Form A?

Method

Participants

The participants for this research are individuals who live in Romania. Specific participants were chosen because of their location in Romania and their willingness to be approached for participation.

Participants identified their ethnicity (Romanian, Roma) and age.

Forty-six Romanians participated in this research including 39 females and 7 males. Eighteen subjects were university students (2 males, 16 females) in Cluj-Napoca, Romania. Nineteen subjects were from a high school (2 males, 17 females) in Baia Mare, Romania, and nine were adults (3 males, 6 females).

Measures:

The Torrance Test of Creative Thinking (TTCT) Figural Form A was administered to identify a pattern of creativity among the Romanian sample groups. The TTCT has been intensively research since the 1960's. The Torrance Test of Creative Thinking explores verbal and figural dimensions of creative thinking. It defines creativity in four categories: fluency, flexibility, originality, and elaboration. Torrance defined fluency as the ability to produce a large number of ideas, flexibility as the ability to produce a large variety of ideas, elaboration as the ability to develop, embellish or fill out an idea, and originality as the ability to produce ideas that are unusual, statistically infrequent, not banal or obvious (Torrance 1969). The TTCT has also been used in different countries to identify patterns of creative thinking.

The assessment is divided into three-ten minute sections. The first section requires the participant to draw a picture from a shape on a page to make the picture tell an interesting story and then to give the picture a title. The second section requires the participant to finish incomplete figures to make interesting objects, or pictures and to title each picture. The third section allows the student ten minutes to make as many objects or pictures out of two straight lines, and then to title each picture. The instrument was selected because it has been used in cross-cultural research of creative thinking, and possesses high reliability and validity.

The norms for this assessment instrument are the most extensive of any creativity instrument. The figural norms are based on responses from 88, 335 students

from 42 different states (Center for Creative Learning, Inc. 2002). The streamlined scoring was updated in 2008. The instrument revealed excellent validity with extensive documentation of content, construct, and concurrent validity, including short and long term validity studies. Inter-scorer reliability is reported in the .90 range. Test-retest and alternate form reliability rates range from .59 to .97 in various published reports (Center for Creative Learning, Inc. 2002). The directions were translated into Romanian and then back-translated to verify for translation accuracy.

Procedures

The investigator used a sample of convenience. Specific participants were chosen because of their location (Romania) and their willingness to participate. A local university granted permission for research to be conducted.

Quantitative data was collected using the TTCT-Figural Form A. All instructions were translated into Romanian and administered in Romanian. Instructions were read to university students desiring to take the TTCT in Romanian. Students were approached in classes and small groups and given the opportunity to take the assessment. All students were read and received a copy (in Romanian) of the information sheet describing the purpose of the research, the procedures, the risks and benefits to the participants, confidentiality.

Scoring of the TTCT was reviewed by another professional to check for inter-scorer reliability of the scoring. The TTCT norms used for scoring the Romanian adult sample used the oldest age norm (19 years) available at the time of the research (1998 norms). The TTCT standardized sample included 1449 adults (out of the 55,600 total).

Results

The Standard Composite Score for the TTCT reflects the compilation of all five norm-referenced TTCT ability scores: Fluency, Originality, Abstractness of Titles, Elaboration, and Resistance to Premature Closure. The Romanian sample mean score for the TTCT Standard Composite Score was 100.14 (sd=16.72). This score is classified as average and within normal limits. This indicates that the Romanian Standard Composite Score of the five norm referenced ability scores, is at the 55th percentile when compared to the American standardized sample.

The Creativity Index is a compilation of the TTCT Standard Composite Score and 13 criterion referenced measures of Creative Strengths: Emotional Expressiveness, Storytelling Articulateness, Movement/Action, Expressiveness of Titles, Synthesis of Incomplete Figures, Synthesis of Lines, Unusual Visualization, Internal Visualization, Extending/Breaking Boundaries, Humor, Richness of Imagery, Colorfulness of Imagery, and Fantasy. The mean score of the Romanian sample for the Creativity Index was 112.45 (sd=20.57) which is classified as average. The Romanian Creativity Index is at the 56th percentile when compared to the American standardized sample.

Viewing the subfactors of the TTCT is revealing and indicates differences in performance between the Romanian sample and the American standardized sample. Fluency is one of the most critical aspects of the TTCT. The score on this factor indicates the number of ideas a person expresses that uses the stimulus in a meaningful manner. Figural scoring for the total Romanian sample for Fluency was a mean score of 114.46 (sd=16.63). This score is high average and within normal limits. This indicates that the Fluency mean score for the Romanian sample is in the 76th percentile when compared to the American standardized sample.

Originality is defined on the statistical frequency and unusualness of the response, in respect to the frequency of Americans responses. The Romanian sample mean score for Originality was 109.41 (sd=22.27), which is classified as average and within normal limits. This indicates that the Romanian sample mean Originality score is in the 68th percentile when compared to the American standardized sample.

The Abstractness of Titles score identifies a person's use of titles for the drawings. The criteria for Abstractness of Titles requires that the individual title goes beyond simple description and communicates something about the picture that graphic cues do not express without the title. The Romanian sample mean score for Abstractness of Titles was 76.91 (sd=37.2). The Romanian sample mean for Abstractness of Titles is below average and seen as a normative weakness when compared to the American standardized population. The Romanian sample's mean for Abstractness of Titles score is in the 15th percentile when compared to the American standardized sample. However, this lower score could be due to language translation issues and therefore may not be a valid representative of the criteria for Abstractness of Titles. It is important to note that the university students (who are required to pass a foreign language (English) proficiency exam to get their degree had a mean Abstractness of Titles of 105.23 (60%) compared to the US mean of 95 (41%). The Romanian sample mean (76.9) for Abstractness of Titles is over one standard deviation below the American mean (95/41%) of the standardized sample for the TTCT.

The Elaboration score reveals the imagination through the exposition of detail. This is an identified function of creative ability. The Romanian sample mean score for Elaboration was 122.65 (sd=24.59.) and at the 82nd percentile when contrasted to the American standardized norm. This score is classified as above average. The Romanian sample mean (122.65) for Elaboration is over 1 ½ standard deviations above the mean (99/50%) of the American standardized population. This is a significant difference between the American and Romanian sample mean.

Resistance to Premature Closure reveals the person's ability to keep open and delay closure long enough to develop original ideas. Less creative people tend to leap to conclusions prematurely without considering the available information thus cutting off chances of developing more powerful original images. Unfortunately, people who complete only a few responses are penalized in that if there are fewer responses to score, and accordingly Resistance to Premature Closure will be lower. This may give an inaccurate picture of the subject's ability to delay closure. The

Romanian sample mean score for Resistance to Premature Closure was 109.2 (*sd*=15.1) which is classified as average when compared with the standardized American sample population. This indicates that the Romanian Resistance to Premature Closure is in the 60th percentile when compared to the American standardized sample.

Discussion

The results of the study indicate that the Romanian sample differs from the American norms. That is, a different profile for Romanian students emerged. The most notable difference was in Elaboration and Abstractness of Titles. The Romanian Elaboration mean is over 1 ½ standard deviations above the mean of the American standardized population. This correlates with Torrance and Sato's (1979) research with Japanese students. This indicates that two collectivist cultures (Romania and Japan) both have significantly higher scores in elaboration than those in the western culture.

Another difference between the Romanian and American pattern of creative thinking occurred in Abstractness of Titles factor. The Romanian sample mean is over one standard deviation lower than the Americans norm in Abstractness of Titles. This result could be confounded by translation difficulties and that many students chose to write their titles in English even when given the option to write the titles in Romanian. It is important to note that the university students (who are required to pass a foreign language (English) proficiency exam to get their degree had a mean Abstractness of Titles of 105.23 (60%) compared to the US mean of 95 (41%).

The initial data suggests that Romanians may have a unique figural TTCT profile since the Romanian sample mean is over one standard deviations above the American sample mean in Elaboration, and over one standard deviation below the American mean in Abstractness of Titles. However, it must be kept in mind that this was a small sample, N=46 with 18 University Students, 19 high school students and 9 non-student adults.

It must be noted that the normative weakness in the Abstractness of Titles could be due to language and translation issues. Many of the students chose to write their titles in English so they could practice their English. This could have inhibited the students potential to elaborate in the titles than if they had chosen to answer in their native language. The translator identified that it was sometimes difficult to translate the titles because there would not be an exact translation for what the subject wrote in Romanian.

The traditional and collective culture has been characterized by the Romanian society until recent times. Currently western and democratic values are now being assimilated in to the Romanian culture. Creativity scores on the TTCT revealed that Romanian students pursuing secondary and higher education have a great potential for divergent thinking.

Future Areas for Research

What accounts for the difference in the profile between the Romanians and Americans is speculative. A qualitative study involving the interview of Romanian students and their teachers may yield some insight as to the pedagogical nature of the teachings that may influence divergent thinking. Are there differences in teacher and student values? An empirical study using a values scale that identifies collectivist, individualist, and universalist sentiments might prove to be revealing.

Another aspect that needs to be explored is the Romanian culture, particularly in the creative arts domain, and its influence on the development of divergent thinking. The Romanian society, even in the collectivist day, was always alive with visual and musical appreciation and activity.

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THREE DIMENSIONAL ILLUSTRATING – 2D-3D TRANSFORM

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ABSTRACT. We present in this paper a special computer technique, which can lead us to opportunities of making three dimensional pictures from two dimensional pictures (2D-3D conversion) and we give some examples of illustrating this.

Keywords: *three dimension, photography, educational methods, iconic representations*

ZUSAMMENFASSUNG. Wir präsentieren in diesem Artikel eine spezielle Computertechnik, die uns ermöglicht, dreidimensionale Bilder von zwei dimensionalen Bildern zu machen (2.D - 3.D Konvertierung) und wir zeigen einige Beispiele um das zu illustrieren.

Stichworte: *dreidimensional, Fotografie, Bildungsmethoden, Icondarstellung*

Introduction

Different methods of three-dimensional photography and demonstrating have got abroad in the last decades (Sárosi, 2003; Ferwerda 2003). The huge technical development has brought revolutionary changes in this domain, which lead to new opportunities in education using three-dimensional illustrating. Today you can download free computer programs from the internet, which can help you put together your two-dimensional photographs into a real three-dimensional picture without investing too much energy. Three-dimensional photography earlier could be made only by artist who started using these methods with good theoretical basics and technical instincts. Yet their work of art became a treasure in exceptional cases because of the expensive and complicated three-dimensional illustrating methods. The wide-spread digital photography and computer use gave the opportunity for everyone to make three-dimensional pictures and to make them public. New opportunities with three-dimensional techniques give chance for the birth of new artistic photographs, which can be used in education.

Hereinafter we get to know a special computer technique, which can lead us to opportunities of making three dimensional pictures from two dimensional

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pictures (2D-3D conversion). Many computer programs promote this execution (realization), from which programs we get aquainted with a simply usable one, by presenting some simple examples. If interested in the results of the professional use, one can find on the http://digilander.libero.it/kems/ webpage three dimensional pictures which can be seen with red-cyan glasses, made with transforming different paintings.

Two dimensional – three dimensional conversion programs are based on the movement parallax. The point is, that if one of the two objects with the same size is closer than the other, we see the closer one in a bigger viewing angle. Hence if we move or the object moves, the shift of the closer object's is bigger than the farther one's. Generally, the shift's measurement and the distance from us, beholders, is reverse proportional. We can deduce the distance of the objects from the so-called movement parallax. In the converting program we have to import the two dimensional picture, after this we have to „bring to the softvers knowledge", which are the closer and the farther objects on the picture. For this, there are different methods, which can vary within the same program.

Methods

In a previous article we present in detail the biological roots of three-dimensional visualization, the phenomena of movement parallax, which can be used efficiently in making three-dimensional graphics, the Zöllner- and Corridor-illusion. We described the visual elements, which contribute to define a plane two-dimensional image in three-dimension: coherent lines, the covering, the measurement changes, the relative altitude state, the abatement of detail profusion, the shadings and the perspective effects of colors (Szállassy et al., 2009).

To look 3D pictures we need 3D glasses, which can be active or passive. Modern active glasses can be controlled by microprocessors, and accordingly synchronized with the projected image either the left or the right lens are covered. In this way the image in our brain becomes a 3D image with deep-stridency. Toward the active glasses the synchronized signs are assured from the transmitter of the projector or from a little unit. The question is when will this technology used in everyday education.

The most appropiate method has to be chosen by the user on the bases of the picture's type. The Bas-relief 1.25 program requests the spatial information as a depth map, where the closer elements of the picture are marked with clearer nuance, the farther ones are with darker nuance.

The Bas-relief 1.25 program (figure 1.) can be downloaded from the http://www.3dphotopro.com/software.html web address. For the 3D Gugle program (http://www.magia.it/Alfa23/3DGugle/NewGugHlp.htm) we can give the information about the space, by coloring one after the other in different strata the farther and the closer picture elements. This program is used especially for paintings to be transformed into three dimensional pictures, for after all two dimensional pieces of art's can not be illustrated into three dimension pictures by other ways.

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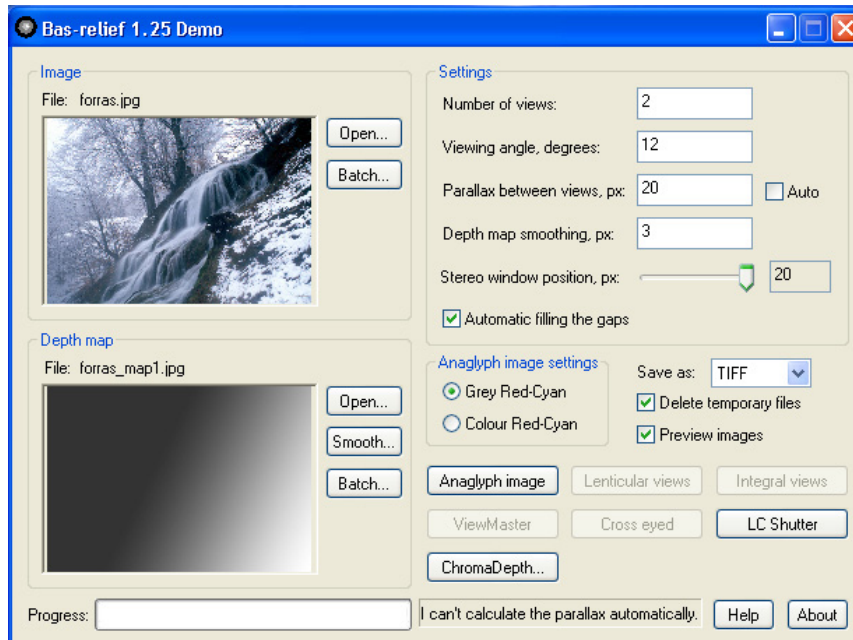
Fig. 1. The Bas–relief 1.25 Demo program operational system for 2D-3D transform

Results

The most computer drawing programs already dispose color transition for the fill of lineal drawings, which use, in many times can be create depth map with just few clicks. In what follows, we will see some examples for this.

On the picture above the distance between the objects grow from the right bottom corner untill the left top corner, therefore it is simple to visualize the depth map. It is subservient to concentrate the rattling three dimensional effect on the waterfall situated in the centre of the image. This way we have to realise a depth-map which concentrates the light-dark colour transition.

In the case of Hortobágy white alkali lake, first we transform the coloured picture into a black-white picture, then we establish on the water surface a grey-nuanced gradient wich is getting darker upwards (figure 2.). Next, we color black the far situated reedy, and on the sky we put another grey-nuanced gradient wich is getting darker upwords, which we make it transparent in 80% (figure 3.). This way we make not just the sky look three dimensional, but some clouds too. After we imported the original picture and the grey-nuanced depth-map by clicking on the "Anaglyph image" the "Bas-relief" program creates the tree dimensional picture which can be viewed with red-cyan glasses (www.freeweb.hu/kriskagy/3d1.htm).

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Fig. 2. The first steps of a depth-map making on an Hortobágy white alkali lake

Fig. 3. The final steps of creating depth-map from a Hortobágy white alkali lake

In some cases some of the objects appear in different distance. In making the depth-map from the picture's closer objects we have to mark them (circle them) and we have to make the grey-nuanced gradient. On the undermentioned pictures this method can be examined in the case of Tisa riverride greenwood (figure 4.).

We can use successful 2D-3D transforming in macrophotos too. In making depth-map of pictures illuminated by flashlight, it is enough if we transform the picture into grey-nuanced (figure 5.), after all the closer parts are better illuminated by the flashlight, this way those will appear lighter than the farther ones. In the case of darker, closer objects a correction might be needed because of the pattern, in this case, making lighter the originally, complite dark eye. In the case of photos made with light-microscope, near the forementioned method it can lead to a succesful result if we make a black-white negative picture (figure 5.). During some manipulation we have to pursuit to visualize true to life, wether the pictures from the final result reflect the true anatomical relations.
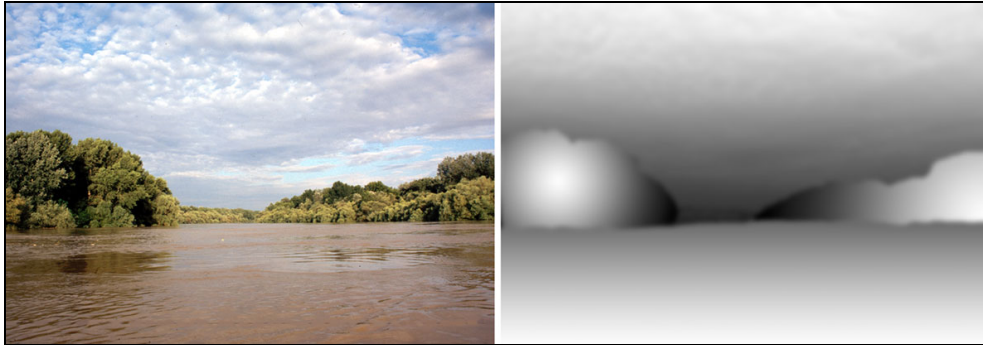
Fig. 4. The grey-nuanced depth-map of the Tisa and the two dimensional picture

Fig. 5. Grey-nuanced depth-maps, black and whitw positive and negative picture: common dragonfly transfiguration – macro photo, young fish – microscopical photo

Conclusion

With 3D technology, teachers get a new opportunity to involve pupil in education and learning courses. 3D technology is an opportunity which certainly will capture the attention of pupil and will make curious the laziest child too. It isn't hard to imagine how spectacular and easy could be the understanding-learning process be at an anatomy lesson, geography, history or biology topic using 3D technology. After a class like this, it wouldn't be hard to imagine that the pupil would run home excited and tell about the days biology class. Which else, if this isn't the aim of education? Today the 3D projection techniques are available for everyone and more and more curriculae appear on the market which can be studied specifically in 3D surroundings. It is certain that the opportunity of 3D projection could be the next step of the understanding-learning evolution. It is an acknowledged

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fact that we don't learn in a similar way, some learn visually, others learn after sounds and there are some who can learn better with touchable experience. Anyhow, 3D projection and learning helps very much. There are studies which demonstrate that students who use 3D technology in studying get much higher grades and in class tests and during exams. Thus the results are better, the activity and the interest can't be compared with the experiences in traditional education.

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INTERPRETING LEARNING DIFFICULTIES THROUGH THE THEORY OF MULTIPLE INTELLIGENCES AND THE THEORY OF EMOTIONAL INTELLIGENCE

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ABSTRACT. In opposition with classical theoretical approaches regarding human intelligence (often defined as that capacity, ability to adapt to the environment, adaptation that occurs in two stages- assimilation-adjustment), at present we witness an increase frequency of the theories that don't regard intelligence as a monolithic, uni-composite structure.

Thus, people are talking about a triarchic structure of the intelligence (Sternberg) or of emotional intelligence (Goleman), and even of social intelligence. In the same category of approaches we find H. Gardner's theory of multiple intelligences which starts from the idea that some children with high intelligence quotient can have not very good results at school, being considered "smart" only those who have good results at the intelligence tests.

The school success is no longer guaranteed by the positive educational valorification of a high intelligence quotient (Intelligence Quotient-IQ), but also by the presence, the valorization and the development of emotional intelligence (Emotional Intelligence Quotient-EQ) and of social one (Social Intelligence Quotient-SQ).

Keywords: *Multiple intelligence theory targets: linguistic intelligence, logical-mathematical intelligence, musical intelligence, spatial / naturalistic / kinesthetic / interpersonal / interpersonal / intrapersonal / emotional / social intelligence and learning difficulties.*

ABSTRAKT. Im Gegensatz zur klassischen theoretischen Ansätzen über die menschliche Intelligenz (die oft als die Kapazität, Anpassungfähigkeit der Menschen an Umwelt definiert wird, Adaption, was sich in 2 weitere Prozesse teilt: Assimilation – Akkommodation) entdecken wir immer häufiger die Theorien, die in Intelligenz nicht mehr eine monolithische, unzerlegbare Struktur sehen.

Man spricht somit von einer triarchischen Struktur der Intelligenz (Sternberg) oder von einer emotionalen Intelligenz (Goleman), selbst von einer sozialen Intelligenz. In der gleichen Kategorie der Herangehensweise liegt auch die Theorie der multiplen Intelligenzen von H. Gardner, die von der Prämisse ausgeht, dass einige Kinder, die zwar bei Intelligenztests hohe IQ-Werte haben, aber in der Schule nur schwache Leistungen erbringen. Da werden als "Intelligent" nur diejenigen betrachtet, die gute Ergebnisse bei Intelligenztests haben.

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Schulerfolg wird keinesfalls durch eine positive pädagogische Nutzbarmachung einen hohen IQ-Wert (Intelligenzquotient - IQ) garantiert, man wird auch die Anwesenheit, die Valorisierung und die Entwicklung der emotionalen Intelligenz (Emotional Intelligence Quotient - EQ) und der sozialen (Social Intelligence Quotient - SQ) oder eine ausgewogene Entwicklung benötigt.

Schlüsselwörter: *Theorie der multiplen Intelligenzen, Intelligenzen: sprachlich-linguistische, logisch-mathematische, musikalisch-rhythmische, bildlich-räumliche, naturalistische, körperlich-kinästhetische, interpersonale, intrapersonale, emotionale, soziale, Lernschwierigkeiten*

Introduction

According to tradition, we are tempted to consider smart, "intelligent" those who are good at the basic subjects in school, that is mathematics or Romanian language, while the others we consider them to be just "talented". If we call some- "intelligences" and the others- "talents", it means we do not consider them as important and equal. Gardner finds equal the talent and the intelligence, because intelligence is a way of solving problems and developing products considered values at least by one culture. Valorizing intelligence is determined by the field or sphere in which it is used. This field can be a science or a profession practiced in society.

Gardner started his research from a series of personalities (Picasso, Einstein, Spielberg, Mozart, Gandhi, Churchill, Freud, and Darwin) who had big problems at school, having different difficulties in acquiring knowledge, especially regarding some subjects.

Gardner sees intelligence as a way of solving problems and of developing products accepted or considered values by the human cultures. By studying the way in which people solve problems, Gardner has drawn the conclusion that there are 8 types of intelligence that can be defined on the basis of ten criteria among which: the existence of a personal system of symbols (words, numbers); having shown that respective ability from the first signs of the existence of people on earth; the part of the brain where the respective intelligence is located must be known.

The phrase" learning difficulties" refers to a multitude of obstacles and times of oscillation resulting in a wide range of private events which are involved in the personality development of the individual involved in a continuous learning process.

In the pedagogical view this phrase summarizes a defective organization of learning activities that may alter its acquisition (perception and reception), organization, retention, understanding, the information processing being it either verbal or nonverbal, and its reproduction.

In other words, these obstacles and difficulties affect the input and informational output including the cognitive and metacognitive aspects especially when talking about some individuals who prove to have rational integrity. Learning difficulties are different from mental shortage and they depict average children, their state of sanity and normality being linked to limitary or average intelligence.

Possible links between interpersonal intelligence (Gardner) and emotional intelligence (Goleman)

On the basis of detailed studies, Gardner distinguishes 8 types of intelligence: linguistics, logical-mathematical, musical, spatial, naturalist, kinesthetic, interpersonal, and intrapersonal.

Interpersonal intelligence aims at developing capacities regarding the mechanisms involved in thinking about other people and understanding them, aims at being empathetic, at recognizing differences between people and at appreciating their way of thinking, by being sensitive to their motives, intentions and states of mind. It implies an efficient interaction with one or more persons in the family or society. The persons with this sort of dominant intelligence are the leaders, the salesmen and the psychologists who understand how people "function". But this type of intelligence interferes very well with *intrapersonal intelligence* too. The latter implies self-thinking and self- understanding, as well as to be aware of the strong and weak points of your own person, to plan efficiently the achievement of personal goals, to monitor and control efficiently thoughts and emotions, the ability to monitor yourself in relation with others. It's about self-knowledge and making decisions on this basis, involving also an ensemble of metacognitive strategies.

On the basis of Gardner's theory, Th. Armstrong, in 1994, in his work "Multiple intelligences in the classroom" (a revision of his doctoral thesis presented in 1987) draws the conclusion, as a result of some interviews with the parents of the children who had difficulties in learning and of some questionnaires, that the pupils encountering difficulties at school, within the activity of learning, are endowed with abilities that subordinated to the 8 intelligences described by Gardner. Depending on the type of intelligence, these abilities are described in table 1.

R. Leblanc (1997) considers that intelligence is, first of all, that capacity of solving problems and of creating, elaborating creative, original solutions in certain situations. According to his theory, approaching learning difficulties through multiple intelligences means to know these pupils, to describe them and to characterize them also in the light of the skills subordinated to the 8 types of intelligence. Only by knowing these skills subordinated to the types of intelligence, by quantifying what a pupil knows and can do, in relation to each of the eight types of intelligence, can we take adequate measures of stimulation, compensation, recovery, remedy.

Approaching learning difficulties from the perspective of the multiple intelligences theory aims at developing each type of intelligence and of each in

relation to the others, in view of the development of the skills and capacities subordinated to the eight identified areas, contributing to the diminution of the frequency of the learning difficulties.

Table 1.
Synoptical Table of the abilities "attached" to the types of intelligence

Intelligence	Abilities	Vocation
Linguistics	Sensitivity to sounds, structures, meanings and functions of the words and language	Writer, orator
Logical-mathematical	Sensitivity and capacity of choosing logical or numerical models; capacity of maneuvering trains of judgments	Man of science, mathematician
Visual-spatial	Capacity to perceive correctly the spatial-visual world and to transform others' initial perceptions	Athlete, dancer, sculptor
Musical/rhythmic	Capacity to produce and appreciate pace, height, tone of voice; appreciation of the forms of musical expressiveness	Composer, soloist
Corporal-kinesthetic	Capacity to control the movements of the body and to handle objects	Councilor, politic leader
Natural	Sensitivity to esthetic, plants, animals	Naturalists, ecologists, farmers, silviculturist
Intrapersonal	Access to one's own emotional life and capacity to differentiate it from the others'	Psychotherapist, religious leader
Interpersonal	Capacity to distinguish and to answer properly at the others' dispositions, motivations, temperaments and wishes	Councilor, politic leader

The literature tends to identify between interpersonal intelligence's characteristics (corroborated with the interpersonal intelligence) from Gardner's theory a common ensemble of traits specific to the emotional intelligence- a new syntagm circulated by the specialists (alongside of the social intelligence). Whether it is called interpersonal or emotional, its stimulation plays an important role in putting in performances in general as well as school performances in special.

The present theories on school success point out the fact that interpersonal intelligence (and intrapersonal intelligence too)- identified by other authors as *emotional intelligence and/or social intelligence*- plays a significant role, not at all to be ignored. Therefore the school success ensues from three conditions: high

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intelligence quotient (IQ), emotional intelligence (EQ) and social intelligence (SQ). We consider that these three types lie at the bedrock of the development and good functioning of the other intelligences in Gardner's theory, ensuring successes in different domains of the science and art. Alone, a high intelligence quotient (IQ) cannot guarantee success, being just one of the compulsory conditions, but not unique. Thus, it is explained why children who get a high IQ at the intelligence tests (or the gifted ones, the geniuses), often encounter learning difficulties.

The development of the emotional intelligence- essential condition for removing learning difficulties

The term "emotional intelligence" was used for the first time, seemingly, in an article in 1990 by the psychologists Peter Salovey and John Mayer. Although the studies on emotional intelligence are relatively recent, intuitively, its importance has always been recognized. Regarding the emotional intelligence, we are in the same area of theoretical-practical approaches on intelligence, starting with Binet's theory (1905) on the quotient of intelligence, Spearman's theory (1927) regarding the "G" factor of the intelligence, Thurston's theory (1938) regarding the multiple factors of intelligence, continuing with Gardner's theory of multiple intelligences (1938) or Stenberg's- the triarchic theory of intelligences and finishing with Salovey's and Mayer's theory on the cognitive intelligence and emotional intelligence.

Since 1990 up to the present, the studies and the research on emotional intelligence have diversified, at present people are talking even about forming an "emotional pedagogy" (D. Chabot and M. Chabot, 2006).

In 1995, the American psychologist Daniel Goleman published a volume (Emotional Intelligence: Why it can matter more than IQ) in which he rendered topical the notion and succeeded in defining it too. Considered by the author the key of professional success, the emotional intelligence is considered by the author to be a mixture of self-control, empathy, motivation, original thinking, tact and diplomacy. Making use of these characteristics, a person, even with a low or medium IQ, can get noticed, succeeding in achieving remarkable success. A good composure, a perfect self-control, a good control of both positive and negative emotions, in other words a management of the stress and powerful emotional states are indicators for a high quotient of emotional intelligence (EQ).

His other studies (1998, 1999, 2001), but also the studies of C. Dreyfus and M. Mangino (2001) underline that different human competences and abilities such as self-control, self-discipline, perseverance and empathy are qualities that success and good results depend on, and that pupils must acquire, through an education received in this sense. These qualities depend indispensably on the functioning of the individual's emotions (called "emotional competences") and coordinate and imply drafts and thinking strategies.

With regard to motivational support in learning, it is known that the pupil learns the better if he applies immediately what he has learnt. The emotional education helps him enrich the motivational sphere during practice. At school, the bunch of emotional experiences is nuanced both within the learning activity and the breaks between the activities. The matters discussed, analyzed in the classroom and outside the classroom are based on interpersonal relations. Together, the pupils must learn to listen, to talk, to keep their temper, to discipline themselves, to control themselves, to respect the others' opinion without becoming furious or getting irritated if the opinions are contradictory, to get involved actively and not to become passive. Emotional intelligence also refers to the art of cooperating/ collaborating, solving conflicts and negotiating solutions, even making compromises accepted by both parts. Obviously, these aspects are related to a social intelligence or, according to Gardner's classification (1996) to an interpersonal intelligence. But emotional intelligence refers to also one's own person, so it has a connection with intrapersonal intelligence too.

Thus, the emotional intelligence represents the ability to control one's personal emotions and the others', to differentiate them and to use them in order to draw up viable strategies for the situations in which a certain person is.

School learning implies that the cognitive obstacles and the cognitive conflict must be overcome permanently. The learning difficulties emerge due to the pupils' helplessness of solving the cognitive conflicts and of overcoming them. In the classroom, relations are established, there is a vertical and/or horizontal communication (verbal, non-verbal, para-verbal, empathic) as well as an emotional intercourse. The wide range of feelings is diversified, nuanced and the pupils can oscillate emotionally, from joy to disappointment and vice versa. Between pupils there are relations of closeness, sympathy, cooperation, but also strained relations, stressful relations, relations of antipathy, competition and envy.

The learning difficulties can be sustained, caused and amplified also by a bad management of the emotional states. Some children abandon themselves to indifference, self-pity, lack of confidence in own strength; they manifest a weak or absent tolerance for frustration. They often complain about their helplessness or they bottle up their feelings, refusing to communicate with the others (usually teachers and parents) anymore (sometimes totally). Others, on the contrary, they can manifest an attitude of self-sufficiency, false superiority over the others, lack of realism and objectiveness regarding the situation in which they are. Both categories can be confronted with different learning problems.

Moreover, we point out the role of the family in this context. The emotional intelligence can be learned, formed, educated. An overprotective behavior of the parents or, on the contrary, a "laissez-faire" behavior is harmful to the pupil's behavior. In these situations, usually the protected pupils have a tendency to seek refuge in the calm, tranquil ambiance of the family, avoiding the obstacles of the school learning (often developing aversion to it), while those who are not supervised, often, they have violent, aggressive outbursts, tendencies to overestimate themselves, superiority attitudes, ignoring the teachers' exigencies and demands or the school discipline.

This kind of situations can be generated/ stimulated also by monoparental families or families going through divorce, or reunited through a new marriage, by children who have lost both their parents etc. In these situations the emotional intelligence cannot be educated any longer, monitored from the outside by a person (family), but, it is under the control of priorities, expectancies, interests of every pupil. Self-education, self-constraint, self-control, self-assessment of one's own feelings, reactions, attitudes, they all represent possibilities of stimulation of the emotional intelligence.

Results of a research of improvement method

Starting from the idea that frequent expression of learning difficulties of some students for a certain subject can be diminished if one or other type of intelligence identified by Gardener is being stimulated in order to develop it to a great extent.

We have made an improvement research which focused mostly on:

• identifying some types of difficulties among students of a certain subject (Romanian language);

• listing symptomatic and etiological issues;

• the achievement of an improvement research to reduce the frequency of manifestation in relation to the causes and manifestations.

Taking into account that the study is performed in Romanian the experimental approach focused on stimulating the development of linguistic intelligence. Linguistic intelligence stands out at individuals who think mainly in words and master the language easily in order to express and understand complex relations. They are very sensible to the meaning and word order, sonority and rhythm of language. Children with a predominantly linguistic intelligence learn mother tongue and foreign languages quickly, use metaphors and later they make their career choice according to their language abilities. In this research we synthetically identify the following important factors.

a) The fundamental goal of this intervention aimed at identifying ways of improving the recovery of school educational practice in order to minimize the effects on learning difficulties and school performance results primarily from the discipline under discussion, and, as a as an extension of this effect, by contagion, in all disciplines of the curriculum, either completed mandatory or optional by the students in the IXth grade. To achieve this goal, several objectives were established. We have outlined them as points to be reached during the late conduct research and.

b) Fundamental hypothesis of the research and the main lines of action were based on the reality that students' learning difficulties affect students' capacities(in Romanian, but also the other school activities and even the social ones).

Then the basic theory, relies on the following assumption: the promotion of active and interactive learning in a constructivist framework (cognitive-constructivist and socio-constructivist) leads to a significant reduction in a frequent manifestation of learning difficulties.

This general assumption was based on the approach of three courses of action and intervention(experimental classes are targeted)

- the use, in school practice of constructivist models of education to determine and generate students' perception, personal involvement in school activities and increased efficiency.

- founding the act of teaching on inciting students to work cooperatively during Romanian Language and Literature classes

- the development and application of techniques, methods, strategies based on differentiated instruction, personalized and individualized for students in formal educational activities of Romanian language and literature.

c) The variables used in the research were: independent variables (Iv) which have the status of "cause or decisive condition, dependent variables (Dv) which expresses the "effect" of the first ones (Radu, 1993) and explanatory variables. We symbolize the relationship between dependent and independent variables as it follows: $Dv = F (Iv)$. Dv changes whenever Vi varies. From the general assumption we conclude that the independent variable in our experiment is the following:

Vig = the promotion of active and interactive learning in a constructivist environment. If we take into account and the proposed courses of action and intervention (DAI) by which Vig are reflected in educational activities undertaken in the experimental classes, we get:

d.a.i.1. = Use in school practice of constructivist models of instruction;

d.a.i. 2. = Stimulation of(inter) active-cooperative and collaborative learning;

d.a.i.3. = Design and application of techniques, methods, strategies based on differentiated instruction, personalized and individualized,

The relationship between variables and lines of action is highlighted in Figure 1:
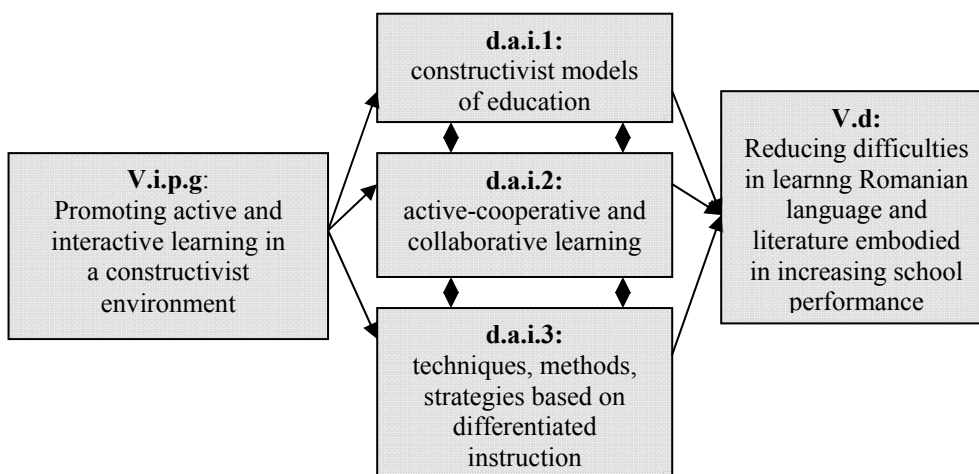
Fig.1. Determination of logical variables

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d). The research was conducted over **several stages**, each with specific objective as:
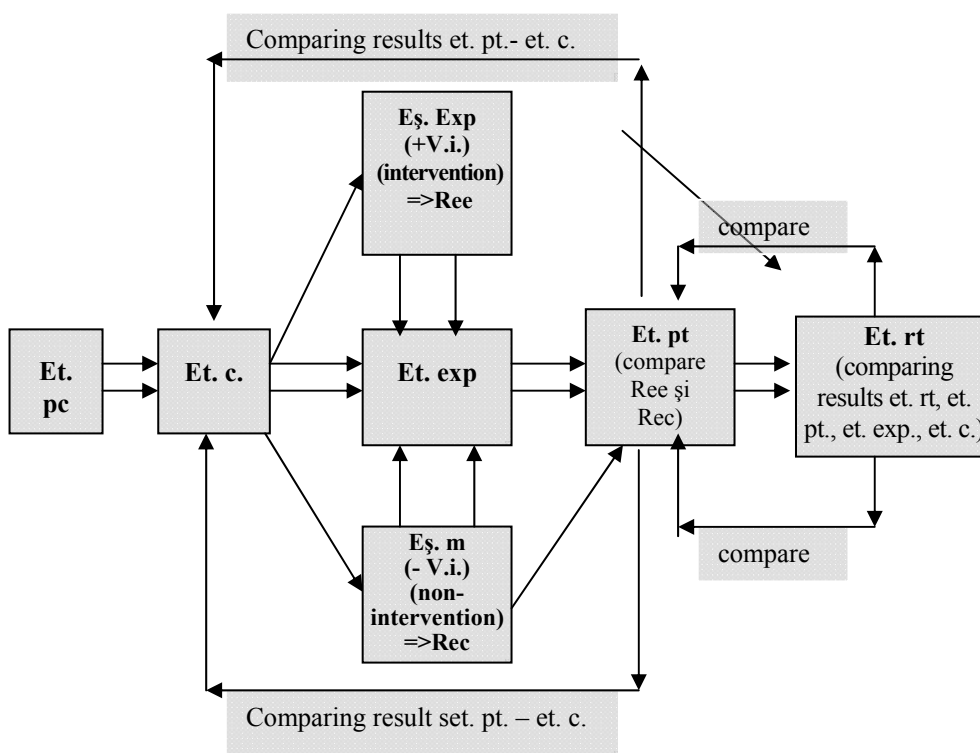
Fig. 2. – Sequence of steps establishing relations between them

Et. PC. = preconstatative round
Et. v = certifying phase
Et exp. = experimental stage
Et. pt. post-test phase
Et. rt. = Stage of re-test
ES. m = control sample
Es exp. = experimental sample
Ree = experimental results classes
Rec = results class control
V.i. = independent variables

e) Offering to help us **reduce the difficulties** of learning Romanian language and literature, **by stimulating the development of students' linguistic intelligence,** we schematize the conducting research, based on multiple intelligences theory of Howard Gardner, as in Figure 3:

linguistics

It can stimulate its development by reducing learning difficulties when learning Romanian language and literature

Intelligence

logical-mathematical

kynesthetic

interpersonal

intrapersonal

spatial

musical

naturalistic

(inter)active learning

by

-organizing learning groups and individually
-learning through cooperation/collaboration
-differentiate training
-activated teaching
(based on cognitive constructivism and social constructivism

Independent variable and courses of action and invention

Experimental step
Educational-formative phase, psycho-pedagogical intervention

Fig. 3. Theoretical basis of experimental researchthe theory of multiple intelligences

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It has to be specified that the independent variable is considered in light of constructivism, namely cognitive constructivism and social constructivism.

f) The sample of subjects was composed of both students and teachers of Romanian language and literature

Table 2.

Distribution of sample of students and teachers on stages of research

Certifying step		Experimental stage The re-test and post-test			
Initial sample		Sample		Experimental sample	
Students	Teachers	Students	Teachers	Students	Teachers
1100	29	549	15	551	14

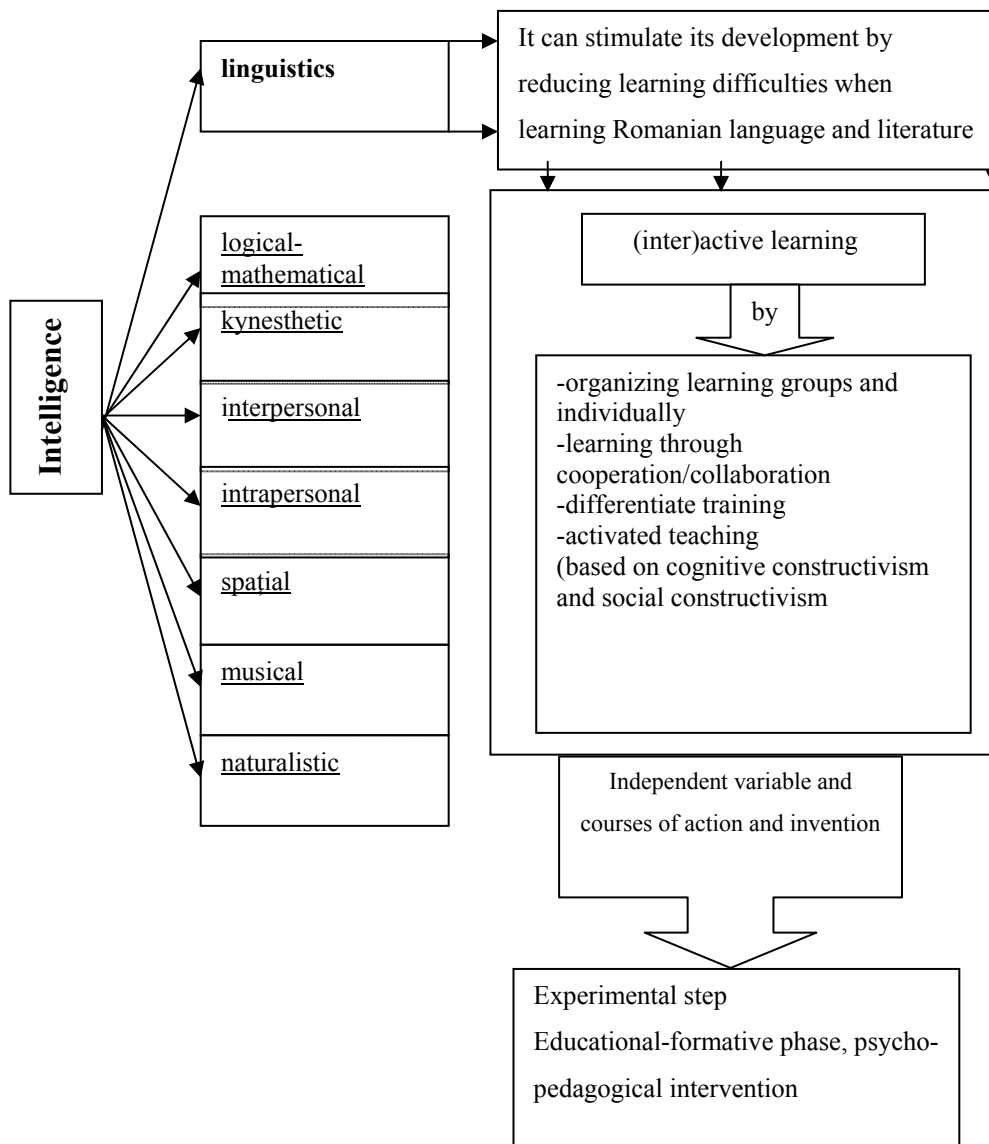**g) Research Methodology** resting on a different methodological instruments present in all stages of research (certifying, experimental, posttest, re-test).We present it in table 3., Inventory methods used in all stages of research:

Table 3.

The set of methods of research, the stages

Method	Steps of research			
	Found	**Experim.**	**Posttest**	**Retest**
Autoobservația	x	x	x	x
Sistematic observation	x	x	x	x
The survey-based questionnaire(for teachers and students)	x	x	x	-
Analysis of the curricular documents	x	x	x	x
Test	x	x	x	x
Interview		x	x	-
Experiment	-	x	-	-
Case study	-	x	x	-
Interpretation	x	x	x	x
Work product analysis	x	x	x	x
Sociometric test	-	x	-	x
Pedagogical sheet	-	x	x	-
Statistic methods for collection, interpretation and correlation data	-	x	x	x

h) **Training activities program for teachers who supported teaching activities in the experimental class** included a set of processing activities based on the following topics:

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Table 4.
Inventory of continuous training activities / training of teachers of experimental classes, conducted in the experimental stage

Nr. crt.	Week	Title /Subject -activity
1	1 oct	"A modern teaching.Highlights of current training"
2	9 oct.	"Active and interactive learning"
3	16 oct.	"Cooperative learning and collaboration"
4	23 oct.	"Differntiated and customized instruction"
5	30 oct.	"Theoretical and practical constructivist models while training"(I)
6	6 nov	"Theoretical and practical constructivist models while training (II)"
7	13 nov	"Teacher's role and the classroom management"
8	20 nov	"The theory of multiple intelligences.Consequences applied"
9	27 nov	"Learning difficulties. Prevention and improvement."
10	4 dec	"Conditions of an effective learning"

i) The results of formative assessment tests are presented in Table 5:

Table 5.
Average marks of the two groups during formative assessment tests in the experimental stage

Tests / Grup	Test 1	Test 2	Test 3	Test 4
Control Test	6,64	6,89	6,72	6,78
Experimental	6,56	6,98	7,15	7,30

Comparing these results with those obtained by the same groups in ascertaining phase, we obtain the following results, listed in Table 6.:

Table 6.
Presentation of comparative media and experimental /certifying stage

Phase / Grup	Aecertainty Phase (et .c.)	Experimental Phase (et. ex.)			
Control Test (gr. c.)	MT_{0c} 6,84	MT_{1c} 6,64	MT_{2c} 6,89	MT_{3c} 6,72	MT_{4c} 6,78
Experimental (gr. ex.)	MT_{0ex} 6,72	MT_{1ex} 6,56	MT_{2ex} 6,98	MT_{3ex} 7,15	MT_{4ex} 7,30

Gr. c. – Control group;
Gr. ex. – Experimental group;
Et. c. – Ascertainty phase;
Et. ex. – Experimental phase;
MT0c - control group arithmetic mean(eş.c.) certifying stage (et. c.);
MT0ex - average experimental group (es. ex.) Certifying stage (et. c.);
MT1c, MT2c, MT3c, MT4c - control group arithmetic mean(es. v) evaluation tests (four) format in the experimental stage (et. ex.)
MT1ex, MT2ex, MT3ex, MT4ex - average rating tests for experimental group (four) format in the experimental stage (et. ex.).

We note that for the control group, the recorded values in the experimental stage oscillate around the one obtained in the certifying stage, but on a regressive line all results obtained in the experimental stage along the four formative assessment tests are not as good as those obtained during the certifying stage (Figure 4)
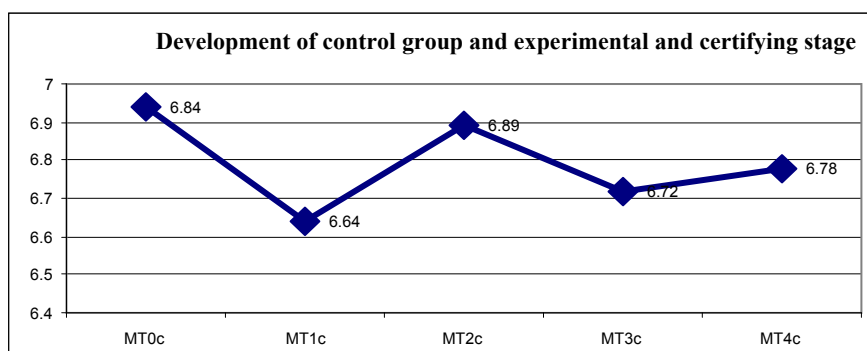
Fig. 4. - Development of control group and experimental and certifying stage

However, for the experimental group, we see an upward trajectory (less than average obtained at the first evaluation test, which is lower than the average for the same sample obtained in the certifying step). The reason we believe that the results of the first test of formative assessment was less (than the performance of a pretest) is the immediate and effective neadaptării students to new types of requirements, the new style of teaching, learning. Subsequent evolution, however, shows that students were able to meet the new school demands and get better results than those acquired in the initial moments (chart. 5.).

Comparing the development (the experimental group and the control) in the experimental stage, we note that, while the control group recorded average cusp, near the value of certifying stage, the experimental group constantly increases until around of 7.30, recorded in the last test of formative assessment.

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Fig. 5. Evolution of the experimental group in the experimental and certifying stages

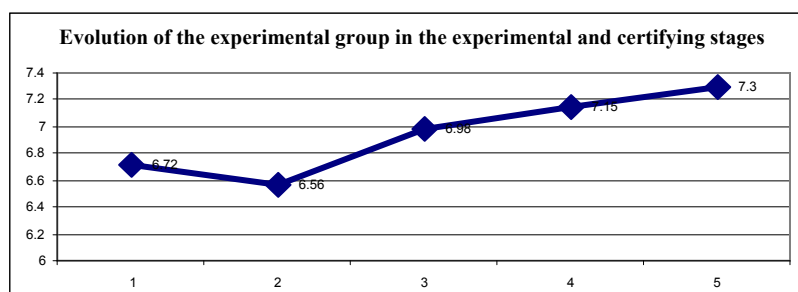j) **The results** obtained during **re-test** and **post-test** stage for experimental classes in comparison with the control, provide the true value of the fundamental assumption: promoting active and interactive learning on constructivist background can lead to overcoming the difficulties of learning encountered by students and influences significantly the school performance. This is confirmed by the results of test z, for each of the three dimensions followed by us while teaching Romanian language and literature: reading, writing and oral expression

Conclusions

Therefore we conclude that that the implementation of the constructivist educational practices based on differentiated instruction, cooperation, collaboration and active/interactive learning are the prerequisites necessary to achieve superior results, configuring bases for qualitative education.

We estimate that stimulating linguistic intelligence by promoting active and interactive learning is an opportunity to reduce the frequency of manifestation of learning difficulties. At the same time, however, linguistic intelligence is bound by the other types of intelligence described by Gardner, namely emotional intelligence subsequently defined by Goleman.

A pupil with educational achievement is implicitly a student with a medium or high emotional intelligence. Emotional intelligence interferes with other psychosocial structures: motivation, metacognition, affectivity, attitudes, will, temperament, etc. May be adversely affected by nervous or emotional disorders. They may be periodic or permanent: bulimia, nervous anorexia, complex disorders and panic attacks, stress, insomnia, chronic fatigue, anxiety, depression, elective introversion .

Thus learning and success depend on the level of emotional intelligence development. This is related to the extent to which the student fails to adequately monitor feelings, his emotions against themselves, others or a particular situation involving.

Learning difficulties frequency decreases considerably compared to the increase of emotional intelligence, expressed by sets of skills: communication, adaptation, decision making, problem solving, conflicting situations, blood pressure, the self, self -management.

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A DIGNITY CENTERED MULTIDIMENSIONAL AND DYNAMIC MODEL OF QUALITY OF DEATH WITHIN TERMINAL STATE

Quantitative and qualitative analysis of answers issued by a sample of students (Special Education and Psychology departments) and a sample of nurses respectively

ŠKOLKA ENIKŐ[*]

> *„Dignity is socially constructed, individually perceived, embodied and relational"*
> *(Street and Kissane, 2001, p. 99)*

ABSTRACT. The concept of "death with dignity" represents a controversial concept, at the same time frequently used in legal settings, ethical, philosophical, literary, or death psychology domains. Renowned specialists of the field argue at the same time, that death with dignity is an artificial, useless, or even dangerous concept, respectively one of the most valuable psychological constructs with regard to quality palliative care. Several studies indicate that frequently, patients report that a loss of personal dignity leads to: hopelessness, depression, wish and even request of medical interventions for intentional shortening of life. Few studies make operational the concept of death with dignity as opposed to abundant literature on the concept of good death. In the current study, aside from a short theoretical framework of the topic, we analyze on one hand the answers given by groups of participants, students and nurses with regard to the descriptive definition of death with dignity in the case of a terminal patient. On the other hand, based on studied literature and on statistical analysis of the participants' answers, we present a multidimensional and dynamic model of death quality centered on the dignity of the terminal patient.

Key concepts: *ars moriendi, good death, sufficiently good death, death with dignity, easy death, bad death, palliative care philosophy, ethics, consistency, objective list theory, hedonist theory, wish fulfilling theory, multidimensional and dynamic model of death quality centered on the dignity of the terminal patient.*

ABSTRAKT. Der würdige Tod ist ein umstrittenes Konzept und wird häufig im hbenutzt. Die Spezialisten aus diesem Bereich meinen, dass das ein künstliches Konzept sei, ja sogar sinnlos und gefährlich, zugleich stellt es eines der wertvollsten psychologischen Ergebnisse aus der Sicht des guten Notbehelfens dar. Es gibt Forschungen die zeigen, dass die Patienten, die Verluste aus der Sphäre der persönlichen

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Würde haben, als Grund, die zu folgende Aspekte führen: Mangel an Hoffnung, Depression, der Wunsch und die Bitte nach ärztlichem Eingreifen für die Abkürzung des Lebens. Es sind wenige Erforschungen betreffend der Systematisierung des Todes mit Würde, aber es gibt sehr viele Erforschungen über die Systematisierung des schönen Todes. In diesem Artikel werden neben einer sehr kurzen theoretischen Präsentation des Themas zwei Gruppen von Personen analysiert: Studenten der Fakultät für Psychologie und Spezielle Psychopädagogik, beziehungsweise Krankenschwestern. Es wird einerseits die beschreibende Definition des Todes mit Würde bei einem Patient in letzter Fase der Krankheit präsentiert und andererseits wird es anhand der Fachliteratur und der statistischen Bearbeitung der Antworten der Teilnehmer an der Erforschung ein multidimensionales und dynamisches Model der Todesqualität präsentiert. Dabei wird auf die Würde der Person konzentriert, die in der letzten Fase der Krankheit lebt.

Stichworte: *ein schöner Tod, ein genug schöner Tod, ein würdevoller Tod, ein leichter Tod, ein schlechter Tod, die Philosophie des Notbehelfens, Ethik, die Folgerichtigkeit, die Theorie der sachlichen Liste, die hedonistische Theorie, die Theorie einer Wuncherfüllung, das multidimensionale und dynamische Modell der Todesqualität zentriert auf die Würde der Person in der letzten Phase der Krankheit.*

I. Introduction

From a qualitative point of view, several differences between the processes of death exist, thus allowing us to address the concepts of: good death, bad death, easy death, death with dignity.

Due to space constraints, the presentation and comparison of the above-mentioned models are not the purposes of the present article. Additional information can be found in the materials of the authors listed in the bibliography section, as well as in the paper entitled *„Quality of death in terminal state. Dying with dignity"* *(Školka, 2010).*

Good death may sound as an oxymoron, especially for the modern Western society person, although humans have long been concerned with differentiating between good death and bad death (McNamara, 2001).

Currently there is an extensive literature on what is called good death. Authors like: Weisman (Chochinov, 2000); Weismen and Hackett (1961, Lester, 1996, Sandman, 2005), Kübler-Ross (1969); Ramsay (1975, McNamara, 2001); Nimocks et al. (1987, McNamara, 2001), Field (1989, McNamara, 2001); Kellehear (1990, McNamara, 2001); Kellehear (2007), Lester (1996), Kearl (1996, McNamara, 2001); Soifer (1996); Sankar (1999), Taylor (2000), McNamara (2001); Street and Kissane (2001), Pool (2003); Chochinov (2004); Goldsteean et al. (2006), McNamara and Rosenwax (2007), Wein (2007), etc. are among many other researchers who have been concerned with defining the concept.

The content of these models varies depending on the nature of the research participant samples (patients, health professionals, etc.), as well as on the greater or lesser extent to which other persons besides the patient, impacted by the quality of death (family members and friends, professionals, other patients who need medical resources, etc.) are also taken under consideration.

The model published in January 2000 by the British Medical Journal (Pool, 2003) is presented as illustration. It describes the following criteria for the good death: 1. nearing death awareness and understanding of what might happen, 2. possibility of maintaining control over unfolding events; 3. preservation of dignity and respect for privacy, 4. pain and symptoms control; 5. possibility to choose the place of death occurrence 6. access to information and professional assistance of any kind, 7. access to needed spiritual or emotional support 8. access to hospice care anywhere, not only in the hospital, 9. control on who can be present at the time of death, 10. the patient's ability to feature advanced directives in order to enforce his wishes (regarding the circumstances in which the life sustaining treatments will stop) 11. having time to say goodbye to loved ones 12. control regarding the time of these meetings, 13. occurrence of death when time comes, lack of prolongation of meaningless life.

Blasszauer (1984) showed that good death and euthanasia are often used as interchangeable concepts, although there is not a full overlap between them. Good death can occur without euthanasia, while euthanasia, in the strict, modern sense of the word, can not be imagined in the absence of adequate, good death. At the same time, empirical research shows that death by either euthanasia or assisted suicide is not always free from suffering (Groennewoud et al., 2000).

According to hospice philosophy, a normative, dominant script of the good death involves: 1. nearing death awareness, 2. open communication about death, 3. acceptance of death (McNamara, 2001), respectively: 1. nearing death awareness, 2. autonomy, independently chosen coping style; 3. open, honest communication about one's own death (Goldsteen et al. 2006). However, studies by Chochinov et al. (2000) show that patients differ in their ability to accept their adverse prognostic.

Sandman (2005) identifies the following global features of a good death: 1. the consistency between the way the person lived and the way the person dies (the congruence between way of dying and the person's actual or ideal self - values, norms in which the person believes -. The problem with this criterion only consists in the fact that the set of values and goals people follow need not have an internal consistency, the same author shows), 2. the meaningful death [Sandman emphasizes that not all the patients share the idea that their deaths would make sense - a good purpose - some will not find any meaning for their death and therefore should not be forced to find one. If one believes in such a sense, this should be respected even though experts disagree. In line with many other authors, Sandman believes that the facilitation of investing life with meaning until the last moment is a process that contributes to the good death. Studies of Nakashima's and Candle (2005), Neimeyer, R.A. (2002) confirm this idea] 3. dying with dignity (discussed below).

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A good enough death was described by two prominent practitioners of palliative care. Campbell (McNamara, 2001) in 1990, defined it as the death that occurs in those circumstances that are as close to what the patient would have chosen if he/ she could as possible, while Ashby and Komesaroff (McNamara, 2001) in 1995 emphasized as characteristics of the good enough death the importance in maintaining the integrity and congruence between the death and life the person lived.

McNamara (2001) shows that these models have the advantage of being closer to the patients' reality because several individuals do not use the time that remains available to talk openly about death, to prepare and accept it. However, both good and good enough death can be criticized from ethical and philosophical points of view: while good death – „may be prescriptive" (death awareness, patients' open communication about as well as acceptance of own death can be expectations that pressure the patient assisted in the hospice system), the good enough death „may be so loosely constructed that it eventually lacks shared meaning "(p. 52) and can imply very personal - individualistic – ways of dying.

Several studies have examined what is termed good death; however a small number of studies have explored **dignity in terminal state**, as Chochinov et al. (2004) show.

Canadian philosopher Simpson (2004) notes that dignity is an expansive concept which is present in: treaties, codes of ethics, the debates on: the right to live, the right to die, the quality of life, but at the same time can be considered an empty, dangerous, unstable, self-saboteur concept. Street and Kissane (2001) argue that dignity is a central concept in palliative care lectures, the authors often relying on the tacit assumption that its content is unproblematic, its meaning is clear to everyone, although this is obviously not the case.

Saunders and Bain (1983, Sandman, 2005) have argued that this concept can create so much confusion that it would be worthwhile to avoid its use in the context of palliative care. Macklin (2003, Chochinov, 2003) also considered it useless, worthy of being removed from the scientific literature since by all means that would not cause any loss.

Even since 2001, Chochinov, et al. found that the term of dignity, used both in clinical and philosophical fields, has an ambiguous connotation. The loss of dignity may be one of the common means which lead some patients to the loss of desire to live and to the request of euthanasia and assisted suicide (1996, Back et al, 1996, Emanuel et al, 1998, Meier et al, 1991, Van der Maas et al. etc. by Chochinov et al. 2001). Chochinov et al. (1995, 1998, 2000), Chochinov (1998, 1999, 2000, 2001), Ganzini et al. in 1999 and 2000 (by Chochinov et al., 1998, Chochinov, 2001, Chochinov et al., 2001), Tataryn and Chochinov (2002) and many other authors have shown that (major) depression and especially hopelessness increase the wish for the occurrence of death. Studies by Chochinov (2002) and Chochinov et al. (2002c) show that the loss of dignity can intensify negative feelings and thus may increase the wish to die.

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Toombs (2004) shows that in everyday life dignity equals personal worth. Being treated with dignity means being considered valuable, being treated with respect. Losses within dignity imply the reduction of that person's value. Chochinov et al. (2004) define dignity as the quality or state "of being valued, honored and respected" (p. 134).

Chochinov (2002a) shows that the scientific literature refers to a *basic dignity* - specific to any human being, on one hand and to a *personal dignity* - "a more individualistic, transient and tied to personal goals and social circumstances" construct, on the other hand (p. 2256).

Bandura (2001), Barrett and Behne (2005) describe agency as the characteristic specific to an entity capable of goal directed actions.

This position is problematic in that it leaves out the human beings that no longer are persons respectively overlooks the dignified treatment of the human body after death.

As philosopher Soifer (1996), citing Cranford, infers, even if certain human beings lost their ability to be persons, namely those who no longer are moral agents – are biologically alive, without being conscious, without ever again having the ability to feel pain or pleasure, this does not warrant others to behave in a disrespectful manner with them.

For example, the manner in which the patients confronting with persistent vegetative state (PVS)/ post-coma unresponsiveness (PCU) are treated rather influences others than the patients as individuals. Soifer also argues that if the path towards abuses is taken, the risk of the acquisition of a disrespectful attitude towards human life in circumstances when this respect is necessary would be present; this in turn could have an indirect negative effect on the obligations towards the individuals who are not in a PVS, but could fall in such a state. For this reason, those persons that do not want their bodies to be treated in certain ways (medical experiments, organ prelevation etc.) need to be assured that this type of unwanted treatment would not happen in their case; the family members, the friends of patients in a PVS may wish that their dear one is not kept alive by any possible means, may desire to deny the organ prelevation or the research etc.

The fact that a deceased person's previous wish is respected or not impacts the well being of the living ones. The respect for the deceased person's wish is a way to respect his autonomy. It seems that certain commitments/ duties towards individuals in a PVS truly exist, not because they are persons, but because they once were. Thus, they exert an influence on other humans, even after they ceased to exist as persons (Soifer, 1996).

Therefore, the capacity for autonomy is the only criterion that can explain the reason why several commitments/ duties towards individuals in a pervasive vegetative state exist "(…) the source of these commitments is the obligation to respect the autonomy of others" (Soifer, 1996, p. 47).

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Based on a study representative for the elderly population suffering from cancer, Chochinov et al. (2001a, p.4; 2004, p. 138) framed the so-called *personal dignity model*, within which they identified three major dignity categories, each of them having, in the authors' perspective, a number of themes and subthemes. These are: **1. illness related concerns** (*1.1. level of independence:* cognitive acuity and functional capacity in carrying out daily activities; *1.2. symptom distress*: physical distress; psychological distress (medical uncertainty, death anxiety). **2. dignity conserving repertoire** *(2.1. dignity conserving perspectives:* continuity of self, roles preservation, generativity/legacy, maintenance of pride, hopefulness, autonomy/ control, self acceptance, resilience/fighting spirit *2.2. dignity conserving practices*: living in the moment, maintaining normalcy, seeking spiritual comfort **3. social dignity inventory**: privacy boundaries, social support, care tenor, perceived burden to others, the concerns about the impact of own death on others/aftermath concerns. The *personal dignity preservation model* provides information regarding the interventions which can help to maintain a sense of personal dignity.

Chochinov (2002a) argues that each person would attach various degrees of emphasis on these categories of the dignity model. As a result, the concept of dignity will differ from one person to another, from one circumstance to another. At the same time, the feeling of personal dignity may fluctuate, depending on a series of factors (Chochinov, 2002a).

Street and Kissane (2001) highlight some important aspects of dignity, namely: 1. its socially constructed nature (several different culturally saturated scripts of dying with dignity exist, depending on the interests of the particular groups) 2. its relational build nature (mutual, build on and maintained by feed-back, lived within the intersubjective space) 3. its embodied nature (the manner in which those concerned – both patients and caregivers – experience the patient's body degradation, 4. its deeply subjective (personally perceived and lived) nature.

According to Sandman (2005), as dignity is a notoriously unclear concept, the establishment of its subcomponents within the daily work of palliative care would be appropriate. The author also reflects on the possible relevance of these subcomponents for the issue of good death.

In Sandman's view (2005) *a certain way of the dying person to relate to himself (self-esteem)* has the greatest potential to ensure a good death. In the same train of thought, Frank (1995; Radley, 2004) discusses the importance of the fact that the patient stays in love with himself. A much lower potential to produce a good death relies in the *person's status*; a far more rare component of patient's dignity is the ability to inspire and arouse awe in others. This type of dignity can be effective in terms of good death mainly through the gratification and care that the patient can receive from people who admire him. A *certain personality or character trait, that defines an aristocratic type of dignity* - incorporating excellence, distinction, distance, self-control - may more frequently contribute to a less good death because of the self-control effort and the loneliness it implies, except for those individuals

for whom dying with such dignity represented a life value and therefore it also constitutes an important value during the dying process. The main reasons for which this type of dignity could contribute to a better death lie in the fact that it can be instrumental for the obtaining what the person wants or likes or the fact that it contributes to a decreased tension within relationships. Wein (2007) identifies the courage – which is, as Aristotle shows, under voluntary control – as „a critical ingredient in coping with the terror of dying" (p. 42).

From an anthropological perspective, Bloch and Parry (Poole, 2003) consider that the **bad, inadequate death**, is characterized by the absence of control. The bad death is generally a death full of pain, trauma, prolongated suffering, loneliness, lack of meaning (Taylor, 2000).

Kellehear (2007) perceives shameful dying as dying without dignity, associated with: „material hardship but also the dependency wrought by frailty, contagion and the prospect of a disappearing identity" (p. 215). In McNamara's (2001) view, bad death traumatizes the patient, the family members and friends, challenges the palliative care purpose, complicates the organizational maintenance, drains the care giving professionals resources (p. 47).

Several authors argue that ultimately the individual in question is the only one that can determine the extent to which his death is or is not good. As Weismann (Poole, 2003) shows, "the good death is the death that someone would choose if they had a choice" (p. 8).

According to Sandman's (2005) opinion – the only "truly acceptable" guideline based on which one can ethically answer the question about what needs to be done within palliative care in order to add value to the dying persons' life - is the analysis of the consequences of acts and attitudes (consequentialism). The same author states that all the individuals involved must be taken into account - all the patients, all the family members and friends, all the professionals, even those who are outside the healthcare system.

In order to be able to decide which of the acts and attitudes leads to the best results an idea about what is good in life is needed – namely, a theory of value, of what is good in life (Sandman, 2005). Three theories circumscribing what is good for the individual are disseminated within the philosophical literature: hedonistic theory, desires fulfillment theory and object list theory (1984, Parfit; 1996, Griffin, 1998, Brülde cited by Sandman, 2005, p. 7). *Hedonism* – namely the experiential well-being (seeking pleasure and avoiding pain) – constitutes the essence of good life, although reasons that determine the individual to abandon the well-being in order to fulfill certain desires, or appeal to the objective list may arise in life; *desire fulfillment theory* is based on the idea that if a person really wants something and his/ her wish is fulfilled, this will make the individual feel better, irrespective of the positive or negative effect of this achievement on his/her well-being (Sandman, 2005); *object list theory* - includes matters that are good for the person, regardless of the fact that the person wants them or not, or that they have a positive or negative effect on his/her

well-being. Brülde (Sandman, 2005) showed that these factors contradict (they cannot be simultaneously and completely satisfied, they can be in competition or conflict). According to Sandman (2005), this list includes those phenomena that may be related to good death: *1. achievements, 2. intimate personal relationships, 3. contact with reality; 4. to be a certain kind of person; 5. self-determination 6. freedom.*

McNamara (2001) argues that there are many ways of dying, each associated with a multitude of personally and culturally shaped meanings and all represent certain social constructions. The construction of the idea of good death - is a theory, a model which should always be contextualized in order to be <"more inclusive, integrated and useful"> (McNamara, quoting the words of Kastenbaum and Thuell, 1995, p. 42).

Goldsteen et al. (2006) warns against the danger that the actual normative script of good death from palliative care field "might function as a reductionist and restrictive force in actual care for the dying patients") so that they ultimately feel compelled to live up to expectations created by these standards (p. 384). In fact, people have their own standards and values and" each die their own unique death" (idem).

II. Methods, samples and results

Methods

The present paper concerns the results obtained from the processing of answers given to the question *„In your opinion, what is the meaning of dying with dignity in the case of a terminally ill person?",* by two participant samples, results derived from an ample research, that targeted: (1) the examination of the psychometric properties of the assessment scales used, 2) the analysis of the frequency distribution and the significance of differences among answers given to a questionnaire containing 37 questions that focused on representations, beliefs, knowledge about and attitudes towards the terminally ill patient and death, medical intervention nonintervention concerning end of life in terminal state (MINELT), (3) the analysis of mean difference significance for several variables, (4) the analysis of Pearson correlations between the selected constructs, (5) simple regression analysis, and (6) path analysis, respectively.

Both quantitative and qualitative methods were use for data processing. Given the open-ended type of questions, the rough responses were gradually grouped by means of the qualitative analysis (Gay, Mills and Airasian, 2006) into simple analytical categories and afterwards quantitatively analyzed. Subsequently, they were regrouped into superordinated categories, based on other criteria for classification. The data processing was performed using SPPS application for Windows, version 15.0, aiming the distribution of answer frequencies, both within and between groups as well as the statistical significance of differences using the Chi-square test. By the end, following a qualitative analysis, the analytical categories were subsumed to the

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multidimensional and dynamic model of quality of death, centered on dying with dignity, proposed by the author, based on information from scientific literature and the present statistical processing.

Samples of subjects

Individuals clustered in five groups participated in the ample research. Their selection was based on simple randomization. The current article presents the analysis of the responses originated from two groups: nurses (N) and students from Special Education and Psychology departments (SSE-P). The collection of data from these two groups was accomplished in 2007.

Nurses from medium sized urban hospitals [N = 43, gender: F = 32 (74.4%), B = 11 (25.6%), nationality: Romanian - 41 (95.3%); Hungarian - 2 (4.7%), minimum age - 22 years, maximum age - 54, average age - 33.76. Self-reported intensity of religious belief: N = 11 (26.8%) high, N = 28 (65.1%) moderate, N = 2 (4.9%) poor, N = 2 no answer].

Students from three university centers [N = 185, gender: F = 161 (87.5%), B = 23 (12.5%), N = 1 no answer. Minimum age - 19 years, maximum age - 53, average age - 23.07; Special Education department: 99 (53.5%) students; Psychology department: 86 (46.5%) students; Years of study: II = 30 (16.2%) students; III = 105 (56.8%), IV = 50 (27%) self-reported intensity of religious belief, N = 55 (29.9%) high, N = 119 (64.7%) moderate, N = 10 (5.4%) poor, N = 1 no answer].

Results and conclusions

1. The frequency of number of elements regarding dying with dignity, generated by the two samples

The number of answers (semantic units) generated by the members of the samples ranged between one and five.

Within group analysis

A number of N = 179 students (96.8%) of a total of N = 185 provided semantically valid answers. N = 2 persons provided semantically incorrect answers. N = 4 individuals did not answer this question.

A number of N = 37 nurses (86%) of a total N = 43 provided semantically valid answers. One person answered "I do not know." N = 5 people did not answer this question.

Between groups analysis

The following numbers of descriptive definitions of dying with dignity were generated: *one element* (by: 50.8% of SSE-P and 45.9% of N); *two elements* (by: 37.8% of N and 31.8% of SSE-P); *three elements* (by: 14.5% of SSE-P and 8.1% of N); *four elements* (by: 2.7% of N and 2.2% of SSE-P); *five elements* (by: 5.4% of N and 0.6% of SSE-P).

Chi square test table (Školka, 2009) indicates that in the case of the variable concerning the number of items that describe the dying with dignity, there are **no significant differences** between the two samples ($\chi2 = 6.63$, p> .05). The observed differences are due to chance.

Conclusion: *Most of the nurses and almost half of the SE-P students provided a descriptive definition of the dying with dignity concept using one element, followed by those that used then two elements. The differences are not statistically significant, the null hypothesis cannot be rejected.*

2. The frequency distribution of the answers regarding the descriptive definition of dying with dignity of the terminally ill persons, obtained after analytical coding of the answers

2.1. Within group answers analysis for SSE-P

A number of 303 valid answers were generated by a number of N=179 students (96.8%).

2.1.1. Analysis of answers that occurred with the highest frequencies

In a decreasing order of frequencies, SSE-P enumerated the following elements of what dying with dignity means:

▪ 13.5%, corresponding to the highest percentage of the sample answers – the acceptance of death; followed by 8.6% - accepting the situation, respectively a similar category - accepting the naturalness of death (2.6%). In sum, these three categories of answers represent **24.7%** of the total number of answers generated by the students of the two departments. Ordinarily, these categories can be considered as very close from semantic point of view (death acceptance - accepting the naturalness of death, death acceptance - accepting the situation given that the "situation" the patient is facing consists of the terminal condition - explicitly stated in the question content). However - as indicated by students' answers to other questions of the questionnaire, some of them considered that there is hope for healing in the terminal stage, that medical miracles can occur, or that the whole truth about the diagnosis should not be communicated to the patient. Thus, for some of the respondents „acceptance of the situation" meant "acceptance of the disease"- a form of dismissal of the idea of nearing death in favor of approaching the idea of "being just sick".

▪ percentage of **8.3%** of the responses conceptualize dying with dignity as implying (in one way or another) the patient's care towards his family members and friends: not to be a burden for family members and friends (3.3%), absence of blame towards professionals and/or family members (1.7%); protection of family members and friends (1.7%), avoidance to inflict suffering on family members and friends (0.7%), encouraging the survivor family members and friends (0.3%); creation of happy moments for family members and friends (0.3 %); preparing the family members and friends for the patient's death (0.3%).

▪ the faith in God, in the hereafter has been identified as an element of dying with dignity in **7.3%** of the responses, followed by: ▪ self-reconciliation **(5.9%);** ▪ repression of patient's negative emotions **(4.6%);** ▪ reconciliation with others **(4%).**

All these categories constitute **54.8%** of all the total number of responses.

Conclusion*: The acceptance of death, of the situation, of the naturalness of death constitutes the most frequently attached element to the idea of dying with dignity, being raised in nearly a quarter of the answers generated by SSE-P sample, followed by: patient's care towards family members and friends, faith in God, in the hereafter, self-reconciliation with himself, repression of patient's negative emotions, reconciliation with others. All these represent more than half of the total of responses.*

2.1.2. Analysis of relevant responses that occurred with the lowest frequencies

Among The elements that were mentioned with a low or very low frequency among all responses generated per sample (one response corresponds to 0.3 of the total of responses), but which, according to the scientific literature, play a significant role in facilitating the patient's dying with dignity, are: ▪ the patient's ability to accept help (0.3%); ▪ the feeling of personal worth (0.3%); ▪ the preservation of self-esteem (0.3%); ▪ the respect showed by significant persons (0.3%); ▪ the self-determination (0.3%); ▪ the expression of wishes (0.3%), ▪ the expression of the patient's death anxiety (0.3%); ▪ the appropriate medical treatment of the patient (0.7%), respectively symptoms alleviation (0.3%) – those factors summing 1%; ▪ having the family members and friends nearby (1.7%).

A percentage of 0.7% of the responses state that there is no dying with dignity, 0.3% of the responses express the doubt that dying with dignity exists, and 0.3% state the idea that a dying person does not need to be dignified.

Following the table constructed on the basis of analytical coding of the responses (Školka, 2009), the contradictory elements that appeared in the descriptive definition of this fully subjective (anchored in the person's cultural value system) concept can be noticed: ignorance of the reality vs. nearing death awareness / death acceptance / acceptance of the situation; the ability to commit suicide vs. absence of suicide; expressing the death anxiety vs. absence of death anxiety/ repression of negative emotions, absence of end of life request vs. choice of the moment of death, death acceptance vs. death defiance.

2.2. Within group answers analysis for nurses

A number of 69 elements that descriptively define dying with dignity were generated by a number of N=37 nurses (86%).

2.2.1. Analysis of responses that occurred with the highest frequencies

In decreasing order of frequency, the nurses listed the following elements of what dying with dignity means:

▪ 10.1% - which corresponds to the relatively highest percentage of answers in the sample - the acceptance of death, followed by the acceptance of the situation (5.8%), or the acceptance of the disease (1.4%), all these categories summing **17.3%**

▪ 5.8% - having the family members and friends nearby, having the family members and friends, as well as the professionals alongside (1.4%), comfort (1.4%), attention (1.4%), affection family members and friends (2.9 %), having somebody nearby (1.4%), summing **14.3%;** ▪ self-reconciliation **(7.2%);** ▪ care **(5.8%);** ▪ 1.4% pain relief, 2.9% suffering alleviation, 1.4% medical care, totaling **5.7%;** ▪ reconciliation with others **(4.3%);** ▪ stoicism in front of suffering **(4.3%);** ▪ absence of pain **(4.3%).**

All these answers represent a percentage of 63.2% of the total group answers**.**

Conclusion*: the acceptance of death, of the situation and of the naturalness of death constitutes the element most frequently attached to the idea of dying with dignity invoked in most of the answers mentioned by the nurses group, followed by: having the family members and friends nearby, self reconciliation, care and pain relief.*

2.2.2. Analysis of relevant responses that occurred with the lowest frequencies

Among the elements that were mentioned with a low or very low frequency among all responses generated per sample (one response corresponds to 1.4 of the total of responses), but which, according to the scientific literature, play a significant role in facilitating the patient's dying with dignity, are: ▪ respect for the patient (1.4%), lack of humiliation (1.4%) - representing 2.4%; ▪ patient's self-actualization (1.4%); ▪ absence of unnecessary prolongation of suffering, against the patient's will (1.4%).

A percentage of 2.9% of total number of responses refer to doubts over the existence of dying with dignity. Several responses showed hat the nurses' evaluation of the patient's dying with dignity was accomplished based on the relationship between health professionals and family members and friends [communication with family members and friends (1.4%); satisfied family members and friends (1.4%)].

The analysis of the analytical categories in case of nurses reveals that the descriptive definition of this concept is fully subjective (anchored in the person's cultural value system). The nurses - very few in number - have used some contradictory (fight till the end vs. the wish for euthanasia) and inadequate elements: the absence of death anxiety, the wish for euthanasia.

3. Frequency distribution of the answers regarding the descriptive definition of dying with dignity of terminally ill persons, resulting from the re-codification of analytical categories in superordinate categories

The analytical categories were subjected to a new categorization, based on the criterion of the (implicit) contributor to the occurrence of dying with dignity (namely, the locus of control of this phenomenon).

Thus, the following five superordinate categories of answers were obtained, depending on the factors involved in causing the dying with dignity:

1 - dying with dignity predominantly involves the patient (internal locus of control) This category subsumes answers like: absence of unaccountable demands from the patient, patient's protection of family members and friends, absence of revenge, religious belief, meaningfulness of the patient's life, absence of the patient's envy, nearing death awareness, the patient's repression of emotions; self reconciliation, reconciliation with own life, resistance to pain, lack of remorse, generativity.

2 - dying with dignity predominantly involves the family members and friends (external locus of control)

This category subsumes answers like: not to be mourned during lifetime, not to be a burden; closeness of family members and friends, absence of the significant others' pity for the patient.

3 - dying with dignity involves the patient and the family members and friends and / or the professionals (interpersonal locus of control/ shared control)

This category subsumes answers like: awareness that everything possible was done in order for his/ her healing, avoidance of infliction of any suffering for family members and friends, preparation of family members and friends for the patient's death, absence of blame towards professionals, reconciliation with others, the belief that family members and friends will be well after the patient's death, lack of obligation to bribe, expression of wishes.

4 - dying with dignity involves the life context, several different factors (external locus of control)

This category subsumes responses such as: choice of the place of death, easy death, adequate treatment, preservation of self-esteem, sense of personal worth, quick death, functional autonomy, absence of prolonged suffering.

5 - dying with dignity outside the previously described categories

This step implied the computation of the frequency of occurrence of the superordinate categories within each answer given by the sample members, thus obtaining: simple superordinate categories (from answers which include a single semantic unit) and combined categories (from answers which include more semantic units) - in order to determine the frequency with which people in the two samples have produced different answers.

3.1. Within group analysis

3.1.1. Students from SE-P departments

Following quantitative analysis of answers (Školka, 2009), it appears that 60.3% of the students generated responses which implicitly transmitted the idea that the patient's dying with dignity depends on himself. The following were, in decreasing order of percentages: those who answered that the patient's dying with dignity involves the context (14.5%); the patient, the family members and friends and the professionals (5.6%) the patient and the context (5.6%); the family members and friends and the patient (4.5%), the family members and friends only (3.9%). A percentage of 1.7% of the total number of students adopted the view that the dying with dignity involves the patient, family members and friends, professionals, alongside the life context.

3.1.2. The nurses

Following quantitative analysis of answers (Školka, 2009), it appears that 43.2% of the nurses have generated answers which implicitly transmitted the idea that the patient's dying with dignity depends on himself. The following were, in decreasing order of percentages: those who answered that the patient's dying with dignity involves the context (10.8%); the patient, the family members and friends and the professionals (8.1%), the family members and friends and the context (8.1%); family members and

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friends only (5.4%); the family members and friends and the patient (5.4%). A percentage of 5.4% of the nurses explicitly stated either that dying with dignity does not exist or it should not exist. A percentage of 1.7% of the total number of nurses adopted the view that the dying with dignity involves the patient, the family members and friends, the professionals, alongside the life context.

3.2. Between groups analysis

The answers formulated implicitly transmit the idea that the following are involved by default in dying with dignity: the patient (60.3% of SSE-P, 43.2% of nurses); the context (14.5% of SSE-P, 10.8% of nurses); the patient, the family members and friends and the professionals (8.1% of nurses, 5.6% of the SSE-P); the patient and the context (5.6% of the SSE-P, 2.7% of nurses); the family members and friends and the patients (5.4% of nurses, 4.5% of the SSE-P); the family members and friends (5.4% of nurses, 3.9% of the SSE-P); the patient, the family members and friends, the professionals and the context (nurses 2.7%, 1.7% SSE-P).

Chi square test table indicates that in the case of this variable, regarding the instances implicitly involved in the terminally ill patient's dying with dignity, there are **no significant differences** between the two samples ($\chi2 = 18.87$, p> .05). The existent differences are due to chance.

Conclusion: most of the SSE-P and almost half of the nurses identified elements involving the patient's participation to his/ her dying with dignity, followed by those who generated elements implying that the dying with dignity predominantly depends on the context, respectively by those who think that it depends on the patient, the family members and friends and the professionals. Differences are not statistically significant, the null hypothesis could not be rejected.

III. A dignity centered multidimensional and dynamic model of quality of death in terminal state

Based on theoretical assumptions from the scientific literature, conveyed by different authors within the field of psycho-social sciences (cited in the first part of the material) and on the analysis of the research participants' responses, a multidimensional and dynamic model of the quality of death, centered on the patient's dignity was conceptualized, in a manner that facilitates the understanding of this phenomenon in the didactic process.

In an atomized form (which obviously does not totally overlap with the complexity of reality), the major dimensions affecting the patient's dying with dignity are:
1. the dignity derivable from the general/basic human level
2. the dignity derivable from the patient's individual level
3. the dignity derivable from the interpersonal level
4. the dignity derivable from the context in which the dying person lives.
The result of the interaction between these dimensions constitutes the quality of

dying. The model distinguishes between the good death, the dignified death (as a possible subcomponent of good death), easy death (as a possible subcomponent of the good death, but not also of the dying with dignity) and bad death.

The underlying ideas of this model are:

1. *There are qualitative differences between different death processes,* as certain ways of dying are more favorable for the individual (and/or family members and friends) than others. The quality of the dying process is understood here as: the quality of life during terminal state, the quality of the dying act itself, as well as the quality of others' approach to the deceased human being, during the period when the physical separation between the living and the dead has not yet been finalized.

As Weisman described the dying is viewed as good if it coincides with the manner in which the person *would want* to die (for example, to die in his sleep, to be lucid until the very last moment of life, to be free from pain etc.), in the hypothetic situation that he/ she is well-informed and would have the choice. It can also be a good death if the family members and friends, along with competent, honest and right-minded professionals make jointly decisions in the major interest of the patient when he is no longer able to do so. The good death constitutes a superordinated category of dying with dignity and/or easy death categories. Someone can die a dignified death, without the other elements that make up the good death (founded on the objective list, hedonist and/or wish fulfillment theories– as Sandman conceptualized) to be present. One such situation is the patient who, even if suffering intensely, decides not to express his pain in order to preserve his dignity. In other words, despite adequate treatment, the patient passes through an intense suffering, the process lasts much longer than he wished or hoped, and while showing stoicism during the dying process in order to preserve dignity, the intrapsychic suffering deepens (by experiencing loneliness, unfulfillment, by the experience of not being basically understood by others, by being rather respected than loved, by being confronted with an intense existential pain, ontological guilt with the belief that he had wasted his life, that his life had no meaning etc.).

Dying with dignity implies that:

a. the former person is treated with respect regardless of the current value (the minimal criterion of general/basic human dignity, as defined by Chochinov, Soifer), and if the former person's values, style, preferences are well known, he/she will be treated accordingly – under reasonable limits, obviously – throughout the dying process and after death, thereby honoring the individual who once was (the maximal criterion of personal dignity)

b. the person holds the quantity and quality of self-control/shared control, self-determination, either *desired* or *self-imposed*, as well as an adequate self-esteem and freedom (the ability to make choices between personally valuable alternatives).

Easy Death - the actual act of dying – represents the naturally produced death, that occurs quickly and without suffering, though for these reasons precisely has nothing to do with dignity (it lacks the confrontation with the death as a process with all its consequences, neither the patient nor the family members and friends or the professionals have the possibility to make choices regarding its pace/ time and quality).

Bad death is the traumatic, dehumanizing, needlessly long as a process/ occurring earlier than needed and wanted, meaningless, etc. death.

2. *the quality of death is deeply social, personal and contextually constructed.* Several objective and objectivizable components interfere with the quality of death (a). Beyond these, major - culturally dependent – scripts/narratives regarding the meaning of the four types of dying mentioned above are shared between people (b). On the other hand, a personal significance (c) is added to these two components, which may be more or less consistent or inconsistent with the major narratives. The personal meanings constructed regarding to the four types of dying are profoundly subjective and depending on the patient can be grounded in completely opposed values and beliefs (relieving suffering at all costs vs. enduring suffering to preserve lucidity, euthanasia vs. enduring suffering for its intrinsic value, restricting the access of significant persons vs. the desire to have all the loved ones close by at the moment of death, etc.).

Important / significant differences can exist within the quality of death attributions, depending on who makes them (the patient, the family members and friends, the professionals). The present model focuses on the patient's perspective in a sistemic manner.

3. the dying *person, the family members and friends, the medical professionals and the context* in which the terminal state unwinds *are both potential generators and dispossessors of the dying with dignity* (in descending order of the listed dimensions).

The individual itself is - potentially - the most prolific generator of dignity within the process of his own death (as the personality, the values, the relationship with himself, along with the coping strategies strongly affect the manner he faces this challenge). At the same time, however, the individual can diminish or harm his own dignity by behaving in certain ways (for example, by choosing to repeatedly offend, insult the professionals, the family members and friends); even if the person is dying, as long as he/she possess agency, also possess moral responsibility towards others.

The family members, friends and the professionals have many available means to either compensate or damage the patient's dignity. This is accomplished on the one hand, by either relating or not to the patient as a whole (caring for the person and not just or mainly his/her organs or body), by relating to the patient with the respect that he personally deserves and is inherently human and on the other hand by being close to him in a way that increases the person's self-determination (for example, ensuring decisional control for the patient who has a reduced functional autonomy, but is mentally competent) and freedom (creating more valuable possibilities to choose). The lower the person's ability to secure and protect his own dignity, the more the protection of dignity depends on the other persons, under extreme conditions depending on them entirely.

The context in which the person lives, by either ensuring or not the resources and instruments needed and proper laws, represents another generator or dispossessor of dignity and dying with dignity. The ecological factors are highly mediated by the relational dimension.

Compensation processes may occur in some limits between the various factors which generate dignity when the "capacity" of some of them to produce dignity is reduced, greatly reduced or even missing, if efforts to generate dignity are made by the capable factors. For example, the physically functional, but non-discerning person can be prevented from doing reprehensible acts that he/she would certainly not have done during the lucid life, by supervision and gentle control – his/her dignity being thus protected.

Rather didactically, the multidimensional and dynamic character of the quality of dying, centered on the dying with dignity may be symbolically illustrated in a form of an irregular tetrahedron, with the following sides, namely subcomponents (assuming that the list is not exhaustive; the subcomponents regarding rather the good death than the dignified death are marked by *):

P - is the side of the tetrahedron with the largest area, as it symbolizes the purely personal dimension of human dignity, which, as long as the individual has agency, can "produce" the most significant "quantity" of dignity during the dying process, via his choices/decisions.

The following are subsumed to this dimension:

1. The bodily/structural dimension (concerns the sick body - its integrity-disintegration -as social stimulus: the attractive, neutral, disagreeable character, in the manner this dimension is approached by Street and Kissane, ect.)

2. The functional and intrapsychic features dimension

a. *The physical and mental competence* [degree of functional physical autonomy, degree of mental autonomy (contact with reality, discernment kept (the competent patient) ← dysfunctions, psycho-organic disorders of subclinical and clinical intensity → loss of the agency/ quality of being a person/ incompetent patient) - similar with Chochinov et al.'s conceptualization, etc.]

b. *The mental suffering in response to physical and psychological symptoms* (dysfunctions, reactive mental disorders to terminal condition) - similar with Chochinov et al.'s conceptualization

c. *The relationship with self* (self acceptance/ self-reconciliation, self-love, self-worth/ self esteem, continuity of personal identity * - their opposite) – idea discussed by a number of researchers, among which Sandman also

d. *The personality, attachment style and personal expression style - being a certain kind of virtuous person* – (self-control, courage, stoicism, frustration tolerance, discretion, sensitivity, fairness, compassion, empathy, altruism, humor, respect, etc. - their opposite) – idea also formulated by Sandman

e. *The self-determination*

3. The existential dimension

a. the *affirmation of life and reconcilement with life* (desire to live; pleasure to have lived; regrets for the past, regrets for the future) - (meaning, purpose, achievements in life / self actualization, generativity; pleasure / joy, beauty *; hope *; activism and involvement until the end of the existence – the opposite of them)

b. *confronting with death*-[death awareness, double consciousness, avoidance of death, acceptance of death naturalness, (at cognitive and emotional level) acceptance of own death nearing/imminence, meaning of personal death*, preparation for the nearing death (ending of earthly accounts, saying goodbye, etc.)]

4. **The spiritual dimension**

a. *religious* (religious preparation for death, death rituals)

b. *secular (agnostic, atheist)* – (symbolic immortality, ecological immortality) *

R – is the side with an area smaller than P because it symbolizes the dimension of interpersonal relationships of the dying person. The dignity potentially derived from this dimension of the relational ethics (in the sense of the concept used by Böszörményi-Nagy Iván (Goldenberg and Goldenberg, 2006) – founder of the contextual school in systemic therapies) is considerable (in the case that the family members and friends – if available - and the professionals are involved, honest, competent, right-minded, sensitive to the patient's needs and capable of respecting the patient's self determination, increasing his freedom when possible). The patient's dignity facilitated, protected by dimension R arises based on:

- Personal merit/entitlement, accumulated by the patient throughout his life and his nearest past

- The manner in which the dying person copes with the debts towards others (family members and friends and professionals)

- The manner in which the family members and friends cope with the debts they accumulated towards the patient

- The manner in which the professionals cope with their professional obligations

- Respect for the individual's uniqueness, for his self-determination; moreover, even in the case of fluctuating, shortage of or total absence of discernment, honoring the person that one was, by the quality of care, by the facilitation of preservation of the living standards to which the patient once adhered, if known - obviously within the possible and reasonable limits. This dimension concerns the right, context-dependent balance between the acts of receiving and giving among those involved.

The following are subsumed to this dimension:

a. *the respect towards the patient's person, uniqueness* (from family members, friends and professionals)

b. *the patient's quality of being a significant person in somebody's lif*e* (existence of intimate, meaningful personal relationships – idea also formulated by Sandman)

c. *the social (instrumental, emotional, informational) support received by the patient and the basic attitude with which the caring is ensured by family members, friends and specialists* (not being a burden, satisfaction of patient's needs and desires (communication, care, medical treatment, special wishes, etc.), honoring/valorization of the patient's life*; adequate emotional and behavioral self-regulation of the family members, friends and professionals)

d. *the fair distribution of resources by the professionals* – idea also formulated by Sandman

e. *the patient's social adaptation and the social support (instrumental, emotional, informational) offered by the patient* – (the patient's respect towards the ones involved in his assistance, the patient's appropriate emotional and behavioral self-regulation, the protection of family members and friends, the preparation of the family members and friends for the patient's death and their encouragement**)**

f. *the patient's reconciliation with others** (conflict resolution, understanding the mistakes of others, forgiveness of others, understanding towards the patient's mistakes, the patient's forgiveness by others)

g. *the shared control (patient-family members and friends-specialists)*

h. *the possibility to bid farewell**

i. *knowing that the family members and friends will be well and safe after his death ** - idea similarly formulated by Chochinov et al. also

j. *the family members and friends' support by professionals **

C - is the side of the tetrahedron with the smallest area, because the dignity derived from this context is lower than the one derived from the P and R areas, as the dignity that occurs within C is strongly mediated by the variables: patient and his interpersonal relations.

Dimension C refers to the dignity that can be derived from the physical, political, economical, legal context in which the patient lives and the higher the deficit in this area, the deeper negative its impact.

The following are subsumed to this dimension:

a. *economic resources* – (belonging to the patient and the family members and friends, to the system of care)

b. *informational resources*

c. *instrumental resources, medical materials*

d. *physical environmental resources* (appropriate context of dying – the opposite of this)

e. *legal resources* [health policies, legislation that regulates: a fair division of resources between patients, patient's self-determination (including medical interventions / non-interventions for deliberate shortening of patient's life, at his request in terminal stage: euthanasia, assisted suicide)].

U – is the base of the pyramid and its thickness is slightly higher than that of the other sides, as it symbolizes the generl/basic human dignity, independent of the personal/contingent dignity (as understood by Chochinov; Sandman, Soifer, etc.).

It is the type of dignity deserved by any member of the species, including those who never had or lost their agency and those that meet all the criteria for being declared dead. In this case, the beneficiary of the respectful care is not the patient himself, but rather the family members and friends and any member of the species that can reach a similar situation and for reasons derived either from the attachment towards own body or from religious beliefs, they wouldn't like their body remains to be treated in a disrespectful manner. Ultimately, it represents the

respect for the patient shown in the interest and for the benefit of others, including those who show it.

Axis T – from the inside of the tetrahedron, symbolizes the duration (beginning and end) of the terminal state. This factor reflects the difference between: the early death, the death that occurs at the right moment, the late death (occurring much later than the moment considered right by the patient).

In order to illustrate the multidimensional and dynamic nature of dying with dignity and ultimately, the deeply idiosyncratic character of what this phenomenon means for each patient, let's imagine the sides of the tetrahedron colored (P - Red R - Blue, C - Yellow, U - green) or build from different little geometrical shapes, and the dignity „generated" by each side as "dignity atoms", having the same color/ texture of geometrical shapes as the side/dimension in which it was "generated".

Figure 1a. shows the four dimensions of dying with dignity, with the „dignity atoms" specific for each dimension.

The inside of the tetrahedron - its volume - is filled with the "dignity atoms" of different colors/shapes, which interact in „chemically" unique manners with each system consisting of patient, family members, friends and professionals each living in their own contexts. Out of these unique interactions, unique compositions are derived, each perceived by individual patients in a personal manner.

Dignity within the death process can be illustrated by the mixture of the different colors/ shapes of "dignity atoms", resulting in different compositions. The mixture of colors/ shapes in the symmetry center of the tetrahedron is representative for the dignity the person generally experiences during his/ her dying process. Close to the tetrahedron walls, the "mixture" of "dignity atoms" is more heterogeneous, meaning that dignity fluctuations are common to everyday life.

Figure 1b. illustrates a model of good (and) dignified death, in which the quantity and interaction between the dignity atoms produced by the four dimensions, together with the „proper" axis of time (the terminal state duration) determine this result for the patient. The arrow that starts from the point of symmetry of the tetrahedron points to an irregular shape, positioned above, illustrating "microscopically" a sample of the basic composition of dying with dignity. The second irregular shape (positioned below the first one) illustrates the subjective experience of the quality of death, experienced by the patient.

There are differences from one patient to the another in terms of the optimum "quantity" and "composition" for dying with dignity (different colors and shades/ patterns of geometrical shapes of the dying with dignity will represent the meaning of dying with dignity for different patients). Some choose a dignified behavior, which they maintain despite all the difficulties, others do not experience losses within dignity while they search for less pain and more pleasure. Specifically, some individuals will adhere more strongly to the wish fulfillment principle than to the hedonism principle and the objective list. In the case of others, the choices are dominantly made on the basis of the hedonism principle etc. These (conscious and unconscious) choices also affect the quantity of, and the interaction between the "dignity atoms" from different areas and influence both objectively and subjectively the experience of dignity in the dying process/ the quality of death.
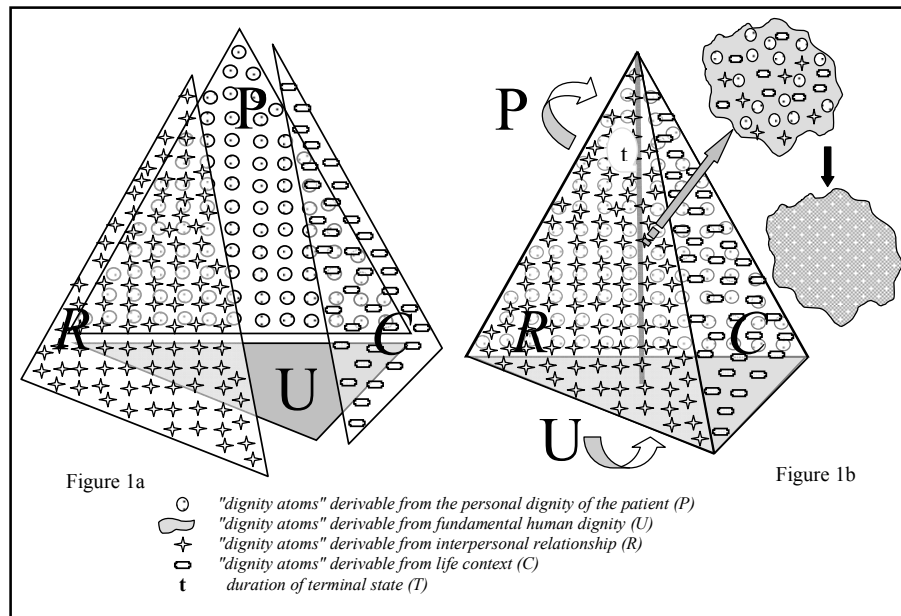
Figure 1a

Figure 1b

○   *"dignity atoms" derivable from the personal dignity of the patient (P)*
    "dignity atoms" derivable from fundamental human dignity (U)
✦   *"dignity atoms" derivable from interpersonal relationship (R)*
▭   *"dignity atoms" derivable from life context (C)*
t   *duration of terminal state (T)*

Fig. 1a and 1b: A model of good death with dignity

It is possible that the same amount of dignity - within certain limits – to be obtained through different compositions of „dignity atoms" in the case of several patients (the deficit of dignity atoms from P area can be remarkably well compensated by the dignity determined by the size of R and C or R only; the deficit of dignity atoms from R and C may be strongly compensated by P, the deficit from P, C areas by R; we cannot consider an efficient compensation of the deficit of dignity within the P, R, U area as long as the C resources are enough, because U is powerfully mediated by R). However, the type, the atmosphere, the "flavor" of these dying with dignity processes is different and they are more or less close to the actual or presumed needs and preferences of the patient in question (for example, the provision of proper body hygiene by the family members and friends, the investments in decent and varied clothes, the regular use of cosmetic products, in the case of a patient no longer capable of self-service can have a strong positive impact on the preservation of his dignity, even if most often they cannot match the amount of personal dignity derived from the situation in which the patient has functional autonomy).

The irregular shapes in Figure 2. illustrates subjective experiences of dying with dignity based on different compositions of dignity (the amount of "dignity atoms" produced in different dimensions and the interaction between them).

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The "quantity" (more or less) and/or the "type/ flavor" of dying with dignity is different for each of the six situations. The letters attached to the numbers of the shapes illustrate the dimensions where the dignity atoms come from, which, together with their quantity and their types of interactions, but also with the patient's expectation determine the quality of the dying with dignity experienced: 1-P, R, U, C (ideal composition, balanced), 2-RUC (compensation of the deficit from P area) 3-R U (compensation of the deficit from P and C areas), 4-P (compensation of the deficit from R, U, C areas), 5 – P R (compensation of the deficit from U, C areas), 6-R (compensation of the deficit from P and C, U areas).
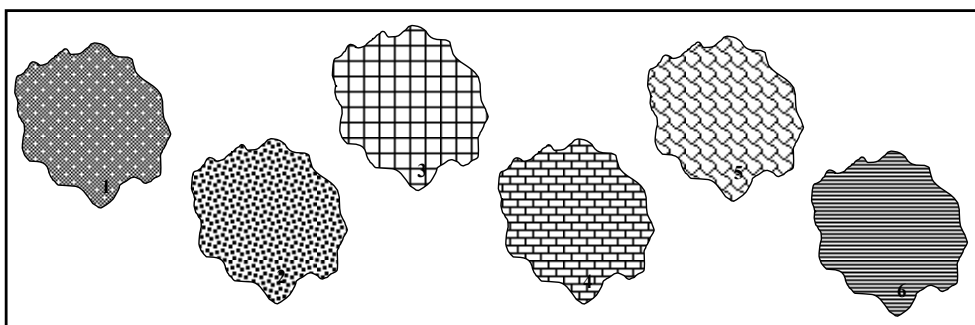

Fig. 2. Subjective experiences of dying with dignity based to different
(quantitative and qualitative) dignity compositions

Throughout the dying process, according to the evolution of the illness (in terms of the variation of the patient's functional dependency degree; the need for stronger medication for pain relief, the need for special medical equipment for the maintenance of vital functions etc.) the change in dignity composition becomes necessary in order to ensure the optimal amount of dignity, as well as its quality, as much as possible (for example, the personal hygiene can be provided daily in either a humiliating manner for the patient, or naturally and respectfully).

Moreover, the optimal quantity and quality of dignity **composition** for the patient can change throughout this process, because depending on illness condition, on personality and other personal factors, on the quality of the interpersonal relations, the dying person may value at a particular time to a higher extent his functioning on the principle of hedonism (namely, the relief of loneliness, of physical pain, to be provided with massage more often, even at the price of putting more pressure on the caregivers, the significant persons etc.) and to a lesser extent on the wish fulfillment (not to be a burden, to remain dignified – distant, self-controlled -).

The bad death can be pictured by the combination of: a. *the presence of something bad and unnecessary* (pictured in the figure by the presence of the black atoms – with potential of decreasing the dignity) by *the active behavior of somebody from R* (for example: humiliation, punishment of the patient, unwanted sedation of the patient by the care providers), inadequate legislation in C (prohibition by law of the

increase of the analgesics dose – in really needed situations – if they determine respiratory deficiency, which hastens the occurrence of death; bad health care policies), inadequate behavior of P (the patient's disrespectful behavior towards others, etc.); b. *the absence/ deficit of dignity atoms in any of the four dimensions,* when their occurrence is possible but did not take place, *due to certain omissions*, obviously, in the detriment of the patient (pictured by empty spaces, by the absence of a any color/ geometrical shape). For example, giving up control by the competent patient, though he would have the possibility of exercising self-determination, insufficient relief of pain when it could be accomplished, deficiency in providing hygiene or food for the patient, abandoning leaving the patient, etc.).

Figure 3a. illustrates the bad death by the predominance of the "black atoms" that decrease dignity and by the "deficit of dignity atoms", shown by empty spaces. A sample of the basic composition of the bad death is indicated by the arrow that starts from the symmetry point of the tetrahedron and illustrated "microscopically" by the irregular shape from the right side of the tetrahedron (top position). The way that the person is experiencing this is represented by the irregular shape below the first. In this case also, the experience of the undignified and/or bad death is due both to the presence of the dignity dispossessing atoms, the deficit of the dignity atoms and to the patient's characteristics and values. Figure 3b. pictures a type of bad death in which the time axis of the terminal state also holds a contribution (in this case, a to the long duration).
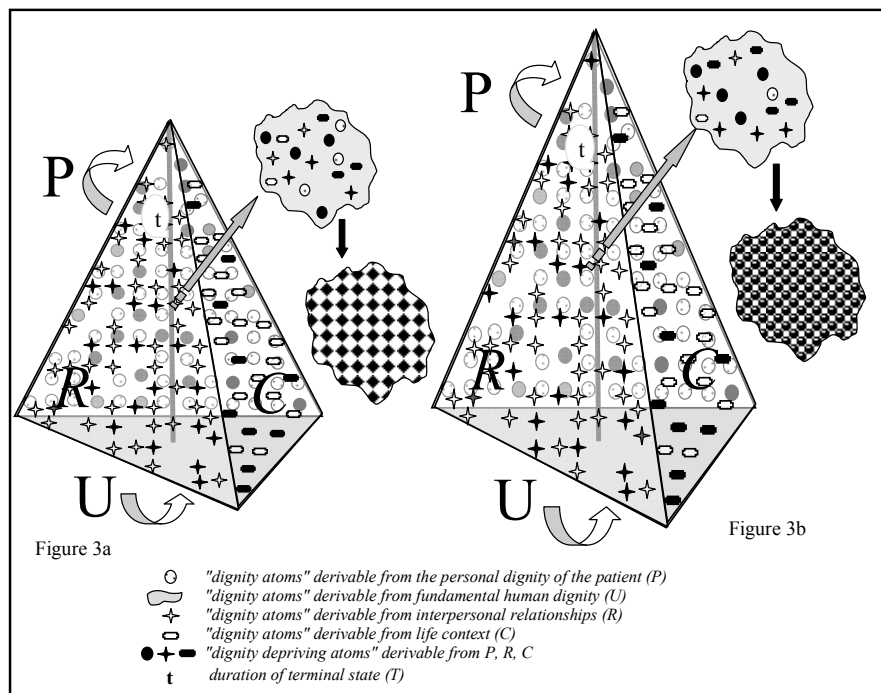

Fig. 3a and 3b: A model of bad death

Figure 4 illustrates two types of bad death: one in which the absence of the good phenomena predominate (the patient's needs are poorly satisfied, the patient is insufficiently respected, the patient is neglected) and one in which the unnecessary negative phenomena predominate (the patient is humiliated, deliberately distressed by others, etc.).
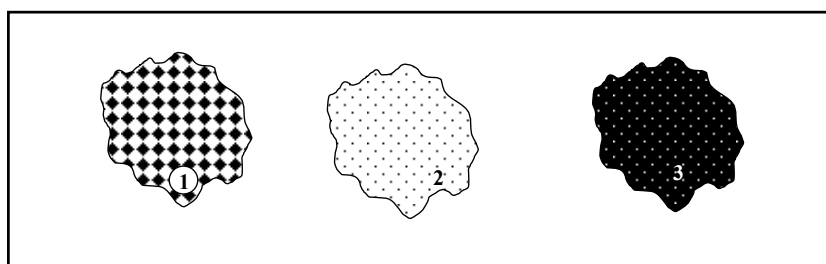
Fig. 4. Subjective experiences of bad dying due to harmed dignity based to different (quantitative and qualitative) dignity compositions

IV. General conclusions and discussions

Most of the nurses and almost half of the SSE-P descriptively defined the dying with dignity using a single element. The decreased number of responses generated by most of the respondents in the two groups is - very likely – due to the educational deficit in the field of tanatopsychology.

The acceptance of death is the element most commonly attached to the idea of dying with dignity for both the SSE-P and nurses.

Most of the SSE-P and almost half of the nurses have identified elements **involving** the patient's participation to his own dying with dignity.

The results of these pilot studies should not be extrapolated for the general population.

The conceptualization of good death, dying with dignity is deeply subjective, culturally constructed, personally negotiated by each individual. The anchors used by the individuals depend on the nature of the target group, their education, their personal experience and interests, their values.

In the daily palliative care importance is given to the approach that allows the identification (without exercising pressure on the patient) of what the good death is, what the dying with dignity means for the patient, for his family members and friends, in order to (honestly, competently, kindly, respectfully, reasonably, empathically and flexibly, culturally sensitively) support life and dying process during the terminal state.

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THE PERCIEVING AND INTEGRATION OF VALUES INTO AN INTERCULTURAL ENVIRONMENT

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ABSTRACT. Smooth functioning of EU society depends on intercultural education of its members. Training of intercultural skills begins with knowledge and adaptation to the cultural values of fellow Europeans. The paper presents results of tests regarding perception of values and attitudes triggered by this event in two contexts: that of cognitive constructivism and the social constructivism. The conclusion resulting from comparing the results support the hypothesis of an educational project, that intercultural skills training is more effective if learning is based on cooperation, founded on principles of social constructivism.

Keywords: *values, cognitive constructivism, social constructivism, critical integration of values.*

ZUSAMMENFASSUNG. Das harmonische Funktionieren der EU Gesellschaft hängt von der interkulturellen Erziehung ihrer Mitglieder ab. Die Gestaltung der interkulturellen Kompetenzen beginnte mit der Erkenntnis und der Anpassung an den kulturellen Werten der europäischen Mitbürger. Die Arbeit zeigt Ergebnisse eines Tests betreffs die Wahrnehmung der Werte und die Bekanntmachung der Stellungsnahme ausgelöst von diesen in zwei Kontexte: des kognitiven- und gesellschaftlichen Konstruktivismus. Die Schlussfolgerung, die sich aus dem Vergleich der Ergebnisse ergibt, stützt die Voraussetzung eines erzieherischen Projekts, laut dem die Bildung der interkulturellen Kompetenzen wirksamer ist, wenn sie sich auf das Lernen durch Kooperieren, aufgestellt auf Prinzipien des gesellschaftlichen Konstruktivismus.

Schlüsselworte: *Werte, kognitiver Konstruktivismus, gesellschaftlicher Konstruktivismus, kritisches Integrieren der Werte*

Introduction

The beginning of the 21st century has specific characteristics of society, among which there have to be mentioned, as the interest points of the theme, the free circulation of persons and information and the founding of some "multinational groups" – like the European Union. Both information and persons are values within themselves that are met easily, because of the knowledge and communication

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technology. This reunion of heterogeneous values produces a cognitive dissonance and psychical tensions of different intensities in human individuals.

The forming of "national unions" began from political and economical reasons and it was accomplished under this aspect relatively easy and slow. The cultural integration is accomplished much more difficult- it would take approximately 60 years, according to R. Darendorf (1993)- for the values to be integrated into a functional whole, dependant upon the socio- cultural environments into which they were produced and from the human individuals whose bearers they are. Both the social medium and the individuals defend their own system of values, as being part of the specificity of their entity. There is a "clash of civilizations", using the terminology of S Hunington (1998), triggered politically and economically and facilitated technologically by the internet. The reaction of those who clash depends on their intercultural education and this is why the form that it can take can be of "joy for having met something new", or "repulsion because it is not like me/ us". The process of intercultural integrations is started and it cannot be stopped, but it can be known and directed in the way of accomplishing a dynamic balance that can make possible the continuation of social development, in which every individual would have the status of being a citizen of it. The integration of the new values must be made in a critical way, through adaptation, because "not all that is good for someone else is also good for me". And here is where the role of intercultural education intervenes, that has, as a starting point, this aspect in particular.

The problem

The evolution of European Union is in the stage when it must harmonize the cultural values of the member countries. The cultural values, that are abstract from a conceptual point of view, become functional through "the value carriers", that adjust their behavior by reference to them, because they are means values (like the economic, scientific, political) or, more then that, they are values- purpose (like the moral aesthetical, social values) – (T. Vianu, 1982; P. Andrei, 1945; M. Weber, 2001; N. Râmbu, 2006; P. Iluț, 1995; T. Rotariu, P. Iluț, 1997). The cultural values, that are abstract from a conceptual point of view, become functional through "the value carriers", that adjust their behavior by reference to them, because they are means values (like the economic, scientific, political) or, more then that, they are values- purpose (like the moral aesthetical, social values) – (T. Vianu, 1982; P. Andrei, 1945; M. Weber, 2001; N. Râmbu, 2006; P. Iluț, 1995; T. Rotariu, P. Iluț, 1997).

This psycho-social process begins from the individual, "the new European citizen".

The problem to which the intercultural education must answer is concentrated upon the question: *How should the rightful perception and the proper integration of values must be made in the accentuated dynamics of the contemporary society, in general, and of the European society especially.*

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If this problem stays unsolved, it can generate conflicts between individuals, communities, ethnicities or nations. In general there are identified the determining factors of this process, but the remain many adjacent questions that have not been answered yet- (T Vianu 1982; N. Rambu, 2006; P Ilut, 1995; T. Rotariu, P. Ilut, 1997).

The solving of the problem

The part from the problem that is owned by the education from the Romanian school is concerned with finding efficient ways of critical integration of new values, with which the Romanian citizens meet in the space of the European Union.

The Romanian school education is based, generally, upon the principles of cognitive constructivism. In the attempt of finding the answer to the demand of the above mentioned problem we have formed the **hypothesis** according to which "***the process of the integration of values has a greater efficiency if it is based upon the theory of social constructivism, rather upon the cognitive constructivism.***"

In order to validate the hypothesis, we have developed an investigation, that has as purpose, the knowing of the perception perceiving of values and the attitudes that they trigger, as a foregoing step of their critical integration, in the context of social constructivism, as compared to cognitive constructivism.

The objectives of the research (Ob.)

Ob.1. The investigation of the perceiving values in the context of social constructivism, as compared to cognitive constructivism.

Ob.2. The investigation of the attitudes caused by the perceived values in the social constructivism, as compared to cognitive constructivism.

Ob.3. The appreciation of the efficiency of perceiving of values and awareness (through verbalizing) of the attitudes triggered, as a foregoing step of the integration of the desirable values with which a person gets into contact with, in the context of social constructivism, as compared to the cognitive constructivism context

The first investigations of the validity of the hypothesis took the form of the testing of 64 teachers, potential practitioners of intercultural education. The subjects had common features: age, level of intelligence, national belonging, general culture, specialized culture (graduates of higher education and of pedagogical module level I), familiarity with some problems of cultural education, exercised implicitly in course activities and seminars of the pedagogical module; as features of differentiations we have presupposed: the emphatic capacity, the life experience, one`s own hierarchical system of values.

Investigation 1- had as purpose the perceiving of a scientific value and the attitudes triggered by it, in the context of cognitive constructivism.

Chart 1. The objectives and the test applied for the perceiving of a scientific value and attitudes triggered by it in the context of cognitive constructivism.

The objectives of the investigation (Ob.)	The test applied (Questions, that necessitate an written answer– It.)	Answer
Ob.1. Causing a cognitive dissonance and becoming aware of it	It. 1. Do you know how much energy needs a man who talks for an hour and a half?	Answer a choice: Yes. … No: …
Ob.2. Identifying the reaction caused by a cognitive stimuli unknown in the cognitive construction paradigm	It. 2. Do you want to know the exact answer?	Answer a choice Yes…No…
Ob. 3. Identifying a way to reduce psychic tension, by finding out the necessary answer	It.3. If you want to know the right answer what do you do?	Open answer: ……………… …..

The 2nd investigation - had as a purpose the perceiving of values and attitudes triggered by these in the context of social constructivism. For this there were conceived tests which are on the same line with *the postulates of social constructivism theory,* respectively:

1. The social factor is primordial in the cognitive development.

Explaining the development of intelligence only through cognitive factors is reductive. *The cognitive development is based upon the interaction with the other, unreduced to the triggering of imitating the right model, on the contrary: the other gives a different answer, possibly just as incorrect as that of the subject* (e. e.); this is how begins" the socio- cognitive conflict:, which is a unbalanced state; the structuring activity of the subject contributes to the accomplishing of a balance, that has a social nature, because it integrates/ unifies in a chorus system of divergent view points. (Doïse, W.; Mugny, G., 1998, p.197 – 202; 2., p.206 – 207).

2. The cognitive progress appears only if there is a *socio- cognitive conflict,* triggered by a "*social marking*" (Doïse, W.; Mugny, G., 1998, p. 206 -207; 2., p. 247-253) and by " *the cognitive dissonance".* (Doïse, W.; Deschamps, J-C.; Mugny, G., 1999, p.205-225).

3. The socio cognitive conflict induces the cognitive development when: a) there is a "mesh of consciousness of the child towards other answers then his own"; b) the conflict creates social unbalance (comes from the other, in a "social problem") and cognitive unbalance/ "*the cognitive dissonance"* (the other says something else), that is experienced as a tensed state, that the individual will try to reduce; c) the other offers instructions that can be pertinent for the for the elaborating of a new cognitive

instrument (not necessarily the right answer1); d)the conflict increases the probability that a child to be active cognitively; it is not a simple activity of the child towards the object, but an activity that refers to divergent answers e) the socio- cognitive conflict can be solved in more ways, that, in their turn influence the cognitive development.

4. The solving of the socio- cognitive conflict aims not so much at obtaining a right answer, but at obtaining a social consensus, that makes possible the continuation of the social relationship, without which the cognitive development would not be possible, in general, an absolute no1. (Doïse, W.; Mugny, G., 1998, p. 204 - 205).

There were given **two tests.**

The first test had as *objective (Ob.):*

Ob. 1. Expressing the preference for material or spiritual values, as criteria for choosing a person to live with for a specific period of time.

Ob. 2. Making a hierarchy of categories of spiritual values, as criteria for choosing that person.

The demands of the test: If you had to live with someone, for a specific period of time, which is the order of values, according to which you would choose your partners- on a scale from 1 to 8. Put the corresponding number near each type of value. (The material values, as well as the spiritual ones, are those of your partner not yours).

The following values have been offered: a) Material values: national company, real estate properties, money, luxury automobiles, jewelry, bonds, art collections, private firm; b) Spiritual values: scientific values, moral values, social values, religious values, professional values, political values, aesthetical values, practical values.

The 2nd test had as *objectives (Ob.):*

Ob.1. Challenging, based upon compassion, of a *socio- cognitive conflict,* triggered by "*the cognitive dissonance"* and by *"a social marking".* Note: The cognitive dissonance will be extended from the category of scientific value to the other value categories.

Ob. 2. Awareness of the subject of the psychic tension lived during the socio cognitive conflict.

Ob. 3. The identification of the attitude that the subject takes towards each person that had produced the social marking and the socio cognitive conflict (sustaining a different value, presupposed to be desirable by the subject).

Ob. 4. Obtaining a feedback on the answers given to the previous demands from the first and second test

The 2nd test: Causing a *socio cognitive conflict,* triggered by "*the cognitive dissonance"* and by a "*social marking".*

The subjects have received a **working paper** that contains the following data and demands:

The given situation:

Chart 3. The given situation.

You are in the following situation: You participate in a contest, with a very big prize, that all the participants want.

> **Conditions:** The participants form two groups. Each group is in his own room, a very small one, and has 9 members. The members of the team sit round a round table and they can watch each other permanently. You are named leader, by the organizers and you have the right of decision over the members of the team, including throwing them out of the team.

Wins the team that: 1) stays in harmony, 2) resists longer and 3) keeps more members.

The contest starts and this quick dialogue takes place:

You: *I propose for us not to talk in order to save energy and oxygen.*

First person- *Talking doesn't make anyone tired and does not consume oxygen.*

Second person- *If you are a fool at least shut up1*

Third person: *Why should he shut up in front of a boss who did not prove to us any quality?*

Fourth person: *Because he is the Messiah!*

Fifth person: *"The professional manager" is a big hoax.*

Sixth person: *Then, let us call him "mister prime minister".*

The seventh person: *This is the greatest team!*

The eight person: *Especially because it started so well!*

Demands:

Demand no 1. Mark by <u>X</u> in the corresponding box how you feel as a leader of these people with which you must spend more time with. – There have been offered the following psychical states: indifference, slight embarrassment, psychical discomfort, psychical tension, a strong psychical tension.

Demand no 2. What attitude do you take towards each person. (You must choose at least one answer for each person; if you choose more answers for the same person, number them in hierarchical order).

There has been made for the subjects a array where, on the above row there have been mentioned the persons, from the first to the VIIIth, and on the first row there have be propose the possible attitudes, from the perspective of social constructivism (v. the array with the results, according to chart no. 6).

Demand no 3. Classify the persons from your team, from: *The most acceptable, to Unacceptable,* by marking an X in the corresponding box.

There has been made for the subjects an array where, on the above row there have been mentioned the persons, from the first to the VIIIth, and on the first row there have be proposed the degrees of acceptability: the most acceptable, acceptable, less acceptable, difficult to accept, unacceptable (v. the array with the results, according to chart no. 7).

4. The results of the investigation and their interpretation:

4.1. The results of the investigations and their interpretation. The results of the first investigation and their interpretation

The results of the first investigation are in the following chart:

Chart 5. The results of the first investigation

The category of the subjects	Number of respondents 64	Percentage from category %	Percentage from the total number %
1.1. The number of subjects who knew the answer	0	0	0
1.2. The number of subjects who did not know the answer	64	100	100
2.1. Number of subjects who want to know the answer	42	-	65,62
2.2. Number of subjects who do not want to know the answer	22	-	34,37
3.1 The number of subjects who answered what they do to find out the answer	34	80,95	53,12
3.2. Number of subjects who did not answer about what they do to find out the answer	8	23,52	12,50
3.3. Number of subjects who would want the help of another, specialized, person	7	21,87	10,93

We find out that neither subject knew the answer to a scientific question; this aspect was the purpose of the experimental investigation, in order to produce a cognitive dissonance. From the total of respondents – 64 subjects, only 42- that is 65, 62% from the total of the respondents- affirm that they want to find out the right answer. Among those who want to know the answer, only 34 subjects say what they would do, their percentage being 80, 95% from the aforementioned category, but representing only 53, 12% from the total of the respondents. The conditions of the experiment are similar to those that are characteristic of the paradigm of cognitive constructivism: the subject is given a assignment and on the way of solving it he encounters a problem; involvement in the finding of the solution depends upon the interest that the subject has towards the answer to that problem, how much this satisfies a cognitive necessity and another kind of necessity.

But he is alone in the face of the problem, no one sees that he doesn't know so that the subject has neither frustration through a social relation, nor a motivation to find the answer as fast as possible, but also he does not have any social help or stimulation in finding out the answer. The recorded answers sustain these psycho-socio- pedagogical explanations. The subjects answer- *all!*- that they do not know the answer under the circumstances when they could be verified by the correctness of an affirmative answer. A considerable number of respondents- 22, that is 34,

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37%- say that they do not want to know the answer: quite simply: they do not need this information. A number of 8 subjects, that want to know the answer- it is of professional interest because they are teachers!- do not say now who they will find it out: it does not constitute an emergency! From the category of those who say what they would do to find out the answer, along documenting and informing on the internet, 8 respondents would ask a specialized help- these represent only 10, 93% from the total of respondents- In this explicative attempt the conclusion could be drawn that these subjects are genuinely interested in how much energy they consume in an hour and a half oral informative presentation.

4.2 The results of the second investigation and their interpretation

The answers to the 1st test

An 8 leveled hierarchical scale was asked from the subject, in order to have manifestation space. For research, there will be analyzed only degrees I, II and III.

The results are those from chart 6. The module of the degree corresponds with the number of the subjects that preferred on the hierarchical place degree I, II or III the corresponding value from the chart.

Chart 6. The hierarchical place of preferred values in choosing partners

Material values	National company	Real estate properties	money	Luxury automobiles	Jewelry	Stock bonds	Art collections	Private firm
The module of degree I	1	1	3	4	0	0	0	2
The module of degree II	1	1	1	2	0	0	0	1
The module of degree III	2	3	4	5	3	0	1	3
Spiritual values	Scientific values	Moral values	Social values	Religious values	Professio nal values	Political values	Aesthetic values	Pragmatic values
The module of degree I	6	36	20	6	8	1	3	3
The module of degree II	8	18	22	18	32	0	2	8
The module of degree III	2	19	36	24	5	0	0	1
No.of answers	16	73	78	48	45	1	5	12

It can be noticed that the number of subjects that prefer partners who are owners of material values is very small and irrelevant for the research. The subjects concentrated upon partners with spiritual values. The justification of the choice: The material values of the partner could only be shared occasionally and partially, but the spiritual ones, manifested in the relations between them, inevitable even for a short -term cohabitation

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There could be made the following groups of answers, after the total number of preferences for certain values:

-*on the 1st place,* there is the group of answers/ preferences for social values- 78 and of moral values- 73, giving a total of 151 answers- preferences.

-*on the 2nd place,* there is the group of answers/ preferences for religious values- 48, and of professional values- 45, giving a total of 93 answers/ preferences.

-*on the 3rd place* there is the group of answers/ preferences for scientific values- 16, and of practical values- 12 giving a total of 28 answers/ preferences.

The answers/ preferences of the respondents are justified, in the context imposed by the demand: in order to cohabitate with someone, for a short period of time it is desirable to be in harmony and then it is necessary for the partner to have values corresponding to the purpose- it is to be expected that the respective values to be manifested in behavior.

In this rational, on the first place there are the social values, followed by the moral ones, then by the religious and professional ones.

Maybe the question arises why the number of preferences for religious values is greater then for the professional ones. There could be at least two explanations: a) the underrating of the religious values is given by the place/ degree III; and in the degree I and II, the professional values are over the religious values; b) it is possible that this result to be determined also by the predominant number of women-respondents, women being more opened towards religion in a greater number then men.

It is noticed that the number of preferences for the practical values is larger than the number for scientific values. The justification of the result is in the status of practitioner of the gymnasium teacher and less of scientific researcher; the correlation can be made with the teacher`s need for a scientific culture, at a general level, which also justifies the number of the expressed preferences.

Answers to the 2nd test

Answers to demand 1.

The psychical state experienced by the subjects who had a social marking is mentioned in the following chart.

The psychical state felt by the subjects that had a social marking is: indifference: o subjects- 0% slight embarrassment: 12 subjects- 18, 75 %; psychical discomfort: 48 subjects- 75, 0% psychical tension: 4 subjects- 6,25; psychical tension: 4 subjects- 6,25: a great psychical tension: 0 subjects- 0%

Chart 7. The results regarding the psychical state mentioned by the subjects who had a social marking

Psychical state	Indifference		Slight embarrassment		Psychical discomfort		Psychical tension		A great psychical tension	
No. of subjects	0	0%	12	18,75%	48	75,0 %	4	6,25%	0	0%
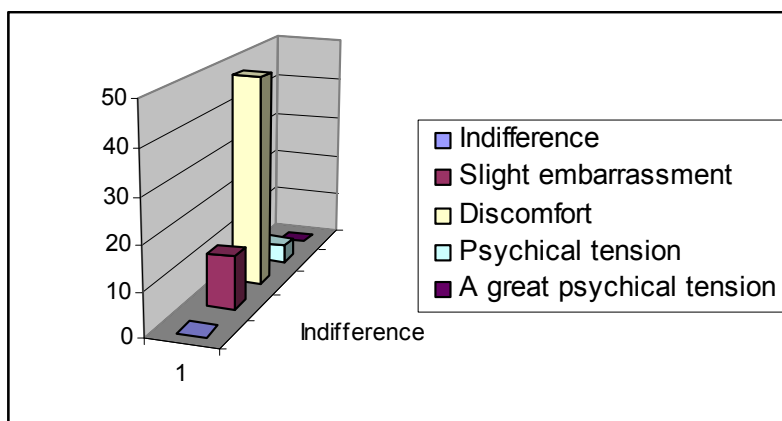
Fig 1 . The psychical state of the subjects that had a social marking

According to the answers recorded, the majority of subjects have mentioned that they would have a "psychical discomfort"- 48 subjects, representing 75, 00%, but it has to be mentioned that the answer is given based upon empathy and not upon real experience. On the second place there is a "slight psychical discomfort" 12 subjects, representing 6, 25% who affirm they would feel a "psychical tension". It is possible that the real experience to produce the subjects a greater intensity of the psychical tension and then, the results recorded would have a slip to the right, most subjects feeling a "psychical tension". The o% indifference result shows that all the subjects have undergone a "social marking" of an intensity high enough that they would be determined to have an attitude, as it can be seen from their answers to the next test. But, based upon empathy, no one felt a "great psychical tension": 0 answers.

Answers to the 2nd demand

Their answers to the second demand mark the attitudes that the subjects have following the social marking. In the order in which there are the persons in the team, the statement of each subject produces a value dissonance: cognitive/ scientific, moral, social, religious, professional, political, aesthetic, and practical. The subjects have mentioned at least an attitude towards each person from the team, from those mentioned in the test.

There were a number of subjects that wanted to say what else they would do, but their answers fit correctly into the variants given by the test. For the analysis of the expressed attitudes, we have taken into consideration only the number of answers fit for place I (degree, rank I).

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Chart 8. The attitudes taken by each person, expressed at the level of rank I.

The answer for the person / The attitude	Answer for pers. I	Answer for pers. II	Answer for pers. III	Answer for pers.IV	Answer for pers.V	Answer for pers.VI	Answer for pers.VII	Answer for pers.VIII
I ignore what this person is saying	1	3	1	2	0	21	4	12
I tell him/ her that she/he is right Or partially right	31	1	19	0	4	0	23	34
I tell them that what has been said is less important	23	12	1	2	7	12	15	1
I give the person new information about what has been said	3	32	35	6	36	4	2	5
I ask them to tell their personal opinion	5	9	3	21	13	7	8	8
I ask them to act in the direction of fulfilling the team`s purpose	0	2	5	32	14	19	19	4
I throw out this person from the team	1	5	0	1	0	1	0	0

Establishing certain correlations between expressing preferences for the wanted values for the partner- results from test 1, with the answers given to this task, imply very much the epistemic subjectivity of the researcher. But these answers are necessary to the ongoing research, as it will be shown.

Answers to the 3rd demand

The degree of acceptability of each person, expressed through a value scale of six steps, is expressed through the number of answers fit for I place, for each step of acceptability (the module of degree/ rank I).

Chart 9. The degree of acceptability of each person, expressed at the level of degree I.

Person / Degree of acceptability	Pers. I	Pers. II	Pers. III	Pers. IV	Pers. V	Pers. VI	Pers. VII	Pers. VIII
1. most acceptable	30	2	8	0	0	2	25	19
2. Acceptable	26	7	20	11	13	19	35	39
3. Quite acceptable	8	12	22	21	23	19	5	9
4. Difficult to accept	2	11	14	16	14	12	0	0
5.Most difficult to accept	2	8	3	15	11	6	3	0
6. Unacceptable	2	28	1	1	5	10	0	1

These answers can be related to the results from test I, with less subjectivity than in the previous case, but no correlation index, calculated with the final sums of the answers, is relevant for the research.

There are, however, correlations established at the level of subject- respondent; but the number of these subject is also irrelevant- 46, 28 that is 43, 75. there are correlations for all the respondents (62- that is 96, 87%) if we take into analysis the answers from task II- The other 2 subjects (3, 12%, questioned orally, had their "own logical coherence".

A few of the most interesting "incoherent coherence" will be presented:

Respondent 2 places on I place the preference for moral values, but he tells person II, who produces the social marking, that "what has been said has less importance" and he classifies it as "the most acceptable". – The justification of the answer: I wanted to diminish the conflict, I understood the attitude of the person to annihilate the adversary of the one who is responsible for the team, in order to accomplish the goal; the person has only problems of using some terms in communication, which can be corrected.

The social constructivist interpretation: this respondent will solve the moral dissonance, appealing to practical (activity fluidization) social values and norms as well as scientific (regarding the communication techniques).

Respondent 7 places still on number I the preference for moral values, but "throws out of the team this person" and qualifies it as "unacceptable".

The social constructivist interpretation: Solving a value dissonance, in the context of one` s own category- this is where the moral values lies- has great chances of failure; it can be looked for its avoidance, its procrastination, its denial.

Respondent 12 placed on the last place the preference for political values, but, "throws out of the team that person" and qualifies it as "unacceptable". The respondent` s justification: that person` s intention is not of naming me prime minister, is the serious sense, but a public mockery at my expense as a team responsible.

The social constructivist interpretation: the political value, insignificant for the subject, correlated with social and moral norms produces amazingly surprising effects (perhaps).

It is still by connecting to the other categories of values that the score of the answer of classifying of person I, that produces cognitive dissonance, as "the most acceptable", (30 answers), respectively, as being "acceptable" (26 answers) – a total of 56 answers, that is 87, 5%- although the preference of the respondents for scientific values is only one of 16- 25, 00% the number of respondents that prefer the owning of scientific values by the partner is only of 16- that is 25,00%.

The right answer containing scientific information can be easily found out by researching the reference domain. The cognitive dissonance from the experiment, was assuming an aspect produced within the team which was not at all insignificant: social marking is made for the team responsible, who must maintain the harmony as long as possible, and, it is this very person who causes conflicts between the

members of the team. And, analyzing the attitude of the team responsible, mentioned in the demand II it can be remarked that the majority take two directions: a) "I tell them that perhaps he is right/ or partially right" and b) "I tell them that what has been said is less important" (31+23=54 subjects, that is 84, 37%). The extreme results are also very relevant: an ignoring and one team exclusion.

The correlations caused by religious values, placed on 3rd place at the test are also interesting.

I naming a Christian "Messiah", a social marking is produced more intense then when he is named "prime minister", through connecting to the role of team responsible, that he has. The remarks towards the person that produces the religious dissonance are remarkably evenly distributed, excluding extremes: no one says that it is "the most acceptable" and only one remark is "unacceptable". Taking into consideration the manifested attitudes, it can be remarked that no respondent "agrees with/ not even partially agrees", and there are few who want to open discussions on the religious theme (only 6 respondents, that is 9, 37%): such a theme takes long and confidential discussions, condition that are inexistent in the created context. Consequently, most of the respondents prefer to "Ask to act in the sense of accomplishing the purpose of the team" or to "tell their personal opinion" 32+ 21= 54 subjects, that is 84, 37%). It can be remarked the same score with that of cognitive values, but for the religious values there are other explicative causes.

It has been found out from the dialogues with the respondents, regarding the correlations that they had made mentally, when they expressed their attitudes, that the determining factors have been numerous and belonging to many categories; one of these can be mentioned: one` s own hierarchical system of values, socializing competences, communication and empathy, temperament, type of predominant intelligence, social context and the significance that it has towards the person in his view and so on.

In order to calculate the efficiency of the perceiving of values and the awareness (through verbalizing) of the attitudes triggered, as a foregoing step of the integration of the desirable values that a person gets into contact with in the context of cognitive constructivism, it is sufficient to make a comparison between the recorded and mentioned scores in the paper and according to the following chart:

Chart 8. The comparison between the results of cognitive constructivism context and social constructivism context as regards the perceiving of values and the attitudes triggered.

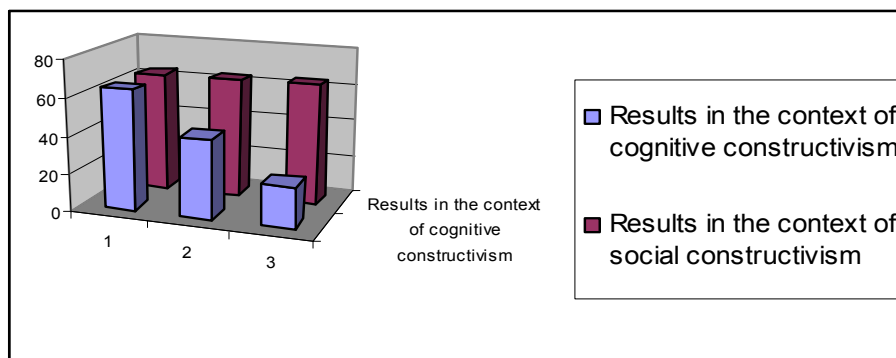| Values, attitudes/ Results	The perceiving of values Number - percentage	Intentional attitudes of solving Number - percentage -	Attitudes of solving-manifestation
Results in the context of cognitive constructivism	64 -100%	42 - 65,62%	22 - 34,37%
Results in the context of social constructivism	64 - 100%	64 - 100%	64 - 100%
Percentage advantage for social constructivism	0%	34,38 %	65,63 %

Fig 2. The perceiving of the values and attitudes triggered in the context of cognitive constructivism and in the context of social constructivism

Conclusions

Comparing the obtained results with the objectives of the reserch the following conclusions can be drawn:

1. The perceiving of values in the context of social constructivism, as compared with the cognitive constructivism context (Note 1), records a null score. The simple perceiving of a new value, without taking the right attitude, is possible to be of little importance for the individual, this one being even likely to forget it immediately.

2. The percentage of attitudes triggered by the perceived values, in the context of social constructivism, compared to cognitive constructivism (Note 2), is more in the advantage of the first category. For the exclusively intentional attitudes of solving, the percentage is 34, 38%, in the favor of social constructivism and 65,63% advantage in the case of the attitudes of solving manifested.

3. It can be remarked that the efficiency of the perceiving of values and the awareness (through verbalizing) of the attitudes triggered, as a foregoing step of the integration of the desirable values that a person gets into contact with, is surely in the favor of the social constructivism context, as compared to the cognitive constructivism context (Note 3). This efficiency is expressed in the absolute way, though the numbers presented in the paper; but, there is a much bigger efficiency when we consider the stimulation of all the personality`s dimensions, because the values act, as it has been shown, through inter- relations and inter determination.

These conclusions sustain the hypothesis formulated before, that, "the process of the integration of values has a greater efficiency if it is based upon the theory of social constructivism, rather then upon that of cognitive constructivism". This investigation is a particular part of an educational project TOGETHER ID 838, that we have under way, and that has a purpose the forming of intercultural competences for the students that are begin to be prepared as teachers, based upon

social constructivism and upon learning through cooperation. Intercultural skills training requires knowledge and integration of values of "others", just as the starting point of this process.

What this research emphasizes is the necessity of creating situations of learning within a team, with partners belonging to different cultures, and applying the principles of social constructivism, when the purpose is the forming of intercultural competences.

But, until the introduction in the educational practice of this conclusion, with normative value, at least two questions arise, whose answer must be investigated: a) which should the best level and the minimum one of heterogeneity of the learning teams; and b) which is the best intensity of social marking and which can be the most frequent factors (among a multitude) that produce it.

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CORRECTING PRONUNCIATION DISORDERS IN INDIVIDUALS WITH HEARING IMPAIRMENT BY USING SOFTWARE FOR SPECTRAL ANALYSIS OF SPEECH

MARIA ANCA

ABSTRACT. In the present study are presented some aspects of a broader study aimed at developing aspects of verbal auditory function in individuals with hearing loss wearing digital hearing prosthesis and individuals with cochlear implants. By viewing the acoustic features of speech, using Cool Edit Pro program and the program Praat increase the effectiveness of intervention to correct pronunciation in people with hearing loss.

Keywords: *visualization of the pronunciation, spectrograms, formants, resonant chambers, co-articulation; pronunciation disorders, auditory-verbal training.*

ABSTRAKT. In dieser Arbeit werden einiger Aspekte aus einer reichlicherer Arbeit präsentiert über die Entwicklung der hör- mündliche Funktion bei Personen mit Hypoakusie, wenn sie über eine analogische und digitale Hörprothese verfügen und Personen die Cochleaimplantat
bekommen. Durch Sichtbarmachung der akustischen Besonderheiten der Sprache, durch Benutzung des Programms COOL Edit Pro und Praat, bei den Personen mit Hypoakusie, die Wirksamkeit der Ausspracheverbesserung wird größer.

Stichwörter. *die Sichtbarmachung der Aussprache; Spektogrammen; Formanten, Resonanzzimmer, Koartikulation; Aussprachestörung; hör- mündliche Übungen.*

1. Theoretical framework

1.1. Acoustic features of verbal productions in people with hearing impairment

The main concern related to hearing loss refers to the implications for speech perception. The audiologist tests give us a summary of the acoustic properties of a signal. This summary note on a particular type of audiogram which contains an area marked for various categories of spoken sound. This "map" has particularly informative value; it provides an insight into the components of the "auditory space" pronunciation which are involved in vowel contrasts and in decisions such manner/place.

Spectrographic analysis of verbal productions in people with hearing impairment allows finer highlight of the way in which the contrasts above mentioned undergo changes expressed including formants view. Theories of speech perception will, in different ways, follow the examples that detect the relationship between perception and articulation and co-articulation issues.

In light of motor theory regarding speech perception is sustained the link between speech production and speech perception. For example, when a stop occurs in different vocalic contexts there is no sound evidence to support its constant perception, this being due to coarticulation (Liberman and Cooper, quoted Lepot-Froment, 1999).

When it comes to articulation invariance for place on explosive consonants, researchers take into account the possibility that it could be included in the acoustic signal. This is the theory of acoustic invariance. One aspect that supports this theory, but on the perception of vowels, is that the ear is able to extract format based on Fourier analysis. Around the same way should work ear and consonant perception (Ryalls, 1997).

During the speech, due to changes in size and shape of the larynx, there will be changes in intensity and frequency, which will lead to increase of harmonics and suppress others one. Consonants generally have a shorter duration being strongly influenced by neighboring vowels (Fraser, 1995).

In our country there is concern for visualizing acoustic features of speech both parts of phoneticians and psychopedagogists, especially those studying aspects of verbal language development in people with hearing impairment.

One of the Romanian researchers was Florin Constantinescu, who contributed to this field, has developed lists of verbal material (logatoms, words, sentences), specifically for the Romanian language, intended to vocal audiometrics, material that is also extremely useful in auditory-verbal training and has been used in this study. A reference work for phonics and phonology field, with consistent treatment/ handling of acoustic aspects of speech specific to Romanian language is that one of Rosetti and Lăzăroiu (1982) in which are presented and analyzed the spectral representations of phonemes of the Romanian language and some logatoms. This study is part of the current concerns of psycho-pedagogical related to auditory-verbal training in people with hearing impairment, including through computer programs that allow the analysis and visualization of acoustic characteristics of speech and pronunciation (Anca, Hațegan, 2008).

1.2. Pronunciation of vowels and consonants features in people with hearing impairment

Classic literature on the hearing impaired shows a dependence of the defect pronunciation of phonemes to the degree and type of hearing deficit. Vowels are pronounced more easily and also the vowel pronunciation habits are formed more easily than consonants. After Mare (1993, quoted by Anca, 2006) defects of pronunciation of

vowels are present in the speech of people with profound hearing loss in more than 50% and of the consonants and the proportion of 70-75%; in severe hearing loss only 25% of vowels deviated from the norm while 40% of consonants shows defects, 10% of vowels are affected in moderate hearing loss and 30% of the consonants; and in mild hearing loss, the proportion of vowel pronunciation disorders is much lower, while the consonants are affected in proportion of 11-12%. Disorders are caused by incorrect position of tongue in the articulation process. There is a tendency to blur the extreme positions of the tongue in vowel emission. At the deaf, the isolated vowel pronunciation, tongue often occupies a central position (minimum effort law) resulting in several categories of flaws (defects):

Neutralization is the most common defect emission and pronunciation of vowels. In Romanian, the position of tongue is neutral to the vowel "ă" (medium vocal and semi-closed). At the deaf, most vowels acted as the vowel "ă".

Substitution is the replacement of vowel with other vowel, the defect occurs in 30%. For example, "a" is pronounced as "ă", "e" as "i", "o" as "u".

Diphthongalization refers to splitting vowels: "iecran". It occurs at a rate of 7-10%.

Vowel *nasalization* occurs due to a quantity of air flow on nasal route.

Disorders in pronunciation of consonants are more frequent and severe than those encountered in isolated vowel pronunciation. Of these we mention a few:

- *desonorization* occurs when in the consonant sound emission; the vocal chords vibration is omitted. For example: the occlusive "b", "d", are transformed into "p", "t"; the fricatives "z", "j" transform into "s", "ş". Is one of the most common disorders of consonants pronunciation. Affricate "ğ" turns into "č";

-*substitution* is of two kinds: when consonants are replaced by other sounds similar according to manner of articulation criterion. Example: "b" with "d" or "p" with "t". Another type of defect is to replace a consonant with another which has different manner of articulation as occlusive are replaced with fricatives, example: "t" with *"f"* or inversely.

Speech intelligibility depends not only on the pronunciation of phonemes but also on the particularity pronunciation of words, that is why it is important to consider several variables related to the coarticulation field.

Depending on the variables related to the coarticulation it must: adapt methods and procedures used in deaf demutization; adapt methods and procedures applied in correct pronunciation and speech disorders in people with hearing loss and selection of verbal material used in auditory verbal training.

2. Methodology of research

With the aim to improve the inteligibility of speech, two individuals with hearing impairment beneficiated, during one semester, of speech training with the support of two computerised programmes: Cool Edit Pro programme and Praat programme. In the present study some aspects of a wider study are presented, aspects that aim the development of verbal auditory function at hard of hearing individuals

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in the context of fitting with digital and analogical hearing aids, but also individuals with cochlear implant.

Objective: visualizing the particularities of the pronounciation of individuals with congenital profound hearing impairment with the use of computerised programme Praat programme with the aim to identify articulation and coarticulation difficulties and their correction.

Hypothesis of the study: the spectographic visualisation contributes to a decrease of the deficitary aspects of the pronounciation at individuals with hearing impairment in the conditions of specific training.

Specific hypothesis: in the case of coarticulation the formants are dependent on the way in which the sound is filtered by the active and passive organs in the articulation, but also by the particularities of the pronounciation of the individuals with hearing imapirment.

Participants to the study:

- one adult with profound congenital hearing impairment, who learned to speak through traditional methods, predominant visual and tactile-kinesthesic.

- one adult with profound congenital hearing impairment with bilateral fitting, with digital aids, who learned to speak also by the good use of auditory channel.

Both participants, users of the specialised computerised programmes, designed for the the visualization of speech are motivated to increase the level of inteligibility of speech for a better professional and social inclusion.

The development of research

The linguistic material that was used was diverse. The two participants in the study beneficiated of trainings in which recordings of the isolated pronounciation of phonemes of the Romanian language were realised, of the monosyllables and bisyllables, words (selected for a higher diversity of coarticulation contexts), but also sentences with a different level of complexity. With the help of logatomes we can observe the level of pronounciation of different phonemens, in coarticulation contexts, and with the verbal material with signifficance we can evaluate speech.

We illustrate with the help of spectograms based on the recording of a logatome with the use of Praat programme, the particular aspects of the pronounciation of the two participants and the analysis of these particularities.

Analysing the spectral representation of the logatome "aibd" pronounced by the person with hearing impairment with a hearing aid we can notice the fact that there is no real process of coarticulation. Each sound is pronounced separately, the glotal blockage being identified after each pronounciation of a phoneme.

The isolated pronounciation of the sounds emphasizes the articulation abilities superior to coarticulation, the voice disorders are reduced, the nasalization is identified only in small proportion. The increase in the tone of voice is still present, especially concerning the third formant, an underlined aspect in the spectral representation of the pronunciation of the sound "i".

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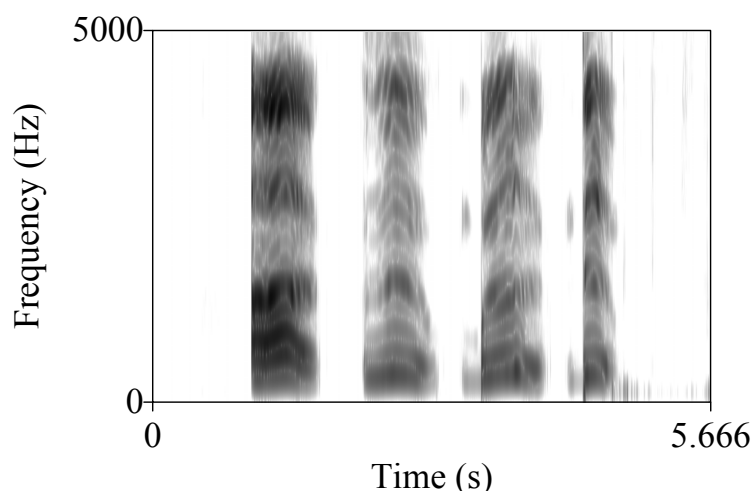
Fig.1. Spectrogram for logatom (non-word) "aibd"- hearing impaired pearson
with auditory prosthesis

After Rosetti, Lăzăroiu, (1982), the vowels are identified through the three formants (F1, F2 and F3). The third formant plays an important role in the discrimination of vowels, only because those who have F2 and F3 are really close, these being the anterior vowels ("e" and "i"). When F2 and F3 are close, their perception is equivelent with the perception of a single formant whose frequency is intermediar to them.

We specify that in the case of this participant there is an oral cavity with a hard palate that presents an ogival vault, that reflects in the dimensions of the resonance cavities and directly in the quality of sounds as it follows: the more the resonance cavity is bigger, the lower frequency of the sound, and the smaller the resonance cavity, the higher the sound. Ryalls (1997) shows the way in which the two chambers separated by the tongue in the oral cavity influences the sound produced by the larynx. The resonance of the sound in each cavity generates a formant dependent on the frequency of the size of the cavity. So the form of the vocal tract acts like a filter, with an accent of some of the harmonics of the fundamental. The cavity behind the tongue is responsible for the first formant, and the anteror cavity for the second.

The difference between the intensity of the pronunciation of the sound "a' is easily identified in comparison with the intensity of the other logatomes that compound the logatome in case. The pronounciation of the sound "a" with an incresed intensity emphasizes the position of the accent at the level of this sound, bringing a plus of ampliffication to some frequencies that don't belong to the formants, due to the forced expiratory flow, with an inadequate dose.

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In the case of the vowels, the sound produced by the vibration of vocal cords is filtered by the form of the oral track, especially buy position of tongue. The particular form of the articulation organs specific to each vowel acts like a filter for the sound produced by the larynx. The fundamental of the voice is not equal, especially for the pronounciation of the explosive „d", which even if it is resonant, loses from the intensity because it is aspired postconsonant. The aspiration of the consonant leads to the reduction of time allocated to its pronounciation, from all of the pronounced sounds these being presented in the shortest period.

The pronunciation of the sound "b" is marked by a strong explosion, especially at low frequencies, that distinguishes a base of posterior articulation in the pronunciation of this phoneme. The posterior articulation offers the sound a low tonality in the first part of the articulation sequence, and in the second part due to the very accentuated parasite sound "î", the tone is higher with periodical and aperiodical combined oscillations on high frequencies. This is interpreted by Ryalls (1996) as follows: when the tongue is positioned anterior for the vowel ''î'', the cavity that is formed in front of the tongue, responsible for F2 is very small, that explains the high frequency of the second formant, while the first one is situated at a very low frequency.
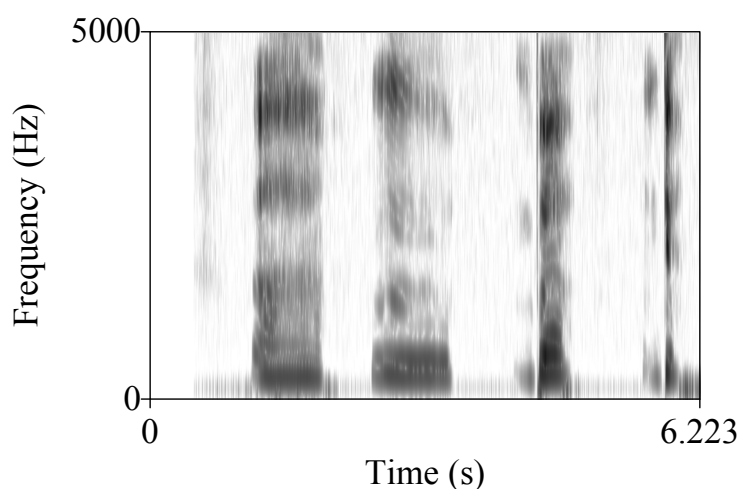

Fig. 2. Spectrogram for logatom (non-word) "aibd"- hearing impaired pearson without auditory prosthesis

In the case of the individual with hearing impairment, not fitted, we can notice the significant dilution of the logatome "aibd". In this case too the articulation of the logatome is marked by pauses; the sounds are not coarticulated, but pronounced in isolation.

Even if all the component sounds of the logatome are sounds with voice, the fundamental of the voice is not regular which indicates an inadequate activity of the larynx, especially for the pronunciation of the explosive consonants. In the case of the consonants, the acoustic information changes faster than for the vowels, as it shows (Ryalls, 1996): while the vowels are determined by the relative stability of the frequeny on the formants, many consonants are characterised by the change of the frequency of formants → the transition of formants. At this participant with hearing impairment there is an aspired explosive character of the sounds, the aspiration showing the presence of some noises due to the friction of the walls of the expired air, when the articulation of the low frequencies, deep and inadequate, the voice increasing inadequately in the second part of the resonance rate through the focusing on the articulation of the support sound. These characteristics in articulation mark the phenomenon of the neutralisation of the pronounciation, with significant implications at the level of inteligibility.

In the pronunciation of the sound "i" we can notice the weakening of the sound, so that this cannot be even received, the spectrum of the pronunciation of this sound being marked by aperiodical oscillation in the nasopharyngeal activity. The intesity of the first format is an imporant proof fod the nasalisation of the sound. This phenomenon that is frequently observed in French, can be produced in our language only by the association of the vowel with a nasal consonant, or in the case of this logatome all the sounds are oral.

The pronunciation of the sound "a" is less altered which underlines the fact that the high level of openness of the sound facilitates the articulation process even in the situation of a profound hearing loss that is not compensated technically. But the articulation of the sound is realised on higher frequencies than normally, the inadequate dose of the expiratory flow being visible due to the presence of the cvasiperiodical oscillation, specially on high frequencies, that support the presence of a parasite nasal pronounciation of a participant.

Conclusions

Generally we can observe that by the use of logatomes we can distinguish differences between the spectral representations in the speech of the two participants to the research, these being determined by the constitution of the articulation organs, by the particularities of the pronunciation of the individuals with hearing impairment, but also by the presence/ absence of hearing control (auditory fitting).

The lack of the auditory and semantic control emphasizes the differences in the pronunciation of the two participants. This aspect emphasizes the importance of individualised speech therapy interventions, realised both through traditional modalities and with the help of computerised programmes that allow the visualization of the different parameters of pronunciation and speech.

Acknowledgements

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VISUALIZING SPEECH ACOUSTIC FEATURES BY USING COMPUTERIZED PROGRAMS IN THE CONTEXT OF PROFOUND HEARING IMPAIRMENTS

CAROLINA HATEGAN

ABSTRACT. Through this article it is underlined the way two computerized programs can be complementary used (Cool Edit Pro and Praat) in order to visualize speech acoustic features in the context of profound hearing impairment. The linguistic material that was used was both isolated sounds and co-articulated sounds at word level. The participants in the research are profoundly hearing impaired persons, both using verbal language, one person wearing digital hearing prosthesis and one without benefits from technical aid.

Keywords: *hearing impairment, spectrograms, hearing aid, auditory-verbal therapy, vowels, consonants, speech spectrum*

ABSTRAKT. Durch dieser Arbeit wird die Art und Weise gezeigt, wie man ergänzend zwei Computerprogrammen (Cool Edit Pro und Praat) benutzen kann, um die akustischen Besonderheiten der Sprache zu visualisieren, bei einer tieferen Hörschwäche. Das benutzte Material sind isolierte Laute und koartikulierte Laute in einem Wort. Die Teilnehmer bei der Forschung sind zwei Personen mit tieferer Hörschwäche, es wurde ihnen die Sprache gelernt, eine mit digitale Prothese und eine ist ohne.

Stichwörter*: Hörschwäche, Spektogrammen, Hörprothesen, hör-mündliche Therapie, Selbstlaute, Konsonanten, bisyllabische Wörter.*

1. Theoretical back-ground

In order to facilitate the understanding of the aspects concerning speech analysis and synthesis, from a physical point of view a complete description of the fonator phenomenon is required (Trial, 1991).

Human phonation system is composed by three distinct components:
-lungs;
-larynx;
-supra-glottis cavities (pharynx, oral cavity and nasal cavity).

In the central area of the larynx are vocal cords located, these being either close related, or at distance leaving a triangular openness, o variable dimensions.

This openness is called glottis. Under the action of the impulses the muscles of the vocal cords receive from the recurrent nerves, they begin vibrating; the sound that goes along the glottis is transformed in larynx cvasi-periodical impulses, with wave form. Under the circumstances when this vibration has a non-sinusoidal form, it can be represented through an infinite sum of components: amplitude; frequency; time (phase). The decomposition in those three components is Fourier serial type.

The first harmonic to which the lowest frequency corresponds is called voice fundamental (F0), the other harmonics have frequencies equal to multiple integers of fundamental frequency (Coleman, 2005).

Human voice fundamental frequency varies between 60-70 Hz range, corresponding to the gravest male voices; till 1200-1400 Hz in sopranos case, this range being the superior limit for voice fundamental. The media is between 100-150 Hz, for males; between 200-300 Hz for females and 350-500 Hz for children. While speaking, due to intonation, fundamental frequency varies in a range approximately of one octave (the octave is an interval of two frequencies, their report being equal with two) (Rosetti and Lazaroiu, 1982).

Graphical representations of the all harmonics amplitudes according to frequency is called spectrum. For cvasi-periodical larynx impulses that are characterized by a wave form, the spectrum varies inverse proportionally with the square route of the frequency.

Laryngeal impulses can't be directly perceived because these are not in acoustic relation with the exterior but through supra-glottis cavities. Thus, supra-glottis cavities become a complex resonator, with features of variable filter that implies for laryngeal cvasi-periodical impulses important changes that consist in selective amplification of the harmonics placed on the frequencies that belong to the resonator chambers from the supra-glottis level.

The harmonics that were amplified through the resonator phenomenon by supra-glottis cavities are called formants. The formant is defined as a frequency area where the higher quantity of acoustic energy is concentrated. Formants distribution along the spectrum determines the tone of the perceived sound.

Linguistic system for any historical language is composed from the vowel and consonant system, having into consideration a certain linguistic perspective (Stan, 1996). This type of approach must be completed by including stress and intonation as equally important in defining a linguistic system (Anca and Hategan, 2008). In this article we will underline this aspect by emphasizing the way emotional tone influence the spectral representation.

2. Research objectives

- comparing spectral representations elaborated by two different software programs

- emphasizing articulator and co-articulator characteristics in the context of profound hearing impairment
- emphasizing differences in articulator and co-articulator abilities between profound hearing impaired persons with or without hearing aids.

3. Research hypotheses

- since the two programs were built on the same principle, they would not offer spectral contradictory data, but complementary one
- speech disorders (distortions, sound omissions) as well as voice disorders (head voice, hoarse voice, nasal voice) are present in articulator, as well as in co-articulator contexts, in the cases of both participants
- articulator and co-articulator abilities are superior in the case of the participant with hearing prosthesis, due to enhanced laryngeal control (controlled insured through auditory feedback)

4. Participants

Two participants were included in the research:
- one person with profound hearing impairment, adult, using verbal language, without wearing hearing prosthesis
- one person with profound hearing impairment, using verbal language, with digital prosthesis (with a significant hearing benefit from technical compensation)

5. Means and materials:

Selected instruments include: technical means and verbal material.

5.1 Technical devices
Two software programs were utilized, which allow for visualization of acoustic characteristics of speech. The programs are Cool Edit Pro and Praat.

5.1.1 COOL Edit Pro software
COOL Edit Pro software insures ways of recording, visualizing, and processing acoustic information. Program options include also filtering for environmental noise control. Recordings can be done on a broad frequency range, up to 10kHz, to cover for all the field of frequencies for speech. Image resolution is good enough to generate intuitive representations, easy to read and interpret. Through this program, one can visualize the shape of speech wave, and its spectral representation. The most significant visualizing modality is through the spectrogram (a three-dimensional graphical representation comprised of the following variables: time, frequency, intensity). Time is represented on the horizontal axis, in milliseconds. Frequency is represented on the vertical axis, in Hertz. Intensity can be visualized through chromatic representation.

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In the case of vowels, in order to clearly visualize the first three formants, one can utilize a frequency range of 6 kHz. These formants are the indicators that differentiate among vowels. Formants are dependent on the way the sound is produced in larynges, and then filtered by speech organs, which modify the size and shape of resonator cavities.

Consonants can be recorded on a frequency range of 10kHz. In the case of consonants, their visualization is more difficult due to their dynamic character and dependency on associated vowels. Even so, spectrograms offer important data that allows for consonant discrimination, based on acoustic energy focus (voice bar for voice consonants, vibrations for "r" etc.).

To analyze co-articulator phenomenon, the program allows for spectrograms for diphthongs, mono, bi, and three syllabic words.

Another function of the program allows for graphical representation for analysis of frequency and intensity. These graphic representations allow for a more clear visualization of formants (amplified frequencies in the case of vowels) and noise. This analysis is more adjusted for vowels that are time consistent, when pronounced individually. For consonants, which are dynamic, frequency analysis would give a great number of graphic representations for each of their production steps.

With regards to intensity, one can emphasize its relative character. What remains constant is the intensity ratio between various amplified regions on frequency intervals, the ratio between the formants peaks in the case of vowels.

5.1.2 Praat software

PRAAT is a computerized program with recording, analysis, synthesis, speech sound manipulation functions, by means of high quality images.

The recorded material can be visualized in various ways, as frequency representation, spectral representation, audiogram etc. Spectral representation does not allow for chromatic coding of spectrogram, as in Cool Edit Pro program, but for chromatic emphasis pf pulses and formants. Consequently, the spectrogram is chromatically represented in grey and black, with areas of more intense grey to black nuances indicating a greater concentration of energy. The frequency range for both mono and stereo recording of sounds is between 0- 96000Hz, with an optimum value in 0-500 Hz interval.

5.2 Verbal material

Verbal material is comprised of vowel and consonant sounds. These are : a,i,o,u,ă,î, b,d,c,g,f,v,h,j,l,r,m,n,p,s,ş,ţ,z,t. To also emphasize minimum co- articulator abilities, participants were asked to produce also bi- phonemic structure "ca". Also, co-articulator abilities were measured through the production of the bi-syllabic word "progres" (in English "progress"). The selection of this word was done on the phonemic criterion, this means that it does not imply complex co-articulator contexts, aspect that ensures the possibility to emphasize voice troubles. It is also

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aimed the correct co-articulated pronunciation of a fricative and of an explosive sound, but also of the vibrant "r". Thus, this word offers the possibility to emphasize specific pronunciation impairments in the case of hearing impaired persons.

6. Results

By superposing the spectral representations it can be underlined the fact that those two programs ensure very resembling spectral representations, in the case of the isolated articulated sounds. In order to underline this aspect it can be illustrated through figures 1 and 2, figures that contain the edited spectrograms by using Cool Edit Pro and Praat soft- wares, for the vowels and consonants pronounced by the two participants in the research.

Fig. 1.

a   **b.**

Spectrograms for vowels and consonants articulated by the participant with prosthesis
a. spectrogram edited with Cool Edit Pro program
b. spectrogram edited with Praat program

It is interesting to notice the fact that in the case of the isolated articulated sound, Cool Edit Pro program proves to be more efficient as the colored representation ensures a better possibility to perceive a reduced temporal extension spectral representation. In the case of spectral representations for co-articulated structures, Praat program utility can be underlined, thus those two programs can be complementary used in speech therapy field.
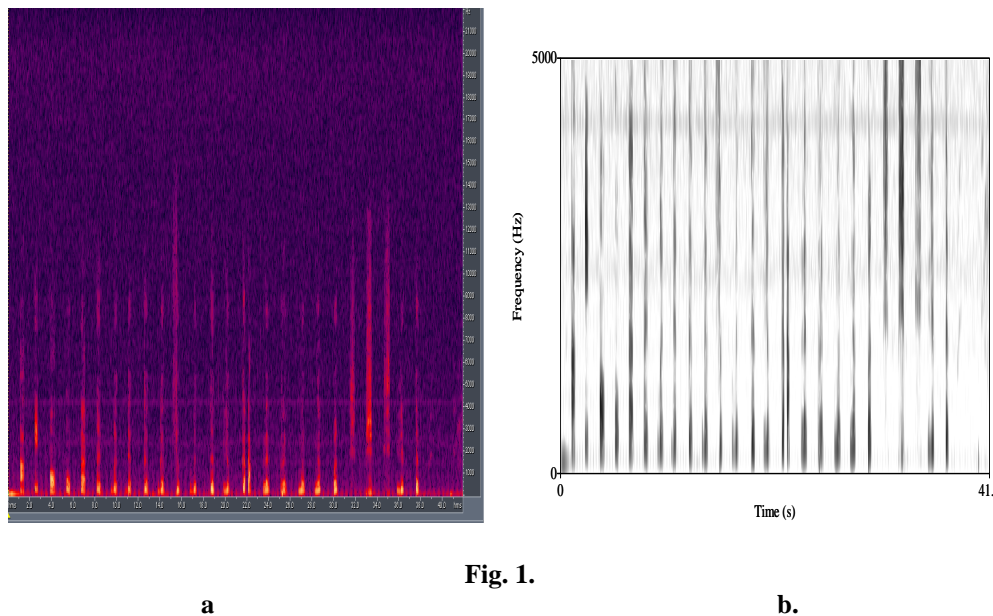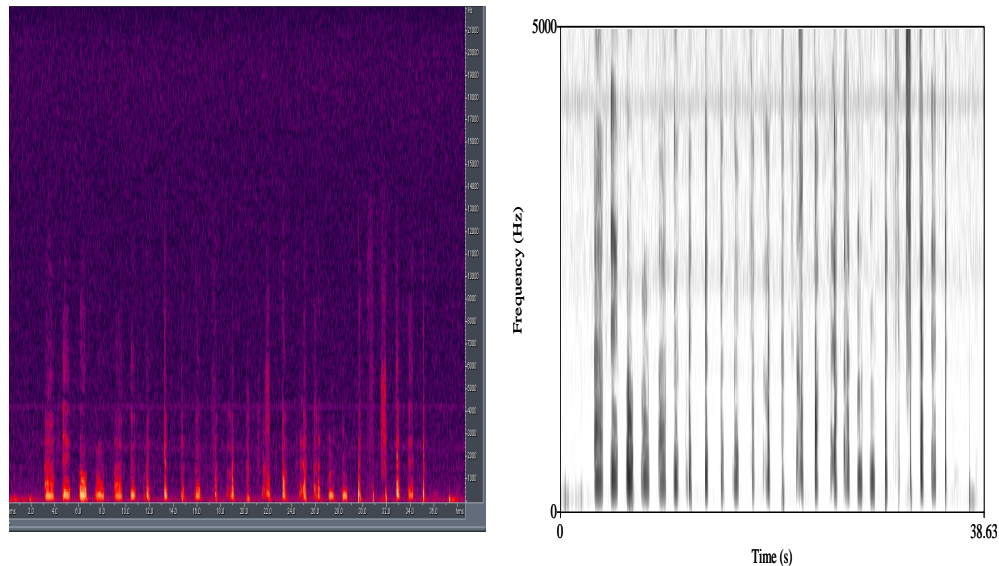
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Fig. 2.

a.   **b.**

Spectrograms for vowels and consonants articulated by the participant without prosthesis
a. spectrogram edited with Cool Edit Pro program
b. spectrogram edited with Praat program

If Cool Edit Pro program does not ensure the possibility to establish the frequency area, it can be observed the fact that spectral representation is less clear and the capacity to delimitate the formants from the background noise is diminished. By underlining the contributions of those two computerized programs for visualizing speech acoustic features in the case of hearing impaired persons, both concerning isolated sounds articulation, as well as co-articulated sounds (the pronunciation of complex linguistic structures) ensures a detailed perspective related to auditory-verbal therapeutically approach. Thus, the spectrograms for the word "progress" underline the fact that the most important difficulties concerning the way expressive language level is configures in the case of hearing impaired persons are directly dependent on co-articulating context, and not on the context of isolated sounds pronunciation. This aspect is also mentioned in the classical literature from this field, the computerized technique that ensures spectral visualizing just proving again an empirical aspect (Anca, 2007; Stanica et al. 1983, Pufan, 1972).

Analyzing the spectral representations for the vowels and consonants articulated by those two participants in the research, as well as the spectral representations for "progress" word, in the case on the same participants in the research, it can be noticed the fact that significant differences between at the level of their phonological abilities can be better emphasized by referring to the bi-syllable structure.

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Fig. 3.

a.   b.
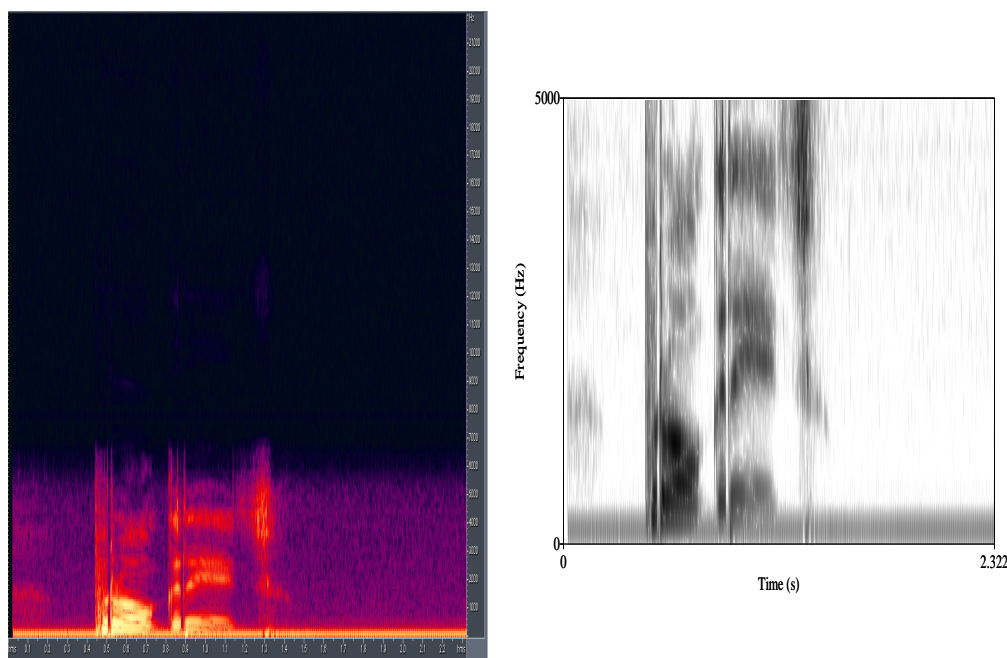
Spectrograms for „progress" words articulated by the participant with prosthesis
a. spectrogram edited with Cool Edit Pro program
b. spectrogram edited with Praat program

Referring to the pronunciation of the word "progress" visualized with the help of Praat computerized program, in the case of profoundly hearing impaired person, with digital bilateral prosthesis the fallowing aspects can be mentioned:

- the formants can be visualized between the 1356 Hz and 4410 Hz range fallowing the pattern: F1=1356 Hz; F2=1607 Hz; F3=2997 Hz; F4=4410 Hz;

- voice fundamental can be delimitated at F0=458 Hz;

- pronunciation intensity is 67.216 db;

- pronunciation time is 1.16 s.

Pronunciation troubles in the case of this participant in the research consist in the presence of glottal stop of the first syllable is pronounced, but also after "gre" structure, "s" sound being isolated articulated, without co-articulation phenomenon to be noticed. The same aspect can be underlined at the level of the spectrogram with vowels and consonants (figure 1 and 2) for the articulation of the bi-phonemic construction "ca", both in the case of the participant in the research with prosthesis, and in the case of the participant without prosthesis.

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At the level of "progress" word the fricative phoneme "s" is pronounced with intensity, its articulation being marked by the presence of significant background noise on higher frequencies. The fricative phoneme "s" is not pronounced as a voiced sound, aspect that indicates a functional control from the point of view of larynx activity, control due to the auditory feed-back (aspect that proves that the participant benefits from the technical compensation).

There are not to mentioned deficitar aspects concerning the way the explosive and the vibrant sounds were pronounced, aspect that underlines superior articulator and co-articulator abilities. On the contrary, there can be put in evidence voice troubles such as nasalization; troubles easy to be underlined with the help of Praat computerized program, due to the presence of white noise over the spectral representation. It is also important to notice the fact that the formants for " e" and "o" vowels are to be put in evidence at the level of a little bit higher frequencies than those mentioned in the specialized literature as being specific for speech neutral tone (the first three formants for "o" vowel have the fallowing values: F1= under 500Hz; F2=1000 Hz; F3=2500 Hz, and for "e" vowel: F1=500 Hz; F2=2000 Hz; F3=2600 Hz; Anca and Hategan, 2008), In this way it can be underlined a weak control over the suprasegmental component of language and not the presence of voice troubles such as head voice. This aspect can be sustained by the high level intensity of the word pronunciation, 67, 216 db, it being also underlined the fact that the word is over-stressed, the linguistic structure being emphatically articulated (www.etc.tuiasi.ro/.../romanian.../index_nou.htm).

The pronunciation time is more limited than in the case of the person without hearing aids, 1,16 s, comparatively with 1,69 s, aspect that highlights the fact that co-articulator abilities are superior in the case of the hearing impaired person with digital prosthesis, due to a higher degree of laryngeal control.

Referring to the pronunciation of the word "progress" visualized with the help of Praat program, in the case of profound hearing impaired person without prosthesis, the fallowing aspects can be underlined:

- the formants can be visualized between the 787 Hz and 3731 Hz range fallowing the pattern: F1= 787 Hz; F2=1192 Hz; F3=2651 Hz; F4=3731 Hz;

- voice fundamental can be delimitated at F0=460 Hz;

- pronunciation intensity is 62.144 db;

- pronunciation time is 1.69 s.

The pronunciation spectrum is blurred and fragmentized, in the case of the profoundly hearing impaired person without prosthesis. This aspect is due to a deficitar control over the supra-glottis cavities, the resonance chambers being inadequately involved in co-articulating act. Thus, the formants are very difficult to be put in evidence, the back-ground noise being significantly amplified, aspect that confer a blurred character to speech spectrum. Nasal resonance, on low frequencies (in conferring a character of hoarse voice) also contributes to the spectrum fragmentation (Anca, 2007).

Fig. 4.

a.   b.
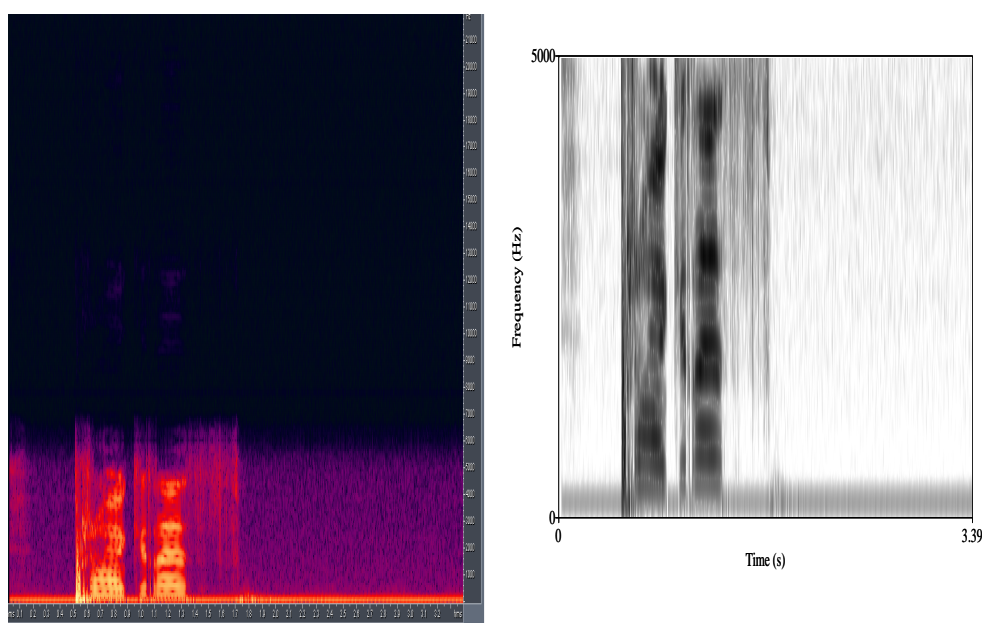
Spectrograms for „progress" word articulated by the participant in the research without
hearing prosthesis a. spectrogram edited with Cool Edit Pro program
b. spectrogram edited with Praat program

Despite de grave tonality of the voice, aspect underlined by the formants frequencies, in the case of this participant in the research can be emphasize the head voice, especially at the level of the spectrum corresponding to vowel "o", vowel that is articulated similar with vowel "e" (aspect that can be found also at the level of figure 2 and at the level of fricative sound "s" spectrum area).

As in the case of the participant in the research with prosthesis, in the case of this participant can be underlined the presence of the glottal stop after the first articulated syllable "pro", but also after the structure "gre". Thus, the fricative sound is isolated pronounced, the constrictive character being highly emphasized, especially on higher frequencies. At the level of this sound is to be highlighted the mixture between head and horse voice and the generalization of nasalization.

In this participant the laryngeal control is weaker in the absence of the auditory feed-back, aspect that confer a non-linear feature for the voice fundamental a-periodical oscillations being present at this level. This weak control of laryngeal activities in the case of hearing impaired person without hearing aid can be put in evidence by comparing figure 1 and 2, aspect also emphasized by specialized literature (Anca, 2007; Lewis, 1996; Manolache, 1980).

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Conclusions

Analyzing the speech spectrograms for the two participants in the research, it is clearly emphasized the fact that the most numerous voice and pronunciation troubles both in the articulator level and in the co-articulator one are to be identified in the case of the person with profound hearing impairment without auditory prosthesis.

Thus, if the computerized program Praat allows to accurately calculate the coordinates on which speech can be visualized (frequency, intensity, time, formants), Cool Edit Pro program allows editing the sound by reducing back-ground noises and voice troubles such as nasalization (there can be applied filters for cleaning the spectrum). In this way there can be underlined the complementary utility of those two programs, especially in the context of hearing loss and verbal- auditory therapy, adult person with hearing impairment having the possibility to increase articulator and co-articulator control by using them, aspect also underlined by researches developed in the Anglophone area (Ertmer, 2004).

Another research direction that can be opened is the one of selecting linguistic material for auditory-verbal therapy or for the vocal audio-metrical measurements technique (for this audiometric procedure the linguistic material has not been selected in the psycho-pedagogical Romanian field since 1964 year, when it was selected by Constantinescu F.) being also used the computerized programs put in work within this research.

Acknowledgements

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THE ANALYSIS OF ERRORS IN FACIAL EXPRESSIONS RECOGNITION BASED ON DANVA 2

ADRIAN ROȘAN

ABSTRACT. Recognizing facial expressions for basic emotions such as joy, sadness, fear and anger represents an essential element for successful interpersonal relationships. This four types of human emotions are most frequently used in everyday communication and should be achieved until the age of 10.Without these abilities, the awareness of the right way to behave in social situations would be relatively useless and furthermore, learning how to process more complex types of emotions such as guilt or shame would be very difficult or even impossible. This study aims to highlight a method of analyzing the errors that occur in recognizing facial expressions on the base of an internationally validated instrument that we adapted on a sample of adolescents aged 13 to 18. We consider this a first step in our process of intervention for the optimization of emotional competence and implicitly, of communication and interpersonal relationships.

Keywords: *recognizing facial emotions; emotional competence, social competence, adolescents, interpersonal relationship*

ABSTRAKT. Die Erkennung der typischen faziaben Ausdriicke fur die Freudegenutsbewegungen die Traurigkeitengemuts bewegungen, Angstgemutsbewegung und Wutgemutsbewegung ist ein wichtiges Element im Erfolg der interpersonalen Beziehungen. Diese vier Gemuts bewegungen sint oft in der taglichen Interaktionen getroffen und man vermutet das diese bis 10 Jahre lernen sollten.

Ohne diese Geschicklichkeiten ware das Bewusstsein der richtigen Weise des Benehmens in der sozialen Situationen unniitzlich. Das Lernen wie man die schwierigen Gemiitsbewegungen wie das Schuldsein oder die Scham prozesiert ware es schwierig oder unmoglich. In diesem Studium unterstrechen wir eine Analyseweise der Fehlgriffe in der Erkennung der faziaben Ausdriicke mit der tliefe einem bestatigen International Apparat. Dieses Apparat wurde bei uns auf einem Jugendlichenmuster (zwischen 13 - 18 Jahre) bearbeitet.

Eine solche Analyse bedeutet die erste Etape einer Intervention beziiglich der Optimiesierung der emotionellen Fahigkeit und einbegriffen der Verbindung und der interpersonalen Verbindungen**.**

Stichwörter: *Erkennung von Gesichtsausdrücken, emotionale Kompetenz, soziale Kompetenz, Adoleszenten, zwischenmenschliche Beziehungen*

Recognizing facial expressions and the correct use of facial index represents a key factor in the process of communication along with the interpersonal relationships. This requires certain training at early age that will later be materialized in what we call emotional competence. The errors committed in identifying facial expressions have a negative influence on interhuman communication and on the development of empathy in different social contexts, which may lead to disruptive behaviour.

A first step in the assessment of emotional competence resides in the level of accuracy in identifying facial expressions, materialized in the number of errors that occur in the recognition of facial index for the main emotions such as joy, sadness, fear and anger.

We propose for this the use of DANVA 2 which represents a complex diagnosis analysis of the accuracy of non verbal receptivity.

Data concerning the receptive and expressive subtests of the original DANVA 2 Screening Instrument were presented for the first time in 1989 within a symposium of the APA and the published in the Journal of Nonverbal Behavior (1994).

DANVA 2 is used for identifying:
- the number of errors committed for each type of emotions;
- the number of errors concerning high or low intensity stimuli;
- the number of errors for each type of emotions regarding the intensity of the stimuli;

Data analysis

We have standardized and adapted this instrument on a Romanian sample of 228 adolescents, aged 13 to 18, the average age of 15,8 years old. The sample consisted of 29,8% boys and 70,2% girls.

Table no. 1

AGE

N	Valid	228
	Missing	0
Mean		15,88
Std. Deviation		1,39
Skewness		,074
Std. Error of Skewness		,161
Kurtosis		-1,254
Std. Error of Kurtosis		,321

Table no. 2

AGE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	13	1	,4	,4	,4
	14	45	19,7	19,7	20,2
	15	57	25,0	25,0	45,2
	16	37	16,2	16,2	61,4
	17	53	23,2	23,2	84,6
	18	35	15,4	15,4	100,0
	Total	228	100,0	100,0	

Table no. 3

GENDER

N	Valid	228
	Missing	0
Mean		1,70
Std. Deviation		,46
Skewness		-,888
Std. Error of Skewness		,161
Kurtosis		-1,223
Std. Error of Kurtosis		,321

Table no. 4

GENDER

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	masculin	68	29,8	29,8	29,8
	feminin	160	70,2	70,2	100,0
	Total	228	100,0	100,0	

The internal consistency index of 0,85 indicates a good construct validity of the instrument on the investigated sample.

Table no. 5

```
    R E L I A B I L I T Y   A N A L Y S I S  -  S C A L E  (A L P H A)
                              N of
Statistics for    Mean    Variance    Std Dev Variables
   SCALE       49,7105   248,4268    15,7616    51
Reliability Coefficients
N of Cases =  228,0        N of Items = 51
Alpha =  ,8509
```

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For a better understanding of the assessment measures that this instrument uses to determine the accuracy of nonverbal receptivity we present an example below.

An example of error analysis for facial expressions recognition[1]

Client: **Berciu Radu**				
Listă itemi				
Item	Răspuns client	Răspuns corect	Intensitate	
1	bucuros	bucuros	ridicată	✓
2	trist	temător	scăzută	✗
3	bucuros	nervos	ridicată	✗
4	temător	bucuros	scăzută	✗
5	nervos	nervos	scăzută	✓
6	trist	trist	ridicată	✓
7	bucuros	bucuros	scăzută	✓
8	temător	temător	scăzută	✓
9	trist	temător	ridicată	✗
10	bucuros	bucuros	scăzută	✓
11	nervos	trist	ridicată	✗
12	bucuros	nervos	scăzută	✗
13	trist	trist	scăzută	✓
14	trist	trist	scăzută	✓
15	bucuros	nervos	ridicată	✗
16	temător	temător	scăzută	✓
17	nervos	trist	scăzută	✗
18	trist	trist	ridicată	✓
19	temător	temător	ridicată	✓
20	bucuros	nervos	ridicată	✗
21	temător	temător	ridicată	✓
22	nervos	nervos	ridicată	✓
23	bucuros	bucuros	ridicată	✓
24	bucuros	bucuros	ridicată	✓
Răspunsuri corecte: 62.5%				

Statistici	Grafic	Export	Tipărește	Meniu principal

---

[1] The name of client is fictive
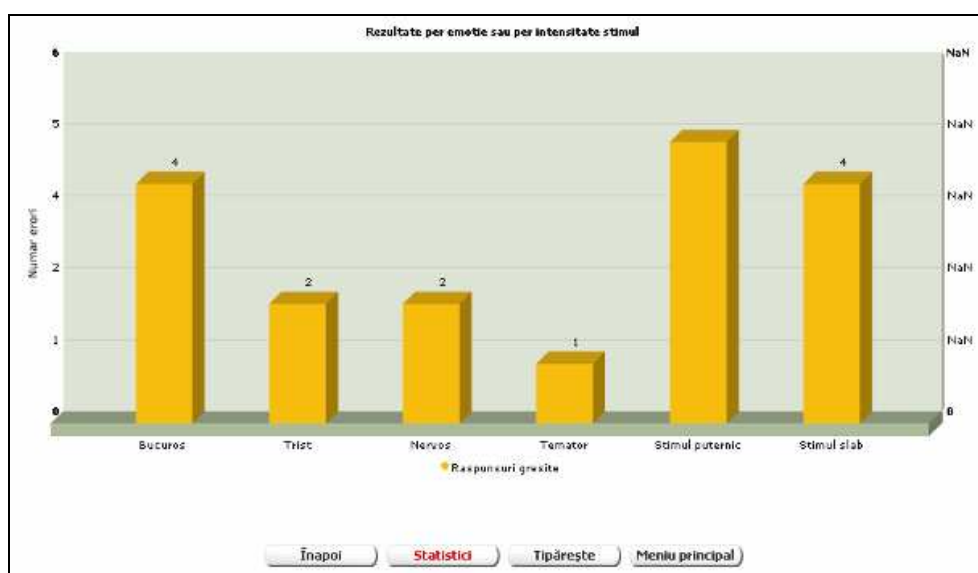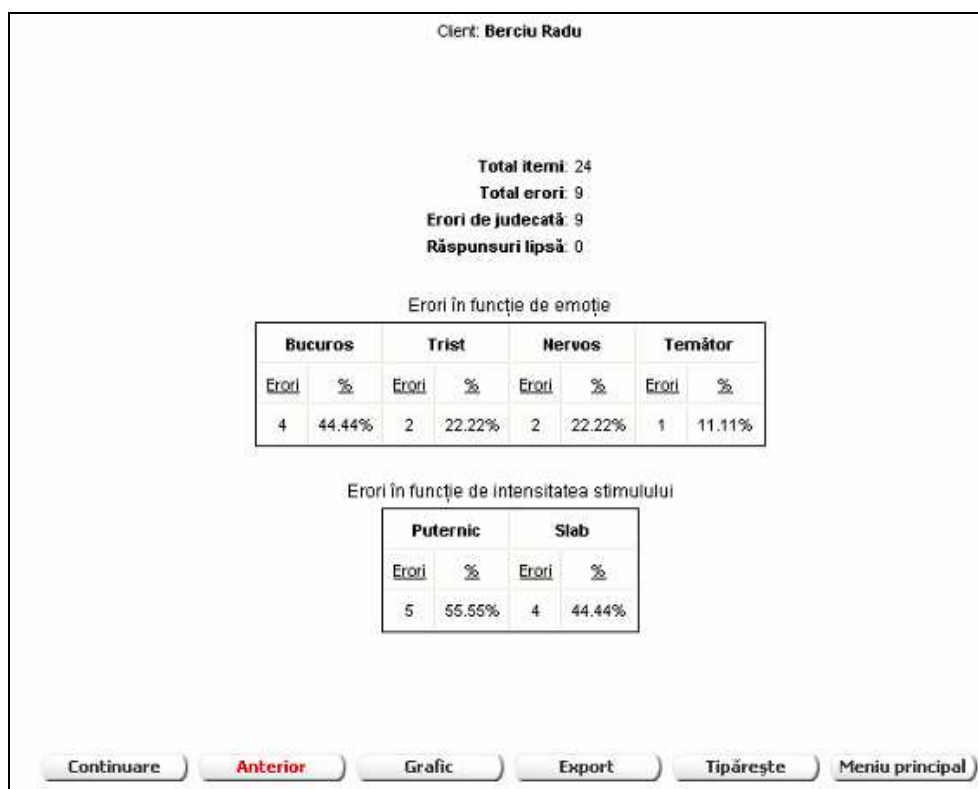
1. The average of total errors using DANVA 2 (adult figures)

Table no. 6

N	Valid	228
	Missing	0
Mean		8,29

The average of total errors registered on the sample of 228 participants at the study is 8,29.

By reporting the average we have obtained to the average of 4,2 for the segment of age between 13 and 18 on the basis of over 200 other studies, we have noted that the average of total errors on the Romanian sample is double, which may require further investigation.

2. The average of errors committed for each of the four types of emotions that were evaluated: joy, sadness, fear and anger

Table no. 7

		E_BUCURO	E_TRIST	E_NERVOS	E_TEMATO
N	Valid	228	228	228	228
	Missing	0	0	0	0
Mean		2,01	1,99	1,83	2,45

Data analysis shows an average of total errors for the emotion of joy of 2,01 , for the emotion of sadness of 1,99, for the emotion of anger of 1,83 and for the emotion of fear of 2,45. Therefore, our findings indicate that the lowest value for the average of errors is registered for the emotion of anger and the highest for the emotion of fear. The values of the averages of the other two types of emotions were close. We note that the most serious difficulties in nonverbal accuracy recognition were found for the emotions of anger, joy and fear.

3. Total number of errors in recognizing emotions regarding the intensity of the stimulus

Table no. 8

		E_PUTERN	E_SLAB
N	Valid	228	228
	Missing	0	0
Mean		4,89	3,39

We found an average of errors depending on the intensity of the stimulus of 4,89 for the strong stimuli and of 3,39 for the weaker stimuli. Therefore, the average of total errors in recognizing facial expressions is higher for stronger stimuli.

Table no. 9

		E_SLAB											Total
		0	1	2	3	4	5	6	7	8	9	10	
E_PUTERN	1		1		2								3
	2		1	3	3	2	2						11
	3		2	2	6	3	2			1			16
	4	2	13	8	19	11	4	3	2	1		1	64
	5		8	13	21	12	9	1	1				65
	6		5	7	9	8	3	3			1	1	37
	7		1	1	7	5	3	2	1	1			21
	8			1		2		2	3				8
	9					2							2
	11									1			1
Total		2	31	35	67	45	23	11	7	4	1	2	228

Table no. 10

Chi-Square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	147,922(a)	90	,000
Likelihood Ratio	82,621	90	,697
Linear-by-Linear Association	14,000	1	,000
N of Valid Cases	228		

By applying CHI square test , we found significant differences between the values of errors depending on intensity of the stimulus, showing that the number of errors is higher for the stimuli of higher intensity than for those of lower intensity.

4. The average of total errors for the emotion of joy depending on the intensity of the stimulus

Table no. 11

		E_BUC_P	E_BUC_S
N	Valid	228	228
	Missing	0	0
Mean		1,81	0,20

We found an average of total errors for the emotion of joy of 1,81 for the high intensity stimuli and of 0,20 for the low intensity stimuli.

Table no. 12

		E_BUC_S				Total
		0	1	2	3	
E_BUC_P	0	29	3	1		33
	1	53	3			56
	2	55	9	4		68
	3	53	8	3		64
	4	3	2		1	6
	5		1			1
Total		193	26	8	1	228

Table no. 13

Chi-Square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	54,747(a)	15	,000
Likelihood Ratio	23,253	15	,079
Linear-by-Linear Association	7,133	1	,008
N of Valid Cases	228		

CHI square test showed significant differences between the values of errors for the emotion of joy depending on the intensity of the stimuli, thus the number of errors is higher for the high intensity stimuli than for the low intensity stimuli.

5. The average of total errors for the emotion of sadness regarding the intensity of the stimulus

Table no. 14

		E_TRI_P	E_TRI_S
N	Valid	228	228
	Missing	0	0
Mean		,71	1,28

We found an average of total errors for the emotion of sadness of 0,71 for the high intensity stimuli and of 1,28 for low intensity stimuli.

Table no. 15

		E_TRI_S							
		0	1	2	3	4	5	6	Total
E_TRI_P	0	26	55	25	8	2			116
	1	13	34	21	4	2			74
	2	4	13	10	1	1	1		30
	3	2	2	1				1	6
	4		1						1
	6				1				1
Total		45	105	57	14	5	1	1	228

Table no. 16

Chi-Square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	65,458(a)	30	,000
Likelihood Ratio	24,352	30	,756
Linear-by-Linear Association	5,061	1	,024
N of Valid Cases	228		

CHI square test showed significant differences between the number of errors committed for the emotion of sadness depending on the intensity of the stimulus, thus the number of errors was higher for the low intensity stimuli and lower for the high intensity stimuli.

6. The average of total errors for the emotion of anger regarding the intensity of the stimulus

Table no. 17

		E_NER_P	E_NER_S
N	Valid	228	228
	Missing	0	0
Mean		1,23	,61

We found an average of total errors committed for the emotion of anger of 1,23 for the high intensity stimuli and of 0,61 for the low intensity stimuli.

Table no. 18

		E_NER_S					
		0	1	2	3	4	Total
E_NER_P	0	35	11	7	2	1	56
	1	55	28	9	4	2	98
	2	29	16				45
	3	10	11	2	1		24
	4	3	1	1			5
Total		132	67	19	7	3	228

Table no. 19

Chi-Square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15,740(a)	16	,471
Likelihood Ratio	21,499	16	,160
Linear-by-Linear Association	,173	1	,677
N of Valid Cases	228		

CHI square test showed no significant differences between the number of errors for the emotion of anger depending on the intensity of the stimuli, though the average of errors was higher for the high intensity stimuli than for the low intensity stimuli.

7. The average of total errors for the emotion of fear regarding the intensity of the stimuli

Table no. 20

		E_TEM_P	E_TEM_S
N	Valid	228	228
	Missing	0	0
Mean		1,14	1,31

We found an average of total errors committed for the emotion of fear of 1,14 for the high intensity stimuli and of 1,31 for the low intensity stimuli.

Table no. 21

		E_TEM_S					
		0	1	2	3	4	Total
E_TEM_P	0	15	37	11	6		69
	1	16	42	22	5	7	92
	2	5	20	11	4	1	41
	3	9	3	9	1		22
	4			1			1
	5				1		1
	6		1			1	2
Total		45	103	54	17	9	228

Table no. 22

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	52,854[a]	24	,001
Likelihood Ratio	42,325	24	,012
Linear-by-Linear Association	3,114	1	,078
N of Valid Cases	228		

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CHI square test showed significant differences between the number of errors for the emotion of fear depending on the intensity of the stimulus, the average of total errors being higher for the low intensity stimuli and lower for the high intensity stimuli.

Conclusions

The average we found for the number of errors in recognizing facial expressions was of 8,29, which represents a double value regarding the average found at transcultural level. We consider that this founding is of major importance and we suggest further investigation in what concerns emotional competence within Romanian samples.

In what concerns the hierarchy of errors within the four types of emotions, we have found consistent difficulties for the emotion of fear, than for the emotion of joy, followed by the emotion of sadness and last, for the emotion of anger. Therefore, we found that, within the Romanian sample we investigated, there were serious difficulties in recognizing typical facial expressions for the emotions of fear and joy, which can have a possible impact on the adolescents' behavior and on their level of satisfaction.

The analysis of errors regarding the intensity of the stimuli (high or low) points out that for the emotion of joy, the number of errors is significantly higher for the high intensity stimuli than for the low intensity ones. Moreover, significant differences were found for the emotions of sadness and fear depending on the intensity of the stimulus, the number of errors being higher for the low intensity stimuli than for the high intensity ones.

The profiles of the registered errors allow us to rapidly identify the difficulties participants face in different social or personal contexts, which can be useful in our intervention programme. Including low intensity stimuli within the test was a major objective, concerning the fact that daily social interactions require accuracy in identifying emotional messages of low intensity. These four types of emotions are frequently used in everyday interactions and should be achieved until the age of 10 (Camras & Allison, 1985; Curtrini & Feldman, 1989; Kirouac & Dore, 1983). Without this set of abilities, the awareness of the right way to behave in social situations would be relatively useless and furthermore, learning how to process more complex types of emotions such as guilt or shame would be very difficult or even impossible.

Taking into account that the average we found on the Romanian sample for the number of errors committed in recognizing facial expressions was double that the given average found in various transcultural studies and also that the high values were registered for both low or high intensity stimuli, we recommend further research in what concerns the assessment of emotional competence on Romanian samples. We believe that to be of major importance, regarding also the fact that our curriculum includes extremely poor educational offers concerning the development of emotional competence.

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THE USE OF ACTIVE STRATEGIES IN DEVELOPING LEARNING AND COMMUNICATION EXPERIENCES FOR CHILDREN WITH MDVI

ANDREA HATHAZI

ABSTRACT. The quality and quantity of the learning experiences of a child with MDVI will determine motivation, participation, development, independence in the everyday functioning of the child. It is important that the learning experiences will focus on functional information, acquisition of abilities and skills, transfer and generalization of these skills, starting with an adequate understanding of these stages in the early development. Teachers and interveners should take into consideration how they organize these learning experiences so that the child benefit the most and all these are meaningful and create real and concrete opportunities. It is about assessment, meeting the child's learning needs, relating one activity, but also one skill to another so it gets meaningful, following the child's lead, but also using hand on hand exploration and communication.

Keywords: *learning experiences, significance, environment, MDVI, language*

ABSTRAKT. Der Wert und die Menge der Lernehrfahrung eines Kindes mit MDVI wird eine große Rolle spielen bei der Motivation, Teilnahme, Entwicklung, Selbstständigkeit bei der täglichen Arbeitsweise. Es ist wichtig, dass die Lernerfahrung sich auf funktionellen Informationen, Aneignung von Fähigkeiten und Kompetenzen, Übereignung und Verallgemeinerung dieser Kompetenzen konzentriert, man beginnt mit einer passenden Verständnis von den Etappen dieser früheren Entwicklung. Die Lehrer und andere Personen die helfen sollen Aufmerksam sein wenn sie diese Lernerfahrungen gestalten so dass die Kinder die meiste Unterstützung haben und alle diese bedeutungsvoll sind und sie erstellen wahre und konkrete Chancen. Man spricht über Beurteilung, wissen welche sind die Bedürfnisse eines Kindes, bei einer Aktivität, aber auch eine Kompetenz zu den anderen, damit es sinnvoll wird, man muss den Anhaltspunkt des Kindes folgen, aber auch verfügbare Untersuchungen und Kommunikation.

Stichwörter. *Die Lernerfahrung, die Bedeutung, die Umwelt, MDVI, die Sprache*

Children with multiple visual impairment can present the following characteristics:
- difficulties in developing communication skills, focusing on the need to assess functional communication and developing intervention programmes that include augmentative and alternative systems of communication;

- delays and difficulties in the development of orientation and mobility, which determine the necessity of structuring and adapting the environment and development of specific intervention programs;
- difficulties in sensory integration that determine the need to use a multisensorial approach and focusing to identify the modality in which the child learns and approaches the environment in different activities: visually, auditory or tactually;
- limited acces to the environment because of a deficitary feed-back from the interactions. The environement must be strctured so that encourages exploration, routins, development of concepts;
- difficulties in monitoring own actions and generalizing situations;
- limited social interactions, difficulties in developing initiatives and self-help skills.

Starting with the principles presented by Heather Murdoch (1997) we propose the following recommendations in developing intervention programs:

- the child must be an active participant; but for this principle to be assured we must think of the level of development of the child, avoiding overestimation but also underestimation of the abilities, knowing the child's level of understanding and communication, identifying the child's rhythm of learning, needed resources, pace, sequencing of activities, needed prompters and reinforcers;
- natural surroundings and activities represent the basic environment to start intervention, that is related to a familiar context in which assessment and intervention must take place. The routines are also elements that sustain security, control and anticipation.
- behavior has meaning, that is each initiative of the child must be given feed-back and significance to the behavior that he presents so that the child acknowledges the importance of initiatives and outcomes of each possible behavior, with the effects of these on the environment and the possible changes that he can make;
- personal interaction is important and motivating, that refers to the importance of teacher's competences in creating meaningful interactions, but also the trustful and secure relationship that must be establish while carrying out intervention;
- learners with MDVI require mediation to access and control their wider environment, that refers to the abilities that the child must have, such as communication and cognitive, but also orientation and mobility and self-autonomy skills, that will be put into action when the child explores the environment.
- communication must be adequate, as level of development and modality used, to increase participation and functionality;

- the methods and strategies that used must be active, enabling the child to learn through discovery and exploration of the environment in which the resources are motivating and signaled though different cues;
- the use of adequate prompters. Silberman, R., Sacks, S., Wolfe, J.A. (1998), name the following prompters to encourage a child to perform a skill: natural cues, gestural prompts, verbal prompts, pictorial prompts, tactile prompts, model prompts, partial physical prompts and full physical prompts.
- the use of technologies will provide access to the environment that can be deprived due to the loss of sensory information, but also means of interpretation of the environment.

The general strategies refer to the use of social interaction in learning, developing in this process cognitive abilities and communication skills, the use of the routines and functional activities, recognizing and using receptive communication for the learning of expressive communication, individualising the process and manipulation of environment.

Most of the time the prompters that are used by adults in the attempt to encourage communication are questions and instructions. These approaches are inefficient in offering the child's communication an intentional value, the child waiting most of the times to be encouraged to communicate, becoming dependent on verbal prompters. Hale (1987) suggests that the goal of the intervention is to encourage the child to communicate as a response to what is happening in the environment and not as an answer to these prompters, becoming more independent.

How can we adapt the environment to create opportunities? Miles and Riggio (1999) make the following suggestions to maximize communication and access:
- visual: the adequate type of lighting, materials with good contrasts, attention given to position and distance,
- auditory: avoid distracters and noise, paying attention to sounds and speech,
- tactual: attention to consistency, interest and security, tactual markings, materials to avoid tactile defensiveness
- the use of assistive devices.

Providing rich and concrete experiences, with a permanent interest for the structure of environment encourage the child to explore and learn. The role of the teacher is to enable the access to environment, not only the physical environment, but also to educational and social environment as well, so that the child will benefit and develop communication, cognitive and orientation and mobility skills.

Objectives and hypotheses of research

General objective

The evaluation of the efficiency of active methods used in intervention programmes to develop language abilities.

Specific objectives

1. Identification of level of development of coomunication.
2. Evaluation of efficiency of active strategies and specific techniques used in the development of communication.
3. Developing individualised communication programs, with the identifying of communication levels and strategies that determine the development of language abilities.

Hypothesis of the research

1. The use of a individualised functional assessment plan determins the identifying of techniques to develop communication skills at children with deafblindness.
2. The implementation of active methods in the educational intervention at children with MDVI determins the acquisition of language skills.
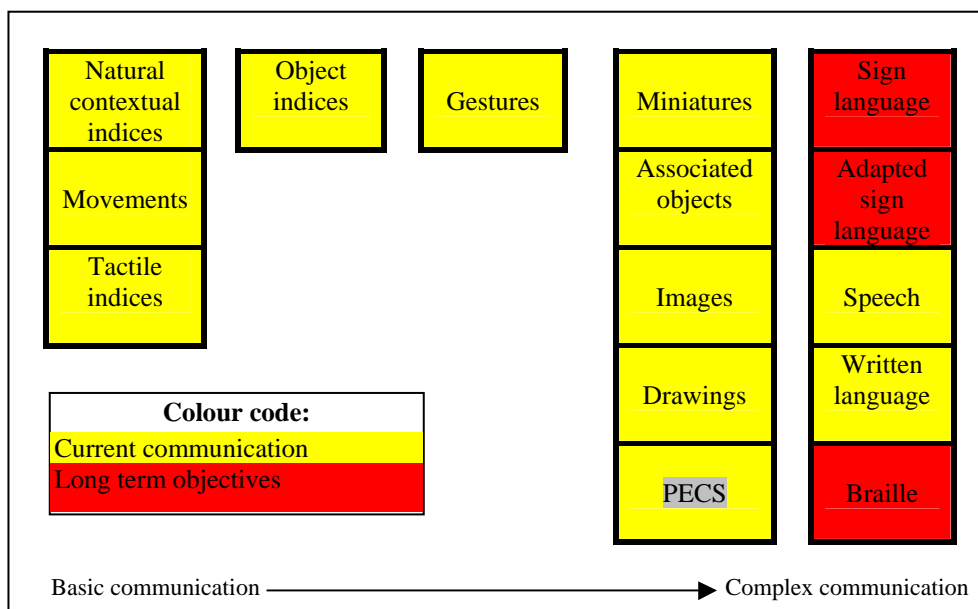
The research method is the **case study** and in the process of assessment the following instruments were used:

1. Callier Azusa developmental scale (G edition) – the domain of Cognition, Communication and Language
2. Portage scale- Language
3. Manchester Pragmatic Profile
4. Receptive communication map
5. Expressive communication map
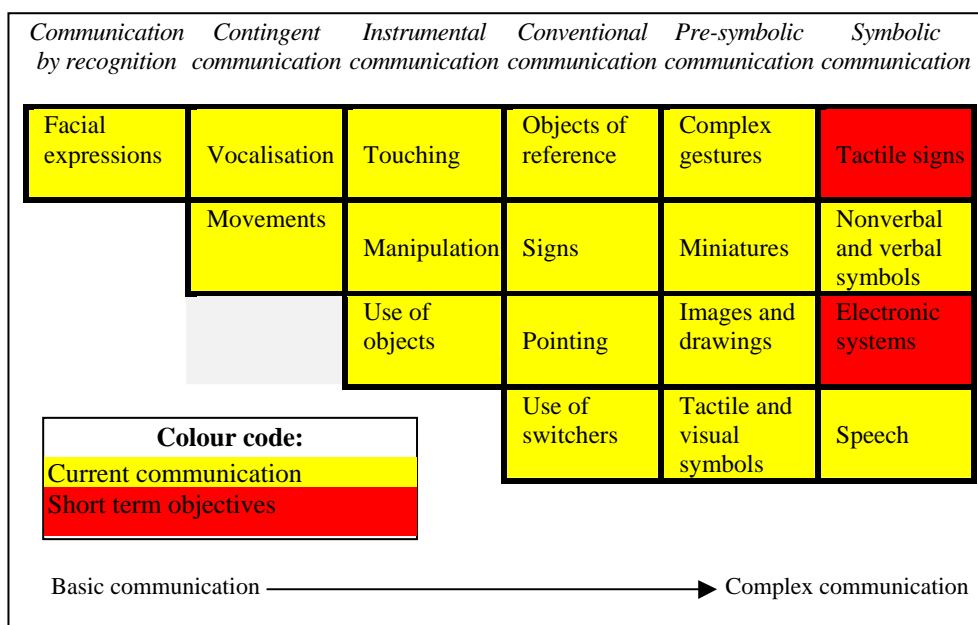6. Observation checklist for communication

Initial assessment

SV., aged 8, with multiple visual impairment, was assessed with the use of instruments that includes items that evaluate and refer to language and communication skills, in order to identify the level of communication and to elaborate the profile of development in the area of communication. In this view the map of receptive communication and the map of expressive communication were used, the results of the evaluation showed that S.V. is at the level of formal communication, but needing systems of csymbolic communication, such as images, tactile and concrete resources to access texts that are more abstract or contain different and more complex gramatical rules and implications on a semjnatic and pragmatic level. Even if the maps of communication refer to the existing diverse modalities and systems, we must realise also a qualitative approach of these, to evaluate accuracy and fluency.

Map of receptive communication

Natural contextual indices	Object indices	Gestures		Miniatures	Sign language
Movements				Associated objects	Adapted sign language
Tactile indices				Images	Speech
				Drawings	Written language
				PECS	Braille

Colour code:
Current communication (yellow)
Long term objectives (red)

Basic communication ⟶ Complex communication

Map of expressive communication

Communication by recognition	Contingent communication	Instrumental communication	Conventional communication	Pre-symbolic communication	Symbolic communication
Facial expressions	Vocalisation	Touching	Objects of reference	Complex gestures	Tactile signs
	Movements	Manipulation	Signs	Miniatures	Nonverbal and verbal symbols
		Use of objects	Pointing	Images and drawings	Electronic systems
			Use of switchers	Tactile and visual symbols	Speech

Colour code:
Current communication (yellow)
Short term objectives (red)

Basic communication ⟶ Complex communication

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Educational Individualised Intervention

Using the results of the initial assessment, age characteristics, educational and social needs, the intervention plan centered on the language and communication area, considered as a priority. The intervention strategies refer to:

- Social and functional aspects (request, refusal, naming) and social interactions (realising the attachment to interveners, initiating interactions, maintaining joint attention, turn –taking);
- The content and context of communication and the pragmatic value of communication (here and now, next activity, objects, persons, actions)
- Implementing the use of active methods, that offers the context of developing the intentional communication and with significance, but also the concept of time and structuring of the environment, offering security and anticipation abilities, learning the routines and establishing relationships with the interveners.

Listening abilities: attention to speech, identifying sounds, listening to reading of a text, maintaining free conversation.

Reading abilities : development of attention, development of visual and hearing perception, development of ability to associate image with an object and concept represented by a word, eye-hand coordination, analysis, synthesis and comparison of words, discrimination of letters, reading of syllables and words, understanding of short texts.

Writing abilities: graphic elements**,** eye-hand coordination, drawing, writing of letters, correspondence sound-letter, identification of letter in a word, orientation in page, writing after dictation, writing compositions, developping fluency in expression.

The intervention plan focused on :

1. the development of understanding the concepts, with the use of total communication approach, active learning, hand- on exploration and associations.
2. the sequencing of the complex verbal material
3. free conversation to express needs, interests, ideas, information, knowledge
4. role-play to understand implications of language used in different contexts
5. asnwering to questions and situations that begin with „what if?"
6. finishing a story with an uncertain ending or answering to „what would you do if you were a character?"

The intervention strategies started by taking into consideration the suggested process for language development by Miles and Riggio in 1999. Thus the following stages were followed:

1. First stage: *Exposure*: that refers to the access of the child to expressions, sentences, texts, use of language in different contexts, meaningful conversation, everyday interactions, storytelling, usage of materials and resources in diferent contexts, hand on hand exploration.

2. Second stage: ***Recognition:*** familiarity with structures that are used, focusing on some words and structures, awareness on changes, recognising new linguistic patterns that were used without any expected response.
3. Third stage: ***Comprehension:*** according to the authors, comprehension comes only after a long exposure. It is also about understanding the different and various natural contexts in using language and meanings of the words.
4. Fourth stage: ***Production:*** this stage refers to the productions of the child, first at a level of imitation, and later at a level of production, to generate original sentences using own experiences, thus being necessary to offer many opportunities for communication and learning, to think about language and environment, with a focus on repetition and reinforcement, using also textbooks and texts, grammar exercises.

Final assessment

After the implementation of the intervention programme that includes the active methods in development, S.V. can narrate a story, has a diary, writes notes for the others, writes letters and invitations, has a pen-pal, uses more systems of communication, oral and written verbal language, Braille. The pragmatic and social function of language are more efficient and manifest in daily interactions. There was also an assessment referring to the Language and Communication area in the curriculum, using tests and assessment forms, comprehension exercises, vocabulary and syntactic analysis of texts, writing essays. According to the Manchester Pragamatic Profile the most important and significant progress refers to Pressupositions. S.V. uses vocabulary accordind to a certain situation and context, is aware of the needs of the communication partner, content and previous conversation, the content of communication is releveant to the discussion, is aware of the following factors: formality of the context, politeness, the expeience shared with the communication partner.

The Callier-Azusa scale shows the following significant progress: relates experiences, usually as response to questions, ueses other forms of the verb in relating actions, asks for information, can describe various events, can use sequencing, uses sentences with 6-8 words, uses phrasal modes.

The Portage Scale of Development presents the following data in ahe area of language: defines words, uses sequencing, can answer to a question that begins with „what if..", asks for new or unfamilar words. The expressive language increased in inteligibility and fluency, and the receptive language in comprehension of more abstract texts.

S.V. presents the following communication and interaction skiulls: the ability to express needs, feelings and ideas, the ability to listen, understand and answer, the ability to understand the concepts, the ability to express, to obtain informations, to take decisions, to make choices, to be expressive and fluent in writing and conversations, to enrich vocabulary and thus enrich learning experiences.

Conclusions and recommendations

The particularities of the impairment allows fronatl instruction, but the most efficient intervention is the individual one, with the curricular changes, the educational needs being unique, thus the development of learning opportunities is essential. The most efficient dtrategy is learning through action, and the environment must be secure and motivating in order to access the curriculum. It is also about the proper methods that we use within the active strategies, and the learning experiences must be developped taking into consideration the child's abilities and previous learning opportunities and resources. Some of the active methods that were used referred to the structured organisation of the contents, offering visual and concrete descriptions of the resources, assutring extra time for tactile exploration and manipulation with association with the concepts represented, offering alternative materials that compensate lack of experiences and structuring previous knowledge. The assessment must be adequate and proper so that it reflects the possible progress, with a continuous referral to the necessary modiffications, alternative forms of assessment, structuring of the lerarning environment, use of functionality, the approach of the curriculum and the development of knowledge and skills, but also academic aquisitions.

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