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DEVELOPMENT OF MOVEMENT ABILITIES

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ABSTRACT. This article reviews concepts related to the development of movement capabilities in general, and persons with intellectual disabilities in particular. Beyond Piaget's theory of evolution and the theory that deals with sensory integration, a burden to illustrate them, the article will introduce some Studies Pertaining to the Connection between Intelligence and Physical Activity among individuals with intellectual disabilities.

Key words: Intellectual disability, physical activity, Piaget, sensory integration

ZUSAMMENFASSUNG. In diesem Artikel werden Konzepte im Zusammenhang mit der Entwicklung von Bewegungsmöglichkeiten im Allgemeinen und bei Menschen mit geistiger Behinderung im Besonderen analysiert. Jenseits von Piaget Evolutionstheorie und die Theorie, die sich mit sensorischen Integration beschäftigt, eine Last diese darzustellen, wird der Artikel einige Studien im Zusammenhang mit der Verbindung zwischen Intelligenz und körperliche Aktivität bei Personen mit geistiger Behinderung vorstellen.

Schlüsselwörter: Geistige Behinderung, körperliche Aktivität, Piaget, sensorische Integration

Sport and Physical Activity: Definition and Characteristics

In the context of recreation sport connotes moving, pushing or pulling activities that distract people from the burdens of daily life. In the context of rehabilitation, the connection between sport and Physical disability is important as it serves as a bridge beyond the physical limitations with which disabled individuals must grapple in their lives. Nonetheless, the term "sport" has many definitions depending on the culture and history. (Hutzler, 2012).

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In the United States the term is used for constructive exercise, and later handicapped sports (Strafford, 1939). Special physical education (Leitschuh, 2005), adapted physical education (Vinik, 2005) and adapted physical activity (Raid, 2003; Schule & Huber 2004).

The term "physical fitness" was defined as general functioning affecting a broad gamut of motor functions (Singer, 1984). The World Health Organization determines physical fitness to be the ability to perform certain muscular activities in a satisfactory manner, with two major relevant facets: (1) health - the activity should reduce risk of illness and (2) function - the activity should improve select functions such as coordination, balance, explosive power, speed, and so forth (Almosani, 2007).

Movement, physical activity and sport are especially important for the individuals with physical disabilities in general, and individuals with intellectual disabilities in particular, since these activities do not involve prior theoretical knowledge, but rather allow the disabled individuals to display their motor abilities and thus enable maximal self-realization (Hotzler, 2004).

Individuals with intellectual disabilities are often characterized as having motor difficulties expressed in their physical skills. These difficulties are liable to influence such additional areas as cognitive, social and emotional functioning or be influenced by them.

Therefore work on motor skills serves both as a therapeutic and rehabilitative tool for each area of functioning. Hemayattala & Movahedi's research study showed that the development of independent motor or mental skills among individuals with intellectual disabilities, was insufficient. Hemayattala & Movahedi's believe The two skills need to be developed in tandem, where the development of one aspect helps the improvement of the other (Hemayattala & Movahedi, 2010).

One of the suggested ways for individuals with intellectual disabilities to become active, is to be involved in more physical activities (Hotlzer, 2004). Research studies conducted in the 1980s and 1990s have demonstrated this connection between physical activity and quality of life among individuals with intellectual disabilities (Cratty, 1984; Gorman et al, 1990). Almosani, et. al. also noted that involvement in physical activity contributes to the well-being of individuals with intellectual disabilities (Almosani, 2005).

Physical activity for the purpose of improving coping strategies, challenge or self-fulfilment in a person with an individual with disabilities, is a means leading to achievements in other domains such as a feeling of self-empowerment, which in turn leads to a wish to integrate into society and self-acceptance and even the wish to change the environment despite the disability.

Development of motor-movement domain is of crucial importance in establishing the person's independence of a disabled individual living within a community. In cases of motor movement limitations, a developmental delay is caused in the psycho-motor and social realm, detrimentally affecting the individual's ability to engage in personal interactions with the surroundings (Reiter, 2002; Hotzler, 2004; Almosani, 2007).

The goals of physical education programs for individuals with disabilities as detailed in the educational curriculum focus on the realization of each individual's physical and motor potential and are identical to those of the regular education programs, with only certain adjustments as per the physiological-motor, social and emotional aspects. In other words, the skills are the same for both regular educational programs and those designed for individuals with disabilities. The only differences lie in the teaching methods for each according to the pupils' capabilities (Physical Education Curriculum 14, 1981).

The command of everyday activities, from the most rudimentary depends on the acquisition of basic motor skills which are usually acquired in early childhood naturally in a supportive stimulating environment. In the following years, the child acquires skills via teaching and learning. In any case, motor skills, innate or acquired, depend on motor, comprehension and sensory abilities. The conclusion is that a lack of or delay in the acquisition of motor skills can be the cause of the child's social isolation, feeling of both emotional and social failure, due to low self-esteem brought about by the child's inability to attain the development norm. A variation of motor training along with cognitive training would be the right combination for children with intellectual disabilities (Geron, 1996; Hotzler, 2004; Hemayattalab & Movahedi, 2010).

The importance of being involved in physical activity as described above clearly demonstrates the many advantages gained by people with intellectual disabilities.

Two theories which underlying the development of movement will now be presented.

Piaget′s Cognitive Development Theory

Piaget engaged mainly in examining the theoretical and empirical development of intellectual constructs. The basic premise behind Piaget's theory is that of behavioral development from a lesser to more advanced stage, which must be meticulously compared (Plibel, 1970, Geron 1996). One of his research domains focused on investigating the structure of developing intelligence with a distinction between contents and performance. Regarding the **content**, Piaget

refers to raw, unexplained behavior data, such as the child's ability to estimate distance by observation, and the like. However, regarding **performance**, Piaget refers to characteristics of intelligent behavior, which is an active process wherein new things are assimilated into old ones and vice versa. This process is the same for all ages. In between content and performance, Piaget places the essence of intellectual performance. **Structure**, as opposed to the content and performance, changes with age. Different structural characteristics have been described in different time periods in relation to the different development levels: they were primarily defined in verbal intuitive terms, and after years, of the structures were defined in terms of logical algebra and the theory of balance (Plibel, 1970).

Piaget's cognitive development theory, maintains the child is active in the learning process, collects information and processes it. The child becomes acquainted with the environment and makes the transition to abstract symbolic acquaintance. According to Plibel (1970), child development is a direct continuation of biological development.

Society's role in the learning process is secondary, and development occurs at fixed and universal stages, because every person is a biological organism operating in an environment with the same physical laws (Elam, 2000). Piaget refers mainly to the qualitative characteristics of the development. The range of structures which change in the course of development is divided into stages, whereby qualitative similarities and differences between them are used as conceptual landmarks for the purpose of understanding the development process. The theory does not explain development as a process occurring only via quantitative improvement in memory and information processing, but rather as a process consisting qualitatively different stages (Plibel, 1970). Below are the four stages of development underpinning Piaget's theory.

In the first stage from birth until the age of two, Piaget observed that the child's intelligence develops through his motor interactions with his environment. During this "sensorimotor" stage, the child's reactions are initially merely reflexive and only gradually become more voluntarily reactive and intentionally responsive. Thus, at this stage the child's intelligence can be characterized by his motor interactions with his environment. As yet he is incapable of forming mental representations of objects that are outside his immediate view. Eventually the child holds the concept of the object, or an internal representation, in his or her mind and will continue to search for it even when it is out of his view. Eventually the child holds the concept of the object in his mind and will continue to search for it even when it is out of his view. This is in essence the beginning of the development of thought process whereby the child develops the ability to imagine and relate to an object in his thoughts. When

confronted by a difficulty, he or she can cope with the problem in his head, by thinking about it and can anticipate results and choose his or her actions accordingly, rather than acting by trial and error tactics. This progress leads to the second stage of cognitive development.

The second stage is called the "pre-operational" stage, characterized by children between the ages of 2 and 7, acquire language. Since this age range is rather large, Piaget subdivided it into two sub-stages: (1) "Pre-conceptual" stage up to the age of 4, is characterized by the inability to classify, egocentrism animism and transductive thinking. (2) The intuitive thought sub-stage when children, aged 4 to 7, subjective impressions ignoring logic, centrism, conservation and irreversibility.

The third stage from age 7 until the age of 12, is called the "Concrete operational" stage and is characterized by the appropriate use of logic and reaching logical conclusions. This stage is also characterized by decentering, reversibility, conservation and classification capabilities and the development of transductive thinking.

In the fourth stage of development, known as "formal operational" stage, from age 12 and on when cognitive development reaches its peak. This stage is characterized by abandoning egocentric thinking, abstract thinking, hypothetical-deductive reasoning, understanding connections between variables and reflective thinking.

The progression of stages is consecutive but the pace of progression is different for each individual. There are cultural as well as interpersonal differences during each stage. The stimuli to which each individual is exposed in his or her environment encourage development and enable the transition from one developmental stage to the next (Plibel, 1970, Geron, 1996).

Piaget was a pioneer in his claim that movement precedes cognitive development and is a necessary element in the foundation of cognitive development (Piaget, 1972). From infancy and up to the beginning of speech at 1½ - 2 years, cognitive development is based on sensory and motor skills and from both these skills, the name of the stage is derived – "sensorimotor" stage. In the beginning of this stage, the infant interacts with his or her surroundings via various stimuli in it (this is the sensory part) and also by moving his or her muscles to interact with the surroundings (this is the motor part) (Piaget & Inhelder, 1976).

It would seem then that Piaget places primary importance on the reaction of the child's physical movements to environmental stimuli and considers it crucial in the initial stage of cognitive development. Moreover, a similar form of movement can be found with adults when they first encounter stimuli of any sort. It seems that thinking through movement is a recurrent

process. Adults who encounter an unfamiliar mechanism normally respond by pressing, pushing, or pulling in an effort to discover what will happen next. They will then repeat whatever action brought interesting results.

Physical education teachers and sports coordinators in any educational setting, who are familiar with Piaget's school of thought, believe that a direct connection exists between intelligence and motor ability. With this understanding and attitude, many teaching programs were designed replete with physical activities, all with the goal of improving intellectual achievements (Geron, 1996).

Cratty challenged this Piaget's approach claiming that movement exercise can indeed be a positive factor in improving intellectual activity but only if the activities themselves contain some cognitive component, such as thought, choice, or planning, problem solving during the sports activity (Cratty, 1972). Moreover, other critics of Piaget in the past two decades dismiss Piaget's premise that children's thinking processes differ inherently from those of adults. The critics claim that concepts and terms appear in children earlier, especially before the age of 7 (Waxrnan, 1991), and individual differences in intellectual ability together with influences by learning and environment play a role in changing the age limits set in Piaget's developmental stages (Goebel & Harris, 1980).

According to Piaget, each stage of the child's development provides a partial explanation for the following stages. This can be seen very clearly in the first "sensorimotor" stage, which precedes language acquisition and symbols. Nonetheless, during this stage the child builds the sub-constructs which will come to fore in the subsequent conceptual and intellectual stage. In other words, some form of intelligence exists prior to language acquisition, and aspires to achieve results rather than truths through active problem solving via action such as getting a hidden object. Lacking linguistic or symbol function, the constructs are based on physical movements and are created by the coordination of sensory actions without any thought processes (Piaget & Inhelder, 1976).

Sensory Integration Theory

The Sensory Integration approach was introduced in the 1960s by Jean Ayres and combines psychological and medical concepts and the reorganization of the sensory input into the brain so that it can be utilized in day-to-day actions (Dunn, 2008; Ayres, 1972).

Sensory Integration means the ability to sense, understand and organize sensory impressions gleamed by the person's physical body and his or her environment and then transform and conceptualize all the information and in this manner, define one's reality (Ayres, 1972; Isbell, 2011; Bundy et al,

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2002). The essence of sensory integration is order: classification and placement of the information received from various sources and the successful integration of them all into a complete coherent brain function guiding the body effectively in its surroundings (Anderson & Emmons, 2008; Bar Shalita et al, 2008). The process is neurological, where the brain's role is to choose, expand, delay, compare input to previous knowledge stored in the memory and then to connect the sensory information in a flexible ever changing way. The brain performs this function of processing the sensory information and these actions are retained for a long period (Ayres, 1972, 1991; Dunn, 2008).

Sensory integration already begins in the uterus and continues to develop for many years. For the most part, development takes place through investigation of the surroundings and through adaptive behavior when body responds to stimuli. The brain processes the information and then sends instructions for a response appropriate to the stimulus. The level and quality of processing are different in each individual according to his or her physiological makeup and previous experiences with the environment (Ayres, 1980; Anderson & Emmons, 2008). The sensory systems are: the **tactile system** (touch) which is the first to develop (Ayres, 1991). **Sensory organs**, located in the various skin layers, translate sensations into electric pulses along the nerves towards the spinal cord and from there to various parts of the brain. Practically speaking, the largest area of sensory cortex is found in the hands, feet and face and stomach. **The vestibular system** (balance - equilibrium) has the most significant influence over other sensory systems and daily functions. It serves as a unifying system in the brain to coordinate incoming data from other systems. Additionally, it directs the nervous system as to where the person stands relative to the center of gravity in order to maintain equilibrium and constitutes an important construct in regulating and stabilizing body positions. The **proprioceptive system** - internal data regarding all types of movement felt or received from within the body. This system assists in negotiating and regulating the interaction between the body and the environment via voluntary and involuntary movements.

These three systems must operate efficiently together; otherwise there may be difficulties in each stage of adaptive behavior: assimilation of stimuli, processing information and difficulty generating an appropriate reaction. Sensory dysfunction could appear as an awareness or sensory processing disorder (Ayres, 1972, Levian-Elul & Carmon, 2008; Cohn et al, 2000).

Sensory Integration Dysfunction is liable to affect certain areas of child development, such as emotional, social and motor development. Therefore, a child with this dysfunction may face numerous difficulties in school. The motor and social and emotional demands made on the child are often the cause of frustration and feelings of failure because sensory integration is a must in every situation in which he is expected to master something new (Anderson & Emmons, 2008).

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In 1950, a sensory-motor approach was developed based on three principles: **motor output** depends on sensory input, **activating a motor reaction** must follow a normative developmental sequence, and **stimuli** intended to treat a certain sensory function that will affect other functions. This approach, introduced by Rode (1950), an occupational and physical therapist, formed the basis for a substantial portion of Sensory Integration theory further developed by Ayres in 1972. The emphasis in this theory is placed on successful low level integration of the nervous system before proceeding to any cognitive approach, such as observing a demonstration or listening to instructions.

Development is spiral and the whole of each system is built upon the healthy function of the underlying system in closest proximity to it (Ayres, 1991). It becomes clear and undeniable that Sensory Integration Theory is important role as grounds for this research. Similar to Piaget's theory, the integrative element relies on previous stages of development (Plibel, 1970), the individual's integrative functioning is based on previous development stages. However, according to this theory integration is mandatory, albeit from low order in the early stages, to up through the integration that leads to significant cognitive abilities.

From this, we may conclude that the condition which underlies all cognitive development is sensory integration, acquired prior to cognitive ability. Moreover, physical activity requires complex integrative abilities. In so far as one is more involved in physical activities on a higher level, the necessary abilities are more complex. One must understand the rules of the particular sport; there must be a level of coordination among body parts, and perfect coordination between the brain and the parts of the body participating in the sport activity. Furthermore, there be a recognition and understanding of anatomy, bodily functions and processes in order to apply strategy and tactics for improving performance. This demonstrates the importance of this theory for achieving complex motor abilities best developed in an integrative fashion.

Treatment according to the sensory integration approach is based on two types of integration: (1) the first type is inner-sensory and it deals with improved functioning within a single sensory system. For example, visual exercises improve inner sensory integration of a person's visual system; (2) the second type of integration is inter-sensory and pertains to improving the functioning among a number of sensory systems in order to allow independent or directed movement of body parts, to reduce disorders of tactile integration and to diminish reflexive action or alternately to learn how to cope with reflexes and use them to progress in the movement task, and demonstrate control over the body 's motor actions (Levian-Elul & Carmon, 2008).

This study addresses the issue physical activity among the individuals with intellectual disabilities. Following is a literature review of pertinent research and describe the relevant measures that were tested among individuals with intellectual disabilities.

In conclusion, most of the people with intellectual disability have also motor difficulties. As the intellectual disability is more severe, the motor disabilities are more significant. Therefore, physical activity for every level of intellectual disability is important and necessary to improve their physical ability.

Also, this literature review shows that people with intellectual disability cannot go through the stages of normal development as described by Piaget (1972). As the stage get more complex, people with intellectual disability find it more difficult to reach the cognitive applications therefore remain at an earlier stage.

As for the sensory integration for people with intellectual disabilities, it is very complex. Beyond the physical difficulties as described above, the integration they need to do in order to perform simple movements or complex movements, reduce their overall ability in performing motor activity.

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POTENTIAL RISK AND PROTECTIVE FACTORS FOR SUBSTANCE ABUSE IN A TEENAGER WITH INTELLECTUAL DISABILITY: CASE DESCRIPTION

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ABSTRACT. Among the mental health problems faced by teenagers with intellectual disabilities, substance use becomes increasingly important and interferes with educational and social adjustment, leading to higher risks for involvement with criminal justice system. The complex interplay of personal, interpersonal, familial and social risks factors faced by this population of youngsters leads to their limited opportunities, in general, as well as their limited chances to recover from mental health problems, in particular. Our investigation aims to document potential risk factors influencing vulnerability to substance use in a teenager with intellectual disability and mental health problems. Within a brief case description, we documented some risk factors that could influence substance abuse in the case of a teenager with mild intellectual disability coming from a socially deprived environment and an atypical family background. We emphasized the important role that professionals in the fields of special education, psychiatry, social work have in helping these teenagers recover and readjust to a normal life, after recovering from the use of illicit substances.

Key words: substance use, mental health, intellectual disabilities, adolescence, risk and protective factors, recovery from substance use.

ZUSAMMENFASSUNG. Im Zusammenhang mit den psychischen Störungen, die Jugendliche mit geistiger Behinderung gefährden, nimmt der Substanzgebrauch eine immer wichtigere Stellung ein und beeinträchtigt die Integration in die Gesellschaft und Bildungseinrichtungen, wodurch das Kriminalitätsrisiko erhöht wird. Das komplexe von dieser Bevölkerungsgruppe zu bewältigende Zusammenspiel von persönlichen, zwischenmenschlichen, familiären und sozialen Risikofaktoren führt zu beschränkten Möglichkeiten im Allgemeinen und erschwert ihnen die Erholung von psychischen Störungen im Besonderen.

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Ziel unserer Untersuchung ist das Aufdecken möglicher Risikofaktoren, die die Anfälligkeit für Substanzgebrauch bei Jugendlichen mit geistigen oder psychischen Störungen erhöhen. In einer kurzen Fallbeschreibung zeigen wir einige Risikofaktoren auf, die sich auf den Substanzgebrauch im Falle eines Jugendlichen mit leichter mentaler Retardierung aus einem sozial benachteiligten Umfeld und einer untypischen Familie auswirken. Die Rolle von Sonderpädagogen, Psychiatern und Sozialarbeitern im Heilungsprozess und in der Wiedereingliederung dieser Jugendlichen wird hierbei betont.

Schlüsselwörter: Substanzgebrauch, psychische Gesundheit, geistige Behinderung, Jugendalter, Risiko- und Schutzfaktoren, Wiedereingliederung nach Substanzgebrauch

Current trends in mental health services for persons with disabilities

Although a growing population (Brault, 2010), people with disabilities are still confronted with various disadvantages within social and educational areas, compared with persons without disabilities all over the world. With regards to the various mental health services offered for persons with disabilities, the situation changed significantly during the recent period (Dagnan&Lindsay, 2012). While in the past mental health problems were neglected, as the primary diagnosis (ex., mental retardation, learning disabilities etc.) was too obvious, the more recent period was marked by the shift from diagnostic overshadowing to dual diagnosis, especially in the case of persons with intellectual disabilities and those with learning disabilities (Costea-Bărluţiu, 2015, Dagnan&Lindsay, 2012). Diagnostic overshadowing was caused by the wrong belief that the mental health issues of persons with intellectual disabilities are specific to their disability and not separate problems, as these persons are not able to have similar feelings with the rest of the population and therefore they cannot have emotional difficulties. Moreover, it was considered that people with intellectual disabilities and learning difficulties cannot benefit from counseling and psychotherapy due to their limited verbal and cognitive abilities (Raffensperger, 2009). The emphasis was on cognitive stimulation and educational services included mostly the approach of cognitive functioning difficulties and the treatment of disruptive behavior, both for students with intellectual disabilities and for those with learning difficulties. Although various progresses were made in the approach of mental health of persons with disabilities, the professionals in the field still lack the training, the support and supervision needed in order to meet the needs of people with disabilities (Day et al., 2016).

Nowadays, the emotional life of persons with disabilities raises more attention, as the emphasis on adaptive functioning, part of the assessment and diagnosis of intellectual disability, raises the questions of the social skills, effective functioning in the social environment and the fulfillment of socio-cultural standards (APA, 2013). Thus, the need to address other issues besides cognitive deficits and behavior problems is underlined and the association between emotional, cognitive and behavioral functioning raises more attention in this population.

The recent investigations of mental health problems of persons with learning difficulties and intellectual disabilities show that the prevalence of mental disorders is higher than in the general population (Chaplin et al., 2014), with personality disorders and atypical personality traits, as well as psychopathology (eg., anxiety, depression) as important problems. Also, various risks, such as isolation, withdrawal, atypical development of verbal skills, maladaptive coping, difficult social interactions, problems in couple relationships are identified in the case of these categories of persons (Durand, 2014, Hobden&LeRoy, 2008). Limitations in cognitive skills and adaptive behaviors are also identified as problematic features linked to intellectual disabilities (Chapman & Wu, 2012).

Several challenges raise the interest of professionals in the field of mental health assistance for persons with disabilities. The high heterogeneity of mental health and personality profiles, as well as the need to develop and adapt assessment instruments and the need to develop and test the efficacy of therapeutic approaches (Ricciardi&Luiselli, 2007, Sturmey, 2007, Beecher, Rabe & Wilder, 2004) are only a few.

Substance use in teenagers with intellectual disabilities

Among the problems that need higher attention from professionals regarding the mental health of persons with disabilities is that of substance use and addictions. The topic is important to both researchers and practitioners, as this population is exposed to drug consumption by the general population and more vulnerable to problems like substance use (Chapman & Wu, 2012). Various environmental, psychological, biological and socio-economic factors interact within the etiology of substance misuse in intellectually disabled population (Chaplin et al., 2014). In the case of teenagers, the problem of substance use and addiction can be seen in the context of normative behavior, as well as various risks that become critical during the adolescence period for persons with disabilities: the problems of early sexuality and sexual victimization, the tendency to adopt a rebellious attitude and the risk of delinquency. Involvement in criminal

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acts is frequently linked with alcohol and illicit substance use, both in general population and the population with intellectual disabilities (Chaplin et al., 2014), as the use of legal and illicit substances was identified in young male offenders with mild intellectual disabilities.

The problem of various substances abuse and addictions is under diagnosed and investigated in Romanian special schools for children and adolescents with various disabilities, although several additional risks are associated with it in this population. Recent studies from other countries show that the prevalence of substance use and misuse is high within intellectually disabled and learning disabled population (Day et al., 2016, McNamara & Willoughby, 2010, McGillicuddy, 2006), as a way to cope with negative experiences, though some report slightly less often substance use in people with disabilities, compared to their non-disabled peers (Frielink et al., 2015). The occurrence of substance misuse in the population with intellectual disabilities varies, different authors (cited by Chaplin et al., 2014) found high variability in prevalence, ranging from 7 to 20 per cent. Kepper et al. (2014) cited a much higher prevalence of hard drugs usage in youngsters with behavioral problems who attended special education within residential youth care institutions (30%), compared to those in mainstream education (7%), which makes them an important target group for preventive measures implemented in the special education setting.

The most often used substances were alcohol and cannabis (Schijven et al., 2015), followed by cocaine, stimulants and opiates (Chaplin et al., 2014).

The use of substances has a more negative impact on adolescents with intellectual disabilities than for their non-disabled peers, causing social, mental, behavioral, financial problems, as well as the increase of risk for criminal activities and for the development of substance use disorders (Schijven et al., 2015).

There is a *complex interaction of factors* that interact and increase the risk for substance abuse in teenagers with disabilities: stigmatized identity, low school achievement, lack of autonomy, reduced opportunities, helplessness, lack of power, self-blame, attachment disruptions (Arthur, 2003, Cain et al., 2010, Durand, 2014, Pickard&Akinsola, 2010), co-morbidities such as ADHD, anxiety (Kepper et al., 2014), the lack of information about the nature and consequences of substance use combined with deficits in social skills and poor self-control (McNamara & Willoughby, 2010), increasing the risk-taking behaviors. More problematic relationships with the parents, broken families and other family-related factors, such as domestic violence, neglect, abuse or various forms of maltreatment add up to the risks for substance use in these youngsters (Kepper et al., 2014). Various authors found the lack of family connectedness and

closeness among the family characteristics associated with cigarette smoking (Blum et al., 2001, cited by McGillicuddy, 2006). Peer groups represent an important social context for the development of problem behavior in adolescence, as the friends' influence is very high at this age and groups of teenagers tend to associate based on similar behavior (Kepper et al., 2014). Also, the socioemotional challenges and transitions specific for the adolescence period determines in many teenagers with disabilities a decrease of self-determination, which in turn leads to poor decision making about engaging in risk-taking behaviors (McNamara &Willoughby, 2010).

Protective factors have the effect to reduce risks, so these factors are targeted by prevention measures before the problem of abuse develops. Several protective factors were mentioned by the National Institute on Drug Abuse (2002, 2003): individual factors (appropriate physical development, self-control, involvement in activities that are meaningful and unrelated to drugs, self-confidence, positive plans for the future), family factors (the strong parent-child bond, parental monitoring, appropriate family relations), peer-related factors (involvement in substance-free activities, disapproval of drug use), school-related factors (anti-drug use policies), community factors (strong neighborhood attachment). Other protective factors include: positive relationships with institutions and professionals (National Institute on Drug Abuse, 2002), commitment to prosocial activities, attachment to people who are not engaged in antisocial behavior (Cleveland et al., 2008)

With respect to *intervention*, the community and strength-based approaches are employed during recent period, emphasizing the substance user empowerment and self-determination in the process of identity change from internalized stigma and the status of an addict identity to a new identity after recovery. This change can take place through changes in the social network and the involvement in meaningful activities (Best et al., 2016). Also, the facilitation of autonomous motivation through motivational interview proved to be effective in some cases of substance use in persons with intellectual disabilities (Frielink et al., 2015, Schijven et al., 2015), as well as family-based interventions (Austin, Macgowan & Wagner, 2005). Given the multitude of negative consequences that substance use implies for teenagers with intellectual disabilities, educational and awareness programs become a necessary part of the school experience for this vulnerable population (McNamara & Willoughby, 2010).

The main purpose of the current study is to identify potential factors influencing vulnerability to substance use in a teenager with intellectual disability and mental health problems. We will consider and discuss the risk factors that influence substance misuse in a single case selected from the population of teenagers with intellectual disabilities receiving education in a special school.

Case description

The participant volunteered to take part in the current research. All the information about the case that could identify the person was modified in order to respect the anonymity and confidentiality of the participant and his family and fulfill the ethical standards for case presentation within research.

M. is a 14-year-old student, currently enrolled in the 7th grade of a special school for intellectually disabled children and adolescents. The first contact with the student gives the impression of a sociable teenager, with hobbies in physical activities and sports, mainly football.

Some of the relevant information from the *educational background* is that M. did not attend kindergarten as the family did not enroll him. He started primary school in the special education system as it was determined that M was eligible and his family together with the team of specialists decided that it was the best option due to the problems that the mother identified and were medically diagnosed afterwards. M. identifies with Rroma ethnic group, is an active member of the Rroma community and speaks both Romanian and Rroma languages, but he uses mostly Romanian language in verbal and written communication. The participant doesn't have a history of physical illness, but his height and weight are under typical level for his age.

M. has a long *history of psychiatric problems*. Before enrolling him in the primary school system, the mother manifested some concern about his naughty and troublesome behavior and the fact that he was constantly moving. The issue was discussed with a family doctor, who referred her to a specialist and after receiving neurological, psychiatric and psychological assessments, M. has been diagnosed with Attention Deficit Hyperactivity Disorder, mild Intellectual Disability and Oppositional Defiant Disorder. Following the assessment and diagnosis, M. received medication to improve his attention level (atomoxetine-Strattera), but he didn't constantly take it as prescribed.

M. started to have *problems with the substance abuse* during the 6th grade and the ethno botanical substances use was soon identified by the school manager, who notified the family about M.'s drug addiction. His mother admitted that a problem was hypothesized by the family when the teenager was spotted with "blurry eyes" and "a blank expression" during several weeks, but the family didn't take into consideration that the problem could be the use of drugs.

In school, the teachers noticed that there was an increase in the teenager's level of inattentiveness and impulsivity and that he became unable to complete even very simple assignments. Because of the drug abuse, he had often cut classes and had been skipping school for weeks, which put him at risk of

school failure. Moreover, a few months prior to the assessment and the active intervention described in the current study, the teenager had been under investigation for illegal acts, being charged with burglary. Following this crisis situation, his mother started to cooperate with M.'s special education teacher in charge with the management of the case, in order to include the student in a detoxification program.

To better understand the complex problem of substance abuse in M.'s case, some risk factors that could increase vulnerability are detailed below. The interaction of three main categories of factors is associated with high risk of substance abuse in the case described: 1) individual characteristics of the subject; 2) family factors; 3) social context.

1. *Individual characteristics.* Regarding the individual characteristics, there is a high risk of substance abuse in adolescence, which increases with age for teenagers with intellectual disability, ADHD and ODD. M. was diagnosed with mild intellectual disability and his limitations in cognitive functioning lead to difficulties in: understanding abstract concepts, reading and writing fluency, word spelling, reading comprehension, articulation and oral expression, memorizing and recalling of even simple information. Ineffective learning strategies and poor metacognitive skills that maintained his learning impairments were identified during educational assessment. Moreover, persistent behavioral problems such as low self-control and difficulties in complying with rules, poor emotional and social skills, and poor coping skills were also present in this case. All these conditions were hypothesized as causes for the poor academic achievement and increased the risk of school failure, associated with his frustration with schooling and the risk for high risk behaviors.

2. *Family factors.* These factors encompass the family structure, types of attachments, connections to family members and poor housing conditions. M. is the third child of a large family, living with the biological mother, the stepfather and four of the brothers (three of them are step brothers). The parental couple is not legally married and the family is characterized by distant relationships between parents and children. Moreover, the interaction between family members is often conflictual, parents do not provide effective discipline to their children and they have inconsistent parenting skills and negative communication patterns that in time hindered the development of children's coping strategies. Also, weak bonds and insecure attachments were identified between parents and children, the mother giving more attention to M.'s step brothers. When M.'s behavior started to change significantly, his parents acknowledged the signs of the worsening condition. The family's problems with poor

housing and the futile struggles with poverty add up to increase the risk for the teenager, as basic needs are negatively impacted by the conditions in which the family lives. All the family members are living in two rooms, lacking sanitation facilities and the family's income cannot cover the proper nutrition and appropriate clothing for the children.

3. *The social context.* M.'s family is living in poverty; his mother is working as a garbage collector while her partner is unemployed. None of the adults managed to graduate secondary school and their educational level is very low. The community where the family lives has no schools and most of the children attend special schools in the city of Cluj-Napoca, where transportation and food are provided. Due to living in a disorganized neighborhood outside the city, in a community that is economically deprived, the people have limited opportunities to connect to the rest of the society. There is also a great exposure to violence in the community and many families meet the problem of alcohol addiction. The children acquire a positive attitude toward substance use in these circumstances, with great risk of delinquency. M. has a few friends among his age group, and most of the members of his social group are living in the community similar to his family's community.

While risk factors increased the vulnerability to substance abuse, several protective factors were identified, that constituted the fundament for the beginning of a complex intervention and enhanced the chances for success of the medical, social and educational intervention in M's case.

1. *Individual protective factors.* M.'s robust physical constitution allowed for the development of his athletic skills and in time his raising interest in sports. The reward to play football during recess had a positive effect on his efforts to do better in class activities. Also, the positive relations that he build with some of the teachers in the school increased his chances to receive some good alternative models of behavior and also to his interest to attend the classes.

2. *Family protective factors.* Even though his parents are not legally married, their relationship is stable and the parents assumed responsibility for raising all the children within the family instead of sending them to the Child Care Protection services, so the risk of child abandonment is absent. The parents are also involved and concerned about their children's education, so all their children are enrolled in a school. The mother acknowledged M.'s medical and educational diagnoses and took the decision to choose a special education school for her son's educational placement, a system that proved protective in his case and eventually constituted a resource in his recovery from the substance abuse and the risk of school failure.

3. *Educational protective factors.* The special school environment provided M. with the possibility to be exposed to educational goals that took into consideration his strengths and weaknesses, his learning potential. The student benefited from differentiated instruction, both in the classroom and in individual therapeutic activities. In accordance with his medical and educational diagnoses, the main goals of his individual education plan were the enhancement of the self-regulation skills of behavioral and emotional reactions during activities and the improvement of social skills, by involving him in various school projects in the classroom and also outside the school. School offers him a secured climate and norms that discourage violence and substance use. Moreover, the student has the chance to come in contact with other persons, some of them with a potential to become alternative role models, such as teachers and school staff, as well as develop friendships with peers with different life experiences.

In order to *intervene* for the substance abuse problem, M. was included into a detoxification program in a children psychiatric hospital and received medical and psychological support during a short period. The student's mother informed the teacher in charge with the case about the hospitalization and asked for further guidance. Following the teacher's recommendation, she referred to the Child Protection Services for support group activities and psychological counseling, targeted on student's empowerment and determination to change to a new identity after recovery, as well as to motivate the student to change his social network (the group of friends he used drugs with). Thus, autonomous motivation for recovery from drug use was strengthened by both medical and psychological support. The mother was also encouraged to involve her son in useful activities, to supervise M. during the day and to pay attention to his nutrition during the medication he was administered by the psychiatrist.

After completing the detoxification program, M returned to classes and his behavior was considerably progressing. He tried to comply with the rules in the group activities, but had a preference for one-to-one activities. The collaboration between parents and teenager improved as well, his mother began to involve M. in daily chores at home and this made M. feel more confident about himself. In school, he received additional writing and reading instruction from his special education teacher twice per week and as his recovery program progressed, he became more involved in these activities that he slowly began to find meaningful. The general goal of these activities was to develop his learning strategies and his reading and writing skills, so that he can become self-reliant in his use of these skills. As the alliance with the professionals, based on mutual trust, was becoming stronger, the student received information about the negative impact of substance use and was taught various behavior repertoires that can be used when confronted with risky situations

connected with substance use, in order to decrease the risk for relapse. Other than that, he received counseling and has been involved in group activities through a program which is under Child's Care Protection supervision. As several of the potential risk factors that were identified in this case could still lead to substance use, the team of professionals involved in the intervention aimed at reducing the problems related to the substance abuse in this case.

Conclusions

Multiple factors interfere with the therapeutic approach and possible recovery in the case of intellectually disabled population, which can be considered an extremely vulnerable population, facing more severe mental, physical and social consequences from substance use, compared to members of the non-disabled community. However, the severity of these problems as well as the possible solutions are understudied. Substance use and addictions can lead to other more severe problems for youth with disabilities, as the consequences are severe on emotional and behavioral levels, thus increasing other risks for mental health problems, forensic activities and various other problematic outcomes.

Such a very important problem that interferes significantly with the development and adjustment of teenagers with intellectual disabilities in academic settings and the wider society is not clearly defined. Thus, addressing this problem in a highly vulnerable population by careful assessment, identification of risk and protective factors are essential for the increase of clinicians' awareness, and the provision of more appropriate intervention models for this population (Chaplin, Gilvarry & Tsakanikos, 2011). This would be a good start to address and reduce the long term impact of the problem of substance abuse in teenagers with intellectual disabilities.

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IS THERE ANY FORESTRY EDUCATION IN ROMANIA? GEOGRAPHY TEACHERS' PERCEPTIONS, ATTITUDES, AND RECOMMENDATIONS

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ABSTRACT. The problem our study found a solution for was the lack of efficient forestry education in Romania. In this context, studies argued that many of the citizens' attitudes towards forests formed during teachers' organized activities. Because the efficiency of those activities for forestry education depended on the school curriculum and on the Geography teachers' training, beliefs, and attitudes, in our research, by administering a questionnaire to 208 Geography teachers, we wanted to identify: their perceptions of the impact certain factors had, of certain activities efficiency and of certain components in the Geography school curricula; the approach of forest topics in official documents; teachers' involvement of their students in diverse activities; their opinions on forest topics that should have been included in the official curriculum. For forestry education in Romania, they perceived school and family as having the biggest impact, and the activities in the forests as the most efficient ones. Research showed that Romanian Geography teachers participated frequently at actions that focused on forestry education. They perceived as weak and very weak the approach of forest topics and their protection in diverse official education documents, and because of this they recommended improvement, suggesting relevant themes, in compliance with the forestry literature.

Keywords: forest protection, forestry learning, forestry curriculum, education for forest sustainable development, forest sustainable management

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ZUSAMMENFASSUNG. Das Problem für welches unsere Studie eine Lösung gefunden hat, war der Mangel an effizienter Wald- und Forstwirtschaftsbildung in Rumänien. In diesem Zusammenhang argumentieren Studien, dass viele der Einstellungen der Bürger gegenüber Wälder während der organisierten Aktivitäten während der Schulzeit geprägt werden. Da der Wirkungsgrad dieser Tätigkeiten für die schulische Forstwirtschaftsbildung vom Lehrplan und von der Ausbildung der Geografielehrer, sowie ihrer Überzeugungen und Einstellungen abhängt, haben wir in unserer Forschung eine Umfrage unter 208 Geographielehrer durchgeführt, um folgende Aspekte zu erkennen: ihre Wahrnehmungen bezüglich der Auswirkungen bestimmter Faktoren, der Wirkung gewisser Aktivitäten und Elemente des geographischen Curriculums; die Herangehensweise an Waldthemen in den offiziellen Dokumenten; die Einbindung ihrer Schüler in die vielfältigen Aktivitäten; ihre Meinung zu Waldthemen, die in den offiziellen Lehrplänen aufgenommen werden sollten. Für die Forstwirtschaftsbildung in Rumänien erkannten sie die Schule und die Familie als maßgebend, und die Aktivitäten in den Wäldern als die am effizientesten. Wissenschaftliche Untersuchungen haben gezeigt, dass die rumänische Geographielehrer häufig an wald- und forstwirtschaftliche Bildungsaktionen teilgenommen haben. Die Herangehensweise an Waldthemen und Waldschutz in verschiedenen offiziellen Bildungsdokumenten betrachteten sie meistens als schwach und sehr schwach, und deshalb haben sie Verbesserung empfohlen, wobei sie bedeutende Themen vorschlugen, im Einklang mit der aktuellen Literatur zur Forstwirtschaft.

Schlüsselwörter: Waldschutz, Wald- und Forstwirtschaft im Lehrplan, Bildung für nachhaltige Forstwirtschaft, nachhaltige Forstwirtschaft

1. Introduction

As a result of our research, we found a solution for the lack of efficient forestry education in Romania. Citizens perceived forests to be valuable, but the forestry ecosystems of Romania were characterised by disturbances with obvious effects (Griffiths et al., 2014). On the present territory of Romania, the percentage of natural forests decreased gradually from 80% to 27% in 2009 (Giurgiu, 2010, p. 3), although the optimum percentage calculated for Romania was 45%, while forests and other areas with forestry vegetation covered over 42% of the EU area (Giurgiu, 2010, p. 5). After 1989, in Romania, they realised unauthorised forest restitutions (Giurgiu, 2012), the number of forest owners reached to almost one million and would increase through inheritance, they cut and degraded hundreds of thousands of forest hectares, the state lost sometimes control over the forest management, and in many forests they did

no forestry works (Giurgiu, 2010). Responsible for this situation of the forests in Romania were perceived the central, regional, and local authorities and citizens as well, because of their attitudes and actions. In this context, we underline that appropriate forestry education forms attitudes towards forests.

In the international literature of the field on forestry education, most of the studies referred to higher forestry education. In studies after 2000, there was concern in Vietnam – for improving forestry education through participatory curriculum development – (Taylor, 2000), in Philippines – for reorienting forestry education to sustainable forest management (Rebugio et al., 2005) and for reformulating agriculture and forestry education (Cruz et al., 2013). Studies about forestry and forestry education there were also in other states with small forest areas such as Afghanistan (Groninger, 2006) and Mongolia (Batkhuu, 2011). In Europa, such studies focused on forestry and forest-industry education in Finland (Jeglum & Scarratt, 1989), on forestry education in Russia (Teplyakov, 1994), and on the design of forestry education at the Faculty of Forestry in Poland (Skorupski, 2012; Zasada, 2012). Focusing on higher forestry education, in a comparative study, researchers analysed forestry students' opinions in Brazil, China and Finland and they identified similarities concerning specific competences, experiences and favourite fields of work (e.g. students were very fond of field work and of certain fields such as environmental protection – Arevalo et al., 2012).

In addition, certain studies focused on the ways to realise forestry education in other contexts than higher forestry education. In the European countries, they organised diverse activities in the forest environment. In Austria, they offered forestry pedagogy courses, guided forest trips and other "forest pedagogical activities" for students and adults. Certain companies from Finland provided bird watching and wildlife tours. In Norway, they offered outdoors adventure activities (alpinism, rafting, trips, etc.). In Romania, they offered services for watching wildlife as well as recreational activities in the forest. In Great Britain, they offered mountain bike routes in the forest and additional services (Niskanen, 2006). In the same country, the Forest School offered children the possibility to have experiences in the forest and to learn at the same time from academic activities and practical ones on the basis of the learning constructivist theory (O'Brien & Murray, 2007). The National Forest Office in France was involved into environmental education. It offered pedagogical forestry services in forestry exploitations (watching the plant and animal collections, shows with birds of prey, exhibitions, trips on thematic routes, sculptures in wood trunks, etc.) (Cadar, 2014).

Forestry education is important because it influences people's attitudes and actions of protecting and exploiting forests in a sustainable way, a topic people are very well aware of and support at the European and global level and

less at the national level of Romania. Forest protection and exploitation depend on citizens' perception towards the effects of forest clearances and the possibilities to prevent them. The public's realistic perception of the forest situation and of the features attached to the forestry sector is a basic condition for a successful implementation of a forest policy in any country (Riedl & Šišák, 2013). Because people's perception of reality influences political decisions, we should pay attention to this and analyse it (Fabra-Crespo, 2014).

At the global level, studies on perceptions and attitudes focused mainly on forests and much less on forestry education. They started research on the public perceptions of forests and forestry in Europe, at the beginning of the 1990's (Fabra-Crespo et al., 2014). A meta-analysis realised in 2003 of 45 studies focused on Europeans' forestry attitudes and perceptions from 16 countries (Rametsteiner & Kraxner, 2003). Another analysis focused in 2009 on the public opinion about forests and forestry in 21 European countries, along 26 studies which had been published starting with 2003 (Fabra-Crespo et al., 2014).

In Finland, forest owners and the public considered that to maintain healthy forests was the most important objective of forestry management, followed by the management of their own forests, the multiple use of forests, increasing their protection and, much less wood production and ensuring jobs (Kangas & Niemeläinen, 1996). An analysis of the public opinion on forests and forestry in Finland, between 1993 and 2012, showed that the Finns were well informed and good observers, that forests were very important for them, that they managed them correctly, but that they cut too much compared to the growth rhythm of the trees in their forests. Although the Finns perceived forests as a source for jobs and wealth, even if they were aware that forestry industry did not function well at the international level and that they imported raw materials, they required that forests were protected (Fabra-Crespo et al., 2014) and this was a proof of a good forestry education.

Another study of the public opinion about the problems of forests and of forestry policy in Valencia region (Spain) showed a big difference between the wishes, preferences, and priorities of the society and the policies of the regional government (Fabra-Crespo et al., 2012). In the Check Republic, data showed that the situation of the forests improved, but public perception did not reflect that (Riedl & Šišák, 2013). In mountain tropical forests, the locals had very good knowledge about the species, ecosystems, their relationships and their historical or recent changes. At the local level, the local social and cultural values, perceptions and beliefs, as well as the economic and political factors influenced the use, management and preservation of natural resources. For a sustainable development of mountain ecosystems, under the threat of clearances, of forest fragmenting and disappearance of species, researchers argued that it

was necessary to study the people's perception of the environment, of their knowledge and of land use (Pohle, 2013). In the USA, they analysed the influence of four indicators of population diversity on the use of forests, on the environmental attitude and on the correlation between the forestry value and attitude. They assessed four values of forests: wood products, clean air, beauty, and the patrimonial value (Tarrant & Cordell, 2002).

In Romania, researchers analysed the forestry engineers' perceptions and opinions of the possible impact of climate change on forestry ecosystems and of adapting the forest management to vulnerability and risks induced by the climate change. They discovered that most of the respondents agreed that the forests of Romania would be affected by climate change, but that potential effect was perceived to be minor or moderate. They drew the conclusion that adaptation to climatic change was not a priority for forest management (Mutu et al., 2014). In the study analysing the forest owners' attitudes towards a forest multi-functional management in Suceava County, Romania, Nichiforel (2010) identified a series of values attached to forests that were responsible for diverse attitudes and motivations related to using the forest as a resource. Moreover, this research showed that there were behavioural models ranging from observing the law to illegal activities, resulting a typology of forest owners.

Taking into account this short analysis of the most recent studies on forestry education and on people's perceptions and attitudes towards forests, we asked ourselves what could be done in order to improve forestry education and, indirectly, people's attitude towards forests in Romania. Therefore, while aware that many of citizens' attitudes towards forests were formed as early as in school, during activities organised by teachers, and that the organisation of activities, their quality and efficiency for forestry education in the school environment depended much on the school curriculum and on the Geography teachers' training, beliefs and attitudes, in this research we investigated their perceptions on certain factors, means, and ways relevant for forestry education. We searched for answers to the following questions: Which were the factors with the highest impact on forestry education? Which were the most efficient activities in forestry education? Which was the level of teachers' involvement into discussions about forest and of students' involvement in activities aiming at forestry education? Which components of Geography school text books were useful for forestry education? Which were the forestry topics in the official education documents? How could these be improved? In order to answer these questions, we administered questionnaires to the Geography teachers in the pre-university system from Romania and we analysed several official documents. We analysed their answers taking into account the significance of the concepts related to forestry education and the results of some studies on forestry education.

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2. Materials and methods

Research material. This consists of a part of the data obtained by administering a questionnaire related to the forests in Romania. This questionnaire included eight items with answers that we built on the basis of the literature in the field and associated to a Lickert type scale and one more open question. We aimed at identifying: the respondents' perceptions about *the impact of certain factors* in forestry education on citizens in general, about the *efficiency of some activities* in citizens' and students' forestry education, about *certain components from the school Geography text books,* about *the quality of approaches concerning forest themes in Romania and forest protection in school official documents*; the frequency with which that teachers got their students involved into out of school activities organised in order to make them aware of the importance of forests and the need to protect them, and the frequency of discussions about forest issues with diverse people; opinions about the forest issues that should be placed into the official curriculum.

Methods. We realised the questionnaire with Google Forms application in Google Drive. In 2015, we sent the invitation to fill in the questionnaire to the Geography teachers in Romania. For that we used the email and Facebook. 208 Geography teachers filled in it online and voluntarily. We realised the data processing using qualitative interpretation methods and the descriptive graphic as a statistical method. We analysed a part of the data by comparing them with those obtained from the first part of the questionnaire in order to identify the link between personal attitudes and actions and to explain them objectively. Because the answers to the items underlined perceptions of experiences, attitudes, actions, and recommendations, they cannot be assessed as correct and wrong, but they represented a social reality from the teachers' perspective which is important for decisions related to the system of education. For the official documents (curricula, text books), we used the method of content analysis through which we wanted to underline the main themes related to forestry education.

Participants. The respondents form a sample size obtained through simple randomisation that does not concord with the total population of the Geography teachers in Romania (over 4,000), but offered us the opportunity to build a social reality on forest education that is representative for Romania. The sample is structured according to respondents' *origin related to their schools* (34.8% teachers from schools in the rural area, 65.2% in the urban area), *the period they worked* as teachers (9.2% – under 5 years; 12.1% – 5-10 years; 52.2% – 11-20 years; 26.6% over 20 years), *membership in environmental NGOs* (9.4% of them are members), *owners of forest areas* (10.7% of them), and

administrative units (from 35 counties out of the 41 counties of Romania and from Bucharest Municipium). The high percentage of respondents having worked as teachers over 11 years was an indicator of their relevant experience and of their perceptions characterised by a low level of subjectivity in relation to forestry education and some effective recommendations for the school curriculum.

3. Results and discussions

3.1. Perceptions of some factors in forestry education

Impact of some factors in citizens' forestry education. On citizens' education for forest protection in Romania, respondents considered that the highest impact had the school and the family, followed by TV broadcasts, socialising networks (Facebook and others), advertising, online publications (newspapers, magazines, and blogs), and the NGOs (see Figure 1). The town hall representatives, scientific books, the Ministry of Environment, Waters and Forests and scientific journals had low or no impact.

Respondents perceived the school (70.4%) and the family (70%) on the first places in this hierarchy. That correlated with respondents' assertion who argued that their attitude towards forests was influenced very much by their family education and by their school education. This positions showed us the importance of family and school as appropriate environments for forestry education, and also the need to ensure a school curriculum and child and adult forestry education in their families.

Over 40% of the respondents perceived the TV (59.1%), the socialising networks (Facebook and others), advertising, online publications, and the NGOs as having very high impact on forestry education. That perception might have meant, on the one hand, that those were involved into actions for forest protection (e.g. the NGOs) or in advertising them (e.g. TV, socialising networks, online publications) or, on the other hand, that they were well known information sources that those Romanian teachers preferred and used. Researchers argue that "mass communication means have big influence on people's formation, strengthening and change of attitudes, opinions and behaviour" (Rotariu & Iluţ, 2006, p. 51).

Respondents' perception of the low or no impact of town hall representatives on forestry protection education correlated with those representatives low involvement through actions at the local community level. As a result, at the local community level, in order to change people's attitudes towards forest protection, one needs activities that require the involvement of the school, of the town hall and of the citizens in the respective communities.

Respondents had a negative perception of the Ministry of Environment, Waters, and Forests as having a low or no impact on forestry education and that correlated with another negative perception, as they considered it responsible for the decrease of the forest area in Romania. These perceptions are correct because the Ministry of Environment, Waters and Forests is the specialized body of the central public administration and is subordinated to the National Environmental Protection Agency, and to the National Guard for Environment. Out of these, the National Guard for Environment has the task to control activities affecting the environment and to apply the sanctions provided by the law (Rădulescu & Rădulescu, 2012). The National Forest Agency - Romsilva aimed at forest sustainable management so that to enable the contribution of forests to the improvement of environmental conditions and to ensure the national economy with wood, other forest products, and forest-specific services. Romsilva manages 22 national and natural parks with high percentage of forests, ensuring biodiversity preservation (http://www.rosilva.ro/categorie.php?id=3).

The respondents perceived scientific books and journals as having low or no impact on forestry education and the explanation is that most Romanians study rarely such sources: "The role of books is important for a deeper understanding and interpretation of certain phenomena, but books and written mass media have higher impact on people with university education than on other social categories" (Rotariu & Iluț, 2006, p. 52).
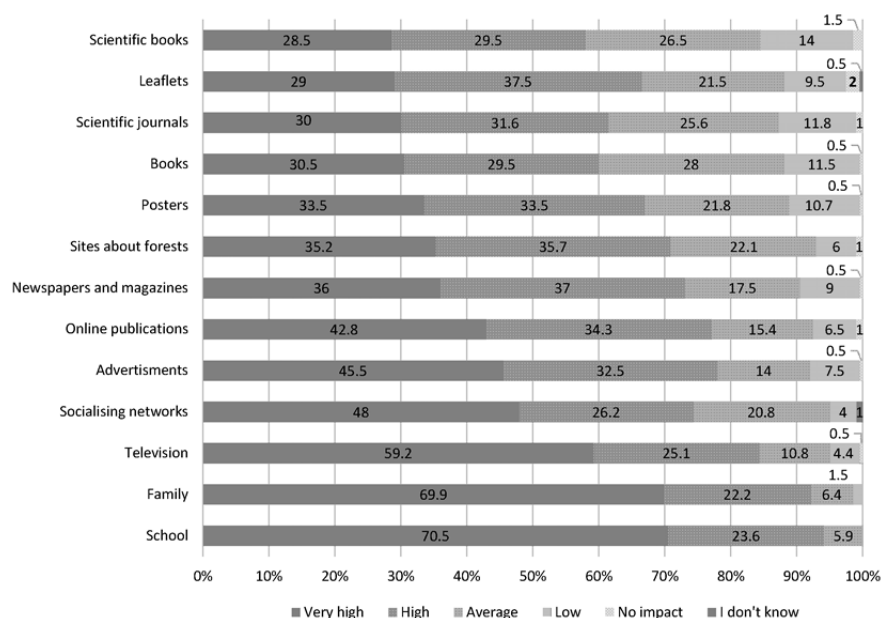

Fig. 1. Impact of certain factors on citizens' forestry education in Romania

Efficiency of certain activities on citizens' forestry education

Over 80% of the respondents (see Figure 2) perceived the campaigns for taking care of the forests and the afforestation ones as the activities with the highest efficiency degree concerning the education for forest sustainable management and protection, although less than half of them participated frequently at afforestation actions and at taking care of the forests actions. This situation showed that it was necessary to organise such activities. Thus, in 2015, starting with the 14th of November, the EcoAssist Association, in co-operation with diverse NGOs and sponsors, with institutional partners (The Ministry for Environment, Waters and Forests and others), within the "We plant good deeds in Romania" project (http://plantamfaptebune.ro), started planting over 1.000.000 saplings, and on the 14th of November, the 9,080 volunteers planted 155,300 saplings on pieces of land outside the forest area. At independent actions, 432 volunteers participated, who planted 7,512 saplings. Simultaneously with those volunteers, Romsilva should have planted 815,000 saplings, on 163 hectares of the forestry area, but there is no information that this happened.

The conclusions of certain studies on enabling positive outcomes in environmental education through experiences in the outdoors (Rickinson, 2001) supported the teachers' perception of expeditions (76%), trips and walks (75.6%), and school camps (73.1%) in the woods as very efficient for forestry education. Moreover, research proved that "attitudes, the quantity of nature-related activities, and knowledge about environment or nature-related issues correlated with one another" (Tikka et al., 2000). We may explain the perception of the lower impact (54.7%) on forestry education of picking fruit, medicinal plants and mushrooms through the fact that teachers participated less at such activities, as most of them lived in areas with small forest areas. The perception of this impact is similar to that of the influence of those activities on their own attitudes and behaviour towards forest protection.

65.7% of the respondents perceived school lessons as very efficient among the activities taking place outside the forest environment. That showed us their role in education and the necessity to organise systematically forestry education activities in formal situations and environments. Positioning family discussions (still, some of these may take place in the forest) on the second place among these activities showed the role of information exchange between generations and the need for family forestry education. Certain studies argued that children learnt in school environmental protection principles and transferred them to their parents (Vaughan, 2003).

Over a half of the respondents considered watching documentaries as very efficient for forestry education, although less than half of them declared that their own attitude and behaviour towards forests was very much influenced by

that. We explain the difference through the fact that nowadays the number of documentaries is much higher, better documented and easier to access than in respondents' childhood or adolescence.

Over a half of the respondents considered workshops and almost half considered debates as very efficient activities for forestry education, but such activities were never or rarely organised in local communities. In this context, teachers' proactive behaviour is a necessity. Several scholars suggested that bringing together people with diverse perspectives facilitated the appearance of novel ideas and thus of solutions to problems (Biggs et al., 2010).
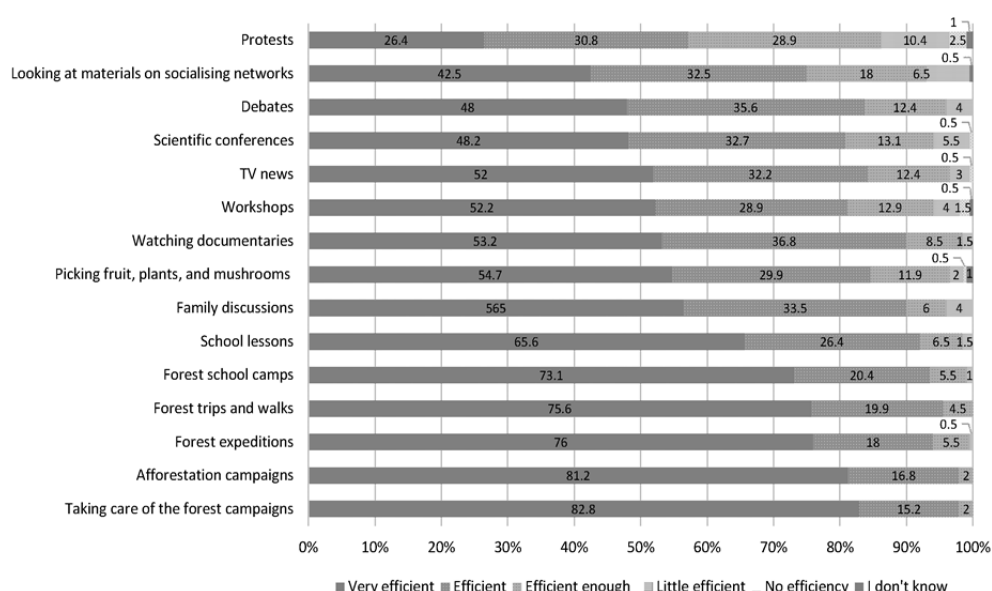
Fig. 2. Efficiency of certain activities on citizens' education for forest sustainable exploitation and protection

Over a half of the respondents considered TV news as very efficient for citizens' education for sustainable forest exploitation and protection. Rotariu and Iluţ (2006, p. 54) argued that mass media influenced people through what they offered, through the structure and contents of the broadcasts. Even if they did not influence people how to think, they certainly influenced them on what to think of.

We explained the fact that only 26.4% of the respondents perceived protests as very efficient for education either through non-participation or rarely participating at protests about irrational forest exploitation and forest

management, or because of their social representations formed through mass-media. Research showed that Romania, because of its communist history, is a democracy characterized by low levels of civic engagement in voluntary organizations (Bădescu et al., 2004). Nevertheless, NGOs' and citizens' protests had positive results in Romania as they managed stopping mining in Roşia Montană in 2013 (Dulamă & Magdaş, 2015) and shale gas extraction since 2014 (Devey et al., 2014), but they had low impact on stopping forest cutting in 2015 (Popescu, 2015).

Efficiency of certain activities on students' education. Respondents perceived as very efficient for students' forestry education the afforestation and taking care of the forests campaigns (thinning, cleaning) (see Figure 3), followed (in the same order as below), by activities organised in forests: expeditions, trips and walks, school camps, systematic observations, picking fruit, medicinal plants, and mushrooms, adventure parks, except campfires.

The fact that over 43% of the respondents considered that all activities organised in the forest environment are very efficient, having a high impact on forestry education, had the same explanation as in the case of adult citizens. Then, the fact that respondents perceived the afforestation campaigns (77.4%) and the taking care of the forests campaigns (74.3%) as very efficient for students' forestry education, these ones changing places in comparison with their perceived efficiency for citizens' forestry education, had the explanation that it was easier to get students involved into afforestation actions than into taking care of the forests activities.

They perceived forest systematic observation as very efficient and efficient (86.2% of the respondents) and this was due to respondents' didactic and research experience. To support this, we underlined that recent research showed that: "experiential education was the most commonly hypothesized explanation for a program's degree of success, followed by issue-based education, direct contact with nature, dosage, investigation, and empowerment." (Stern et al., 2014). The position of the adventure parks on the last place in the hierarchy of activities taking place in the forest is explained by the fact that these are less known and capitalised in Romania. In 2009, there were two adventure parks, and in 2014 over 15 (Dimitru, 2014). Almost a third of them had a negative perception of campfires that they perceived as inefficient or little efficient because the forest was destroyed, not protected.

In the hierarchy of the activities where we did not mention explicitly the forest environment as the place for organising the activity, they placed getting involved into projects on the first place, followed by teachers' actions, meetings with forest rangers, with NGOs representatives, documentaries, realising posters, and socialising networks (Facebook and others). In this activity hierarchy, school activities were on the 16th position. Respondents perceived protests as little and not at all efficient for their students' forestry education.

Starting also from their own experience, 91.6% of the respondents answered that getting students involved into projects was very efficient and efficient for forestry education, offering students the opportunity to identify forest related problems and their solutions. Also recent research associated projects with better outcomes for environmental education than other practices (Stern et al., 2014).

It was not surprising that respondents had positive perceptions about their own activity reflected by the 92.6% of them answering that teachers' actions were very efficient and efficient (the 6th place in the hierarchy of all those activities).

Over a half of the respondents considered the meetings with the forest rangers and with NGOs representatives as very efficient for forestry education. Recent research also supported this. For instance, Krasny et al. (2015) argued that one had to work more on creating measures of social capital that are also relevant to environmental education and that getting 10-18 years old students to participate in recreational, social, and stewardship activities was crucial because these created elements of social capital that enabled more collective action around common environmental goals.

Similarly to the case of adults' forestry education, almost half of the respondents perceived as very efficient watching documentaries and elaborating posters. Although young people in Romania spent plenty of time for activities on socialising networks (Facebook and others) (Dulamă & Magdaş, 2015), almost half of the respondents considered them very efficient for forestry education, probably because they were less concerned about forestry issues and had a rather passive, than active and pro-active attitude. In addition, recent studies (Kane et al., 2012) showed that Facebook was a good environment for meaningful activities such as ecological advocacy, green events dissemination, or eco branding, because users showed preferences for photo tagging, events invitations and causes support.

Taking into account that respondents considered that lessons were very efficient for citizens' forestry education and that more than half of them said that the school influenced very much their attitude towards forests, we were very surprised that only 44% of the respondents perceived lessons as very efficient for their students' education for forest sustainable exploitation and protection. This efficiency diminishing and placing them on the 16th position in the hierarchy of the very efficient activities might be probably explained through the fact that in the present curriculum the number of Geography lessons decreased to half as compared to the communist period (before 1989) and in the school curricula and text books, there were no longer any lessons focusing exclusively on forests.

Less respondents (a little over 30%) perceived research and writing scientific papers, scientific conferences, studying posters as very efficient activities, probably because those required the involvement of a small number of teachers and students.
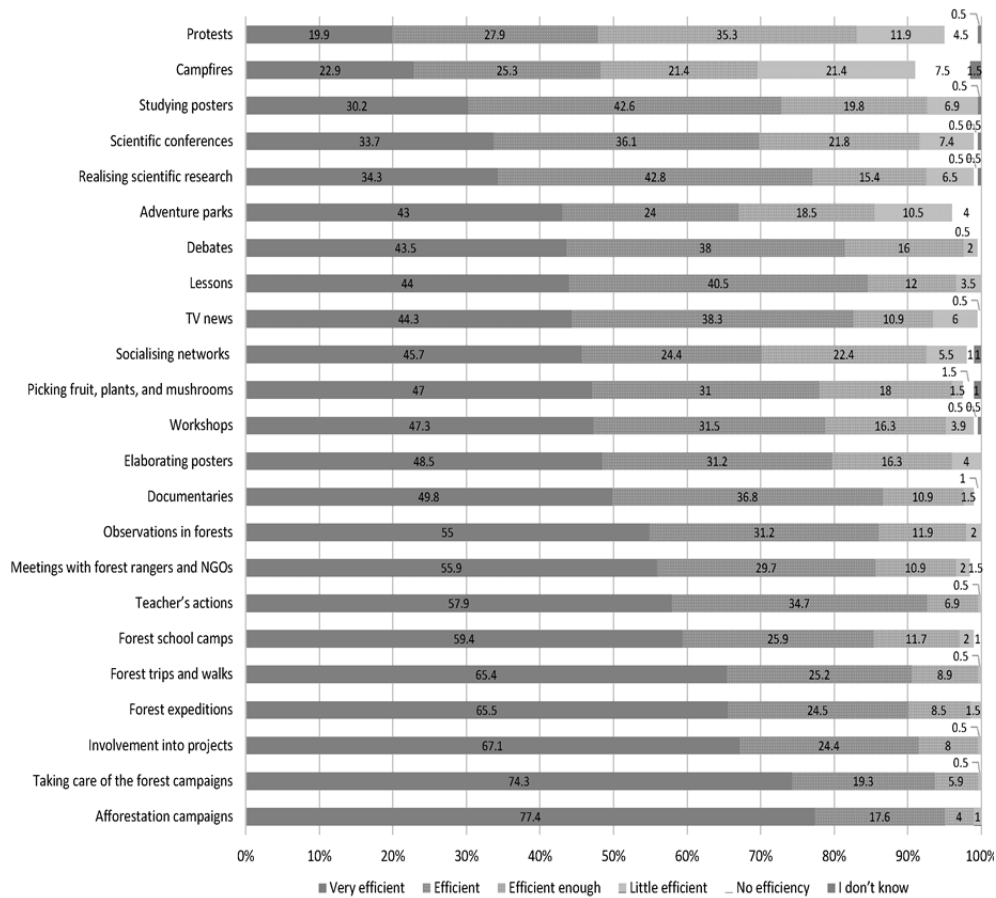
Fig. 3. Efficiency of certain activities for students' education for forest sustainable exploitation and protection

The use of certain components from Geography school text books. Respondents perceived that for the students' forestry education very useful were photos, maps, applications (exercises and problems) (see Figure 4). They perceived as little efficient the texts and assessment tests that the school text books proposed. The fact that the photos in these sources were on the first

place, 55.3% of the respondents considering them very useful was despite their small dimensions, number, low quality and contents, as they could not use them efficiently for learning. The number of photos in the school text books from Romania focusing on forests and the animals those hosted varied from one text book to another. For instance, about the forests and animals in the forests of Romania there were 1-9 photos for the 8th grade and for the 12th grade; about the forests of Europe there were 4 photos for the 6th grade; for other continents there were 2-8 photos for the 7th grade; for the forests of the Earth there were 5-14 photos for the 9th grade, 2-4 photos for the 10th grade and 2-3 photos for the 11th grade. Under such circumstances, it was obvious that teachers used photos from other sources during their activities. In the literature of the field, aerial images were often used for estimating forest attributes (Tuominen & Haakana, 2005), for improving discrimination between tree species (Tuominen & Haapanen, 2013), for forest estimates (Tuominen et al., 2014), and for identifying illegal logging areas (Vorovencii et al., 2013).

The fact that the maps in the school text books had the second place in this hierarchy, being considered as very efficient by 40.6% of the respondents, could be explained by the fact that maps were defined as basic cartographic tools needed for spatial representation (Medzini, 2012, p. 23). In addition, teachers needed a variety of maps in order to foster their students' critical thinking about these essential geographical tools (McCall, 2011, p. 135). Although maps were perceived in general as very useful for forestry education, in school text books there were no maps about forests and their capitalisation, except one world map with forest cutting (Popescu, 2004) and two maps about the wood processing industry in Romania (Neguţ et al., 2000). The distribution and typology of forests may be analysed indirectly on certain maps about the bio-geographical areas of the world (one in the 5th grade, and one in the 9th grade), about vegetation in Europe (one in the 6th grade, one in the 12th grade) and of the continents (one map for each continent in the 7th grade), about vegetation in Romania (one in the 8th grade and one in the 12th grade). In the text books for the 9th and 10th grades, there was a map with the bio-geographical areas or with the environmental types of the Earth, and in the 11th grade there was a map with the environmental types of the Earth and one map for each type of environment in Romania. Research encourages teachers to create opportunities for their students to analyse maps in a critical way and thus "become well-informed and civic-minded citizens" (McCall, 2011, p. 132).

Although the practical applications (exercises, problems) from school text books were on the third place in this hierarchy, being perceived as very useful by 40.1% of the respondents, there were no such applications about forests. The charts in the school text books were on the 4th place according to

their usefulness, being perceived as very useful by 29.4% of the respondents. We found forest related charts only in several text books: "Structure of the forests in Romania according to species", "Structure of the forests in Romania according to their social and economic functions" (Cheval et al., 2007, p. 29), and "Percentage of forested area of continents from the total area of forests on the Earth" (Mândruț, 2008, p. 72).

Almost a third of the respondents (28.1%) perceived the texts in school text books as not at all efficient and little efficient. That perception had several causes. Firstly, in school text books there were no lessons focusing entirely on forests and their protection, but only texts that included information on that topic. Secondly, the informative texts included many irrelevant, old, and poorly systemised information, and therefore reading them did not stimulate curiosity and generated low interest for learning.

17.4% of the respondents perceived the assessment tests in the school text books as little efficient and 8.7% of the respondents perceived them as not at all efficient. Those had as a cause the absence of forest related items and the fact that having knowledge about forests was no guarantee to forests sustainable development and their protection. In fact, studies showed that more years of education were strongly correlated with more knowledge about environmental issues, but that did not necessarily mean strong pro-environmental behaviour (Kollmuss & Agyeman, 2002).
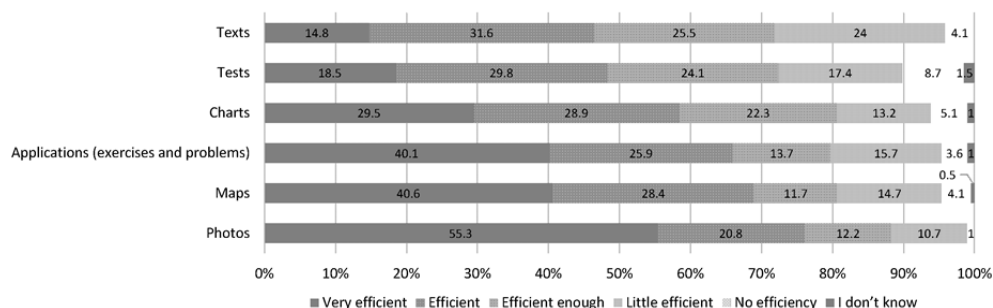
Fig. 4. Usefulness of certain components of Geography school textbooks for students' forest protection education

Forest issues in the official education documents. Most of the respondents (see Figure 5) considered that, in the official documents, in curricular auxiliaries and in the curricula for diverse contests and exams in the educational system, the approach of forest related issues and of their protection is weak and very weak. Almost a fifth of the respondents did not know which was the approach

quality of those topics in the curricula for diverse contests and exams in the education system (that teachers participated at). But one could explain this situation through the fact that respondents either had sat for those exams for a very long time or did not know the present curricula, or they had not read them because they did not have to sit for those exams yet. Nevertheless, it is important to underline that those who knew those curricula considered that the approach to the forest topic was rather weak and very weak than acceptable. We may understand these perceptions as justified because those curricula did not propose for study subjects about forests, but general topics.
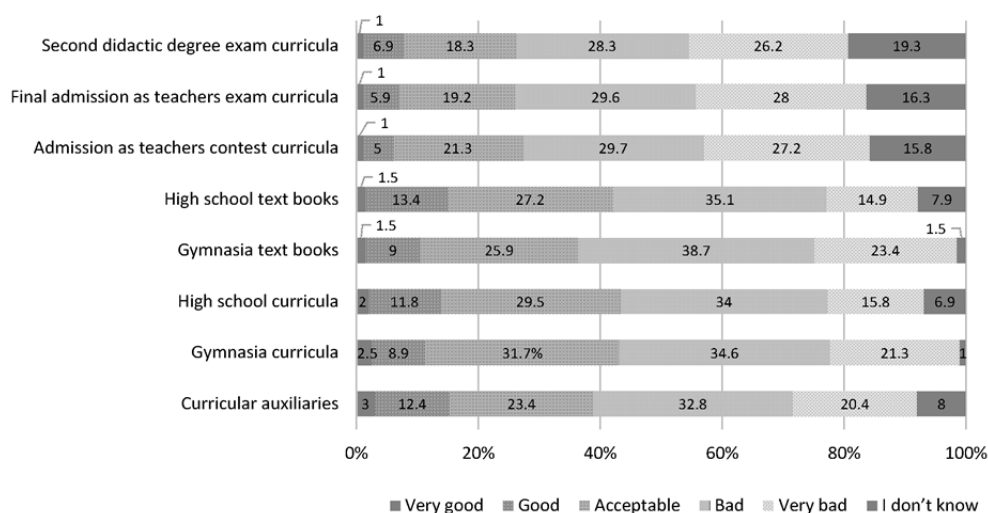
Fig. 5. Quality of approaches on subjects about forests in Romania and about their protection, in official documents

The curriculum for Geography for occupying didactic positions in the pre-university system of Romania (MECTS, 2010) and *the curriculum for the national exam for a definitive degree in the educational system* (MECȘ, 2015) included themes related to: Vegetation zones and levels; Bio-geographical regionalisation; Environmental types; Biodiversity protection and preservation; National parks. They paid little attention to the wood processing industry, and they included it besides other types of industries within this topic. They proposed practical exercises for vegetation mapping. In the reference list, for the definitive teaching degree, there was one book about forests (Rusu, 2012). *The curriculum for obtaining the second didactic degree* (MECT, 2008) proposed for Romania the following topics: "Bio-soil-climatic levels"; "Environmental

preservation and protection issues". Other topics were: "Research and mapping methods for vegetation associations", "Effects of pollutants on vegetation and animals", "Categories of reservations according to the IUCN classification: definition and features". In the reference list, they did not recommend any books about forests, only papers on the Physical Geography of Romania. As a positive feature for forestry education, we underlined the inclusion in the reference list of Law no. 5/2000 on protected areas, of Law 462/2001, on the state of natural protected areas and the EEC no. 92/43 – The Habitats Directive.

About a third of the respondents considered acceptable the approach of the Romanian forest related themes and their protection in the school curricula, in the gymnasium and high school Geography text books and in the curricular auxiliaries. Over 50% of them considered that approach as weak and very weak. Those perceptions were explained by the fact that this topic was integrated into other themes. For the gymnasium, in *the Geography school curriculum for the 5th-8th grades* (MECI, 2009) and in the text books for those grades, they did not include topics on forests and their protection, while these could be studied within the context of other general themes. For the 5th grade, the forests of the Earth could be studied according to the main curriculum at the themes "Biosphere preservation", "Vegetation and animals in the local community and its neighbourhood", "Natural resources", and in the larger curriculum also at the themes "Factors influencing the distribution of the fauna", "Geographical distribution of the fauna: the dry zone, the moderate zone and the polar zone". The texts on the "Bio-geographical zones" of Europe (the 6th grade) and of the other continents (the 7th grade), including cartographical materials and photos, occupied 1-3 pages for each continent. For the 8th grade, teachers could approach this subject during certain themes related to "Vegetation", "Wood industry", "Environmental features", and "Sustainable development elements".

In high school, in the 9th grade, students could study world forests during the themes on "Bio-soil-climatic zones", "Natural landscapes", "Types of natural environments", "Respect for natural and human diversity", "Preservation and protection of the living environment", "The environment of the local community" (MECT, 2004). For the first three themes, there were about 4-5 pages of informative text in the school text books. In the 10th grade, the forests of the Earth could be studied at the theme "Biosphere resources" (MECT, 2004), but this subject was either omitted in some text books or approached within half a page. In the 11th grade, some themes from the 9th grade were approached again, with certain changes of their titles: "Types of geographical environments", "Types of geographical landscapes", "Forest Cutting", "Environmental protection and preservation", "Environmental management", "Natural and agricultural resources. Impact of resource exploitation and capitalisation on the environment", and

"Resource management, economic development, and sustainable development" (MECT, 2006). In certain text books, there were small texts about forest cutting (Neguţ et al., 2006). In *the Geography school curriculum for the 12th grade* (MEC, 2006) and in the Geography text books for the respective grade, students could study forests comparatively and in succession, from Europe to Romania, for the themes: "The bio-soil-geographical cover" and "Environment and landscapes". In this curriculum, they mentioned as values and attitudes "the living environment preservation and protection".

3.2. Participating at forest related activities

Participating at discussions about forest related issues. The fact that most of our respondents (69.3%) participated at discussions about forest related issues more likely with teachers from other disciplines, than with their Geography colleagues, pointed out the high interdisciplinary degree of this subject (see Figure 6).
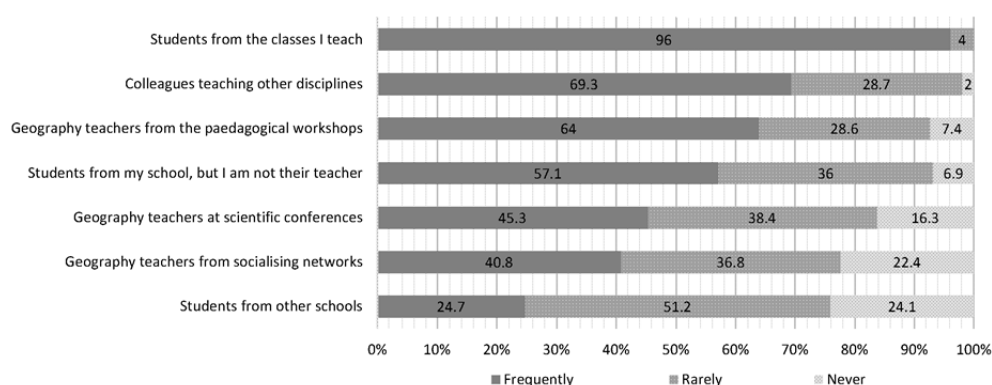
Fig. 6. Frequency of discussions about forest related issues with diverse interlocutors

Placing pedagogical meetings on the second place among the contexts in which Geography teachers discussed frequently about forests (64%), followed by scientific conferences (45.3%), was probably caused by the frequency of organising such activities, by their contents, by the low importance they offered to the forest subject during such meetings, by respondents not participating to conferences and by proactive professional relationships manifestation preferably within familiar environments. Taking into account the multitude of materials on the situation of forests in Romania within the socialising networks, respondents

showed a rather passive attitude towards this subject because, even though they studied and shared such materials, only 40.8% of them participated frequently at discussions, and 36.8% of them did that rarely. Very many respondents discussed frequently about forest related issues with their students, with students in their school, but whom they did not teach, and rarely with students in other schools. These very big differences correlated with the ones characterising the frequencies of activities because respondents had many opportunities to discuss about forests with their own students (96%), as compared to the students in their own school but whom they did not teach (57.1%) and with students from other schools (23.7%).

Teachers' getting their students involved into activities. Figure 7 showed teachers' preference in organising certain activities with their students. With insignificant variations, we noticed that respondents had similar answers to the questions concerning getting their students involved into extracurricular activities organised by other persons or groups and to the previous question when the actions were organised by themselves.

Almost two thirds of the teachers got their students involved mainly in the school environment (watching documentaries, debates and projects) and this is caused by the fact that those activities were easier to organise in the Romanian education system, as access to research and finances was easier in that context. Their preference for watching documentaries was correlated to the assertion that 80.6% of the teachers declared that their attitude towards forest protection had been very much and much influenced by the activities they participated at. In the schools from Romania, teachers and students participated frequently at local, regional, national, and international extracurricular projects, while many of those focused on environmental protection and environmental education (Deleanu, 2013).

69.5% of the respondent teachers organised frequently trips and walks in the woods with their students and that correlated to the fact that most of them participated during their childhood, adolescence and adulthood at such activities, and they argued that experiential learning influenced very much and much their behaviour towards forests.

56.2% of the teachers got their students involved into systematic forest observations that they organised themselves and 52.3% got them involved into the activities organized by others. These showed both the importance attached to such activities and the fact that they could organise them easily and with low costs.

Moreover, the fact that respondents got their students frequently involved in the afforestation activities they organised (53.3%) more than in the ones others organised (52.5) showed their proactive managerial behaviour manifested more frequently than the one of participating at afforestation actions (44.3%). Respondents indicated the same behaviour during actions of taking care of forests (cleaning, thinning).
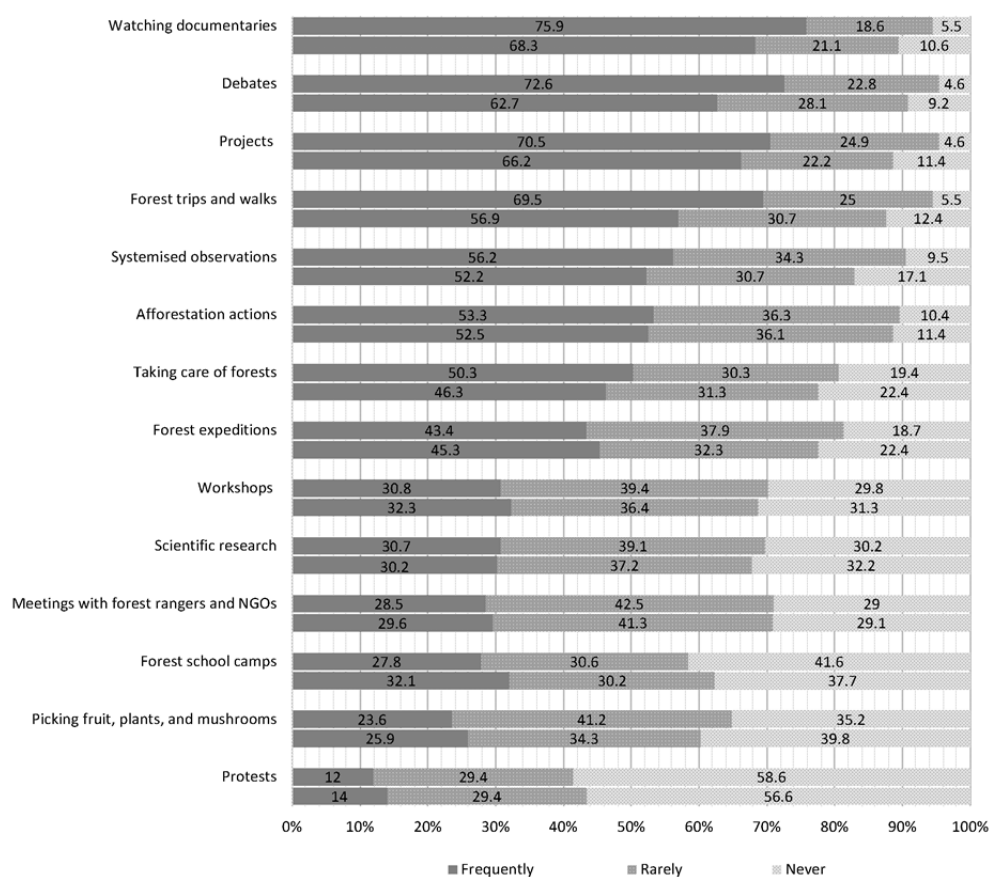
Fig. 7. Frequency of teachers' involving students into out of school activities, organised by themselves or by other persons and groups, in order to raise awareness related to the importance of forests and the necessity to protect them

The teachers' rarely getting their students' involved into their forest expeditions (43.4%), in comparison with the ones organised by the others (45.3), as well as getting their students involved into school forest activities showed the lower interest for such activities that required big organising effort and resources. The fact that a third of the respondents got their students frequently involved in scientific research on forests that they or other persons organised showed a small interest in these both from teachers and their students. Although workshops were easy to organise, the fact that less than a third of the respondents got their students involved into such activities could have as a cause the lack of such a tradition in Romanian schools.

Almost a third of the respondents got their students to participate at meetings with forest rangers and with NGO representatives and that was caused by the fact that the school curricula did not prioritise forest issues. In addition, respondents' low involvement of their students into activities of picking forest fruit, medicinal plants, and mushrooms, while 47% of these teachers considered them very efficient for forestry education and over 50% argued that such actions had influenced their behaviour towards forests, could be explained through the fact that in post-communist Romania we did not participate at such activities in a formal manner, mainly because the state did not impose them anymore.

We noticed the students' low involvement into the protests organised by their teachers for forestry protection. These activities were on the last place among teachers' own out of school activities, organised for raising awareness about the importance of forests and of the necessity to protect them, in which teachers (88.1%) rarely or never asked their students to join them. This attitude was correlated to the fact that teachers never or rarely participated to such protests themselves.

3.3. Forestry topics proposed for the official curriculum

Respondents proposed that students study the following topics on forests: the concept of forest (3.36%), features (species, biodiversity, structure) (8.65%), functions (44.76%), typology (2.4%), distribution (4.28%), evolution (4.28%), actual situation (3.36%), sustainable management (21.15%), forest clearances (causes, effects, prevention and control measures) (29.32%), afforestation actions (8.65%), legislation (14.94%), forest protection and conservation, including biodiversity (protection forms, protection ways; institutions, organisations, organisms) (33.65%), and ecologic education (3.36%). Even if certain topics were proposed only by a few respondents, taking into account the forestry literature, those were relevant and necessary in order to ensure quality forestry education and to change Romanian citizens' attitudes towards forests.

4. Conclusions

In citizens' education for forest protection in Romania, school and family had the highest impact, followed by TV, socialising networks, advertising, online publications, and NGOs. Small and no impact had the town halls, the scientific books, the Ministry of Environment, Waters and Forests, and the scientific journals. They perceived as the most efficient activities for students' and citizens' forestry education the ones which took place in forest (afforestation campaigns and those for taking care of the forests, expeditions, trips and walks, school camps, systematic observations, picking forest fruit, medicinal plants and mushrooms, adventure parks), except campfires. They perceived as the most efficient activities organised mainly outside the forest the following: participating at projects, teachers' actions, meetings with forest rangers and NGO representatives, documentaries, elaborating posters, and the socialising networks.

The Romanian Geography teachers participated frequently at forestry education actions and most of them answered that they discussed much about forests both with other teachers, in diverse contexts, and with the students in their school. Similarly, most of them asserted that they frequently got their students involved into activities that they themselves organised or in those organised by other persons in human made environments (watching documentaries, debates, projects) and in forestry environments (trips and walks, systematic observations in the forest, planting trees, taking care of the forest).

Respondents pointed out that the approach of forest topics and of forest protection was very weak in official documents, in curricular auxiliaries, in the curricula for diverse contests and exams in the education system. Therefore, they considered that those needed revision and improvement. Analysing the usefulness of school text books for students' forestry education, they considered the following as very useful: photos, maps, and practical applications. They perceived as less efficient the texts and assessment tests. The fact that teachers recommended the inclusion in the official curriculum of relevant topics for forestry education underlined they were well informed about forest issues.

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THE INDIVIDUAL STUDY – A TRANSVERSAL COMPETENCY OF STUDENTS. AN OBSERVATIONAL STUDY

DANA JUCAN[1]

ABSTRACT. In the present study we have defined individual study as being a transversal competency that implies an individual strategy for collecting data from various sources (notes, bibliography, textbook, dictionaries, compendiums, Internet, etc.), comprehending it, organizing and systematizing it, independently issuing hypotheses and their validation or invalidation through a personal self‑imposed effort of a cognitive and metacognitive nature. We have undertaken a research effort in order to establish the importance accorded by students to the individual study, the extent to which the students possess information on the planning, organizing, and the development of the self‑study; the methods (modalities) of implementing the self‑study, the strategies for individual studying used by students, the modalities of taking notes, identifying the ways in which they study individually.

Keywords: individual study, competency, students, methods of individual study

Zusammenfassung. In dieser Studie haben wir das Selbststudium als Querschnittskompetenz definiert. Diese benötigt eine eigene Strategie für das Sammeln von Informationen aus verschiedenen Quellen (Notizen, Bibliographie, Handbuch, Wörterbücher, Kompendien, Internet usw.), das Verständnis, die Organisation und die Systematisierung von diesen, unabhängige Formulierung von Hypothesen, deren Bestätigung oder Ungültigkeit auf der Basis von persönlicher, selbst angenommener, kognitiver und metakognitiver Anstrengung zu etablieren. Wir haben eine Aktion durchgeführt, um uns über die Bedeutung von Selbststudium bei Studenten zu informieren. Wir wollten erfahren, inwieweit besitzen die Studenten Informationen über die Planung, die Organisation und die Durchührung des Selbststudiums, als auch über die Methoden (Wege) verwendet für Selbststudium. Wir stellten uns vor, Informationen über die Strategien verwendet von Studenten für das Selbststudium und für Notizen nehmen zu bestimmen und auch die Art, in der die Studenten individuell studieren zu identifizieren.

Schlüsselwörter: Selbststudium, Kompetenz, Studenten, Methoden für Selbststudium

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1. The individual study – a transversal competency of students.

Individual study is defined in classical pedagogy as the activity undertaken mostly at home or at the library and represents one of the tasks of pupils and students (Deese, 1979). Unfortunately, in contemporary education, within the daily routines of students, self-study holds an increasingly smaller share of time, its place being taken by the computer, mass-media, group of friends, and other things, even though the number of hours of didactic activity assigned to students is lower in comparison to the situation from several years ago. 'Individual study is the method of learning and self-studying through the referencing of specialized literature, the independent pursuit of experiences and experiments, the personal organization of knowledge, its acquirement and implementation.' (Mureșan, 1990)

We consider that in our modern pedagogy individual study must not be seen as an activity that only takes place at home or in the library, but also within the activities of the courses and seminars, becoming a form of continuous intellectual activity (Jucan, 2005, 2007, 2009).

Self-study is an activity of (re)construction of knowledge, of finding creative and original solutions, of practicing reflective and critical thinking. (Entwistle & Ramsden, 1983).

There is a tendency today towards the transformation of the individual study into a transversal competency that requires complex activities of acquirement and processing of information, activities acknowledged as a source of innovation and creativity. Self-study implies, for the students involved, personal cognitive and metacognitive reflections, self-knowledge, self-guidance, and self-control (Leat & Lin, 2002, Krievaldt, 2001, Ertmer, & Newby, 1996). We define individual study as being a transversal competency that implies an individual strategy for collecting data from various sources (notes, bibliography, textbook, dictionaries, compendiums, Internet, etc.), comprehending it, organizing and systematizing it, independently issuing hypotheses and their validation or invalidation through a personal self-imposed effort of a cognitive and metacognitive nature (Jucan, 2009).

Self-efficacy (Bandura, 1989) is the term that captures the mode in which the intellectual activity during the individual study of the students took effect. In individual study, the student evaluates his abilities, he opts for certain tasks, he distributes his effort, but also monitors his progress. Pressley, Borkowski, & Schneider (1987) make reference to certain principles for the use of efficient self-study strategies. One of these principles states that those

who use strategies for studying in an efficient manner predominantly make use of general strategies, but they also use specific strategies in order to achieve their set objectives. The research done (Palincsar, Brown, 1984, Paris, 1990) demonstrates the fact that there are close ties between the number of strategies used and the academic performances of those that use them.

2. The research process

We have thus initiated an observational research, administering a survey (from which we have selected for analysis in the present study only certain items) in the interest of finding out the students' opinion on individual study, the modalities for its accomplishment, the strategies of intellectual activity used during courses and seminars, in general, and during Pedagogy courses and seminars, in particular. We were also interested in identifying:

- The frequency with which individual study for Pedagogy is undertaken;
- The methods through which individual study for Pedagogy is achieved;
- The modalities in which information is being processed by students;
- Reflectivity during the self‑study of students;
- The depth of connections established by students;
- The modalities of structuring, synthesizing and processing of information within the individual study;
- Modalities of note‑taking employed by the students.

We have opted for selecting a group of students in the 2nd and 3rd year in order to analyze the specificity of their concern for efficient learning, for the particularities of studying for Pedagogy (by Pedagogy we mean the disciplines of The Fundamentals of Pedagogy. The Theory and Methodology of the Curriculum and The Theory and Methodology of Teaching. The Theory and Methodology of Evaluation), with the purpose of uncovering their techniques of intellectual work and techniques specific to self‑study.

There were 2836 students included in the study, enrolled in the Teacher Training Program and part of the Faculty of Mathematics‑Computer Science, the Faculty of History, the Faculty of Biology, the Faculty of Physics, the Faculty of Chemistry, of Biology, of Philology, of Geography, of Sociology, of Economics (see Table 1).

Table 1. The composition, by departments and year of study,
of the targeted population of the research

Department	Number of Students			Share (percentage)		
	2nd Year	3rd Year	2nd Year + 3rd Year	2nd Year	3rd Year	2nd Year + 3rd Year
Mathematics‑Computer Science	182	133	315	15,2	8,1	11,1
History	139	218	357	11.6	13.3	12.6
Chemistry	66	91	157	5.5	5.6	5.5
Physics	44	34	78	3.7	2.1	2.8
Biology	101	112	213	8.4	6.9	7.5
Philology	291	430	721	24.2	26.3	25.4
Geography	212	301	513	17.7	18.4	18.1
Sociology	65	144	209	5.4	8.8	7.4
Economics	101	172	273	8.4	10.5	9.6
Total	1201	1635	2836	100.0	100.0	100.0

First we have aimed at finding out the time allotted by students to the self‑study for the discipline of Pedagogy. The percentages for each answer are presented in Table 2.

Table 2. The distribution of answers on the first item of the survey

How frequently do you study individually for the discipline of Pedagogy:	Students
Between 0‑25% of situations allocated to individual studying	335 (57.2%)
Between 25‑50% of situations allocated to individual studying	127 (21.7%)
Between 50‑75% of situations allocated to individual studying	84 (14.3%)
Between 75‑100% of situations allocated to individual studying	39 (6.66%)

In the case of Pedagogy, most of the responding students, 57.2%, have indicated that they only make use of about 0‑25% of situations allocated for self‑study. A relatively large share of students, 21.7%, have stated that they only utilize about 25‑50% of situations allocated to individual studying. Furthermore, worrying is the small percentage of students that have stated that they employ approximately 50‑75% of the situations allocated for the individual study for Pedagogy, the percentage being of only 14.3%. Also in the case of this item, the smallest percentage of students, 6.66%, have indicated that they exploit roughly 75‑100% of situations allocated to the individual study for Pedagogy. These results denote the fact that students do not in fact utilize a large share of the time assigned for individual studying and do not fully exploit the situations in which they could be studying individually for this discipline.

Going forward, we were interested in the modalities of individual study, specifically the modalities through which students engaged in the self-study of important disciplines. Because the answers were varied, in the processing of the data we have grouped the answers given by the students in the following categories, after which we have ordered them by their frequency.

Table 3. The distribution of answers on the 2nd item of the survey

Describe the modalities (methods) through which you study individually for important subjects!	Rank
I read the text closely	I
I use the study notes	II
I memorize the important data	III
I underline the important ideas	IV
I take notes of what I consider to be relevant	V
I select and retain the key ideas	VI
I solve the exercises and problems	VII
I extract the keywords	VIII

The results achieved on this item prove that the most frequently used modality of individual studying is the attentive reading of the text. Another self-study modality frequently used by students is that of utilizing the notes taken. The memorizing of important information is also considered to be a significant method of individual studying. A similar importance in the case of self-studying is given to the method of underlining important ideas. We note the fact that when studying individually most students read the material and utilize the notes, fewer resorting to more complex approaches to the content. We consider these aspects to be relevant due to the fact that recent studies (Gama, 001, Blakey & Spence, 1990) have proven that the subjects that are aware of their own metacognitive processes are more efficient at studying. As such, we consider that the intervention should be made upon this issue, namely through the practice, during courses and seminars, of efficient learning strategies.

In what follows we wish to observe which are the concrete modalities of individual studying that students use within the discipline of Pedagogy.

Table 4. The distribution of answers on the 3rd item of the survey

Describe the modalities (methods) through which you study individually for Pedagogy!	Students
I read the textbook	164 (28%)
I try to comprehend the information	31 (5.2%)
I only read the notes taken during the courses	215 (36.7%)
I only memorize the notes taken during the seminar	83 (14.1%)
I read the bibliography	42 (7.1%)
I memorize the examples given by the teacher	50 (8.5%)

Most of the students in the survey have indicated that they use as a method of individual studying for Pedagogy the reading of the notes taken during the courses, this method being used by 36.7 of the respondent students. A 28% share of the students have stated that they use as a method of individual studying for Pedagogy the reading of the textbook provided by the teacher. Likewise, a proportion of 14.1% of students have specified that a self‑study modality for Pedagogy that is efficient for them is the memorizing of the notes taken during seminars. These statements made by a considerably large number of students show that they prefer during the individual study for Pedagogy the methods that require a minimal amount of effort on their side, namely reading and memorizing. The specialized literature also highlights the fact that there are students who adopt a superficial approach and who have the tendency to be preoccupied by the mere learning of the words, by memorization (Entwistle & Ramsden, 1983).

The question 'When you are studying for Pedagogy, how are you trying to facilitate retention?' was aimed at estimating the reflectivity of the students during studying and whether they achieve deep connections when learning.

Table 5. The distribution of answers on the 4th item of the survey

When you are studying for Pedagogy, how are you trying to facilitate retention?	Students
By reading the textbook	347 (59.3%)
By retaining the examples	90 (15.3%)
By taking notes	45 (7.6%)
By learning the notes taken	39 (6.6%)
By underlining the key ideas	34 (5.8%)
By retaining the main ideas only	30 (5.1%)

59.3% of the students have stated that the easiest way to retain information when learning for Pedagogy is by reading the textbook. Only retaining the examples is another modality of easier retention, used by 15.3% of the students when they are studying for Pedagogy. Other ways of retention when studying for this discipline are used in the following proportions: 7.6% of the students take notes, 6.6% of the students only learn the notes they took, 5.8% of the students underline the main ideas, and only 5.1% of students retain solely the main ideas. The modalities used for easier retention when studying for Pedagogy and the number of students that make use of each one of these show that they are not sufficiently reflective and they do not establish enough deep connections when studying. The answers on this item complements the ones from the previous item, where few students mentioned that they are 'trying to comprehend the information' when studying for Pedagogy.

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The answers to the 9th item on the survey 'Do you ask questions of yourself and try to answer them while studying?' further contributes to the estimation of reflectivity in studying and of the depth of connections established by students.

Table 6. The distribution of answers on the 9th item of the survey

Do you ask questions of yourself and try to answer them while studying?	Students
Yes	198 (33.8%)
No	387 (66.2%)

Most of the respondent students, namely 66.2%, do not pose questions and do not try to answer those questions when learning. Even though in the contemporary educational system, within the process of teaching-learning, the accent falls on comprehending the content studied and not solely memorizing and duplicating knowledge, a relatively small portion of students, namely 33.8%, have stated that when learning they are asking themselves questions and trying to answer them. This aspect points to the fact that students do not problematize when studying and, also, we note the fact that students should be reflective and should establish deep connections when studying (Gama, 2001, Blakey & Spence, 1990), not just for Pedagogy, but for all the disciplines on their education plan.

In the 10th item of the survey, the modalities used by the students for synthesizing the information when studying individually are being referred to. The modalities of synthesizing in discussion are: underlining, abbreviations, charts, numbering or figures.

Table 7. The distribution of answers on the 10th item of the survey

Do you use underlining, abbreviations, charts, numbering when studying individually?	Students
Yes	203 (34.7%)
No	382 (65.3%)

The majority of the students, namely 65,3%, have indicated that they do not use underlining, abbreviations, charts, or numbering when studying individually, thus we draw the conclusion that students, at least the vast majority of them, do not synthesize and do not process in a certain way the information with which they are working.

The mode in which students synthesize and process the information should also be evident in the study of the 16th item of the survey. By studying this item, we wish to find out what is the manner in which they take notes in courses and seminars and we also wish to find out if they utilize any particular system for note‑taking. In quantifying the answers for this item we have established that the majority of the answers concentrated on the method of note‑taking that involves 'writing down everything I hear' (473 answers, approximately 81%), an answer that was easy to anticipate since students prefer the simplest modalities that do not require any additional effort on their part, an aspect evident in the analysis of the other items as well.

Table 8. The distribution of answers on the 16th item of the survey

Describe the mode in which you take notes in classes and seminars!	Respondents
I write down everything I hear	473 (80.8%)
I write down the important ideas	31 (5.2%)
I write down the key terms	24 (4.1%)
I copy what is written on the blackboard	20 (3.4%)
I write down the schemes on the blackboard	20 (3.4%)
I write down the examples given by the teacher	17 (2.2%)

The 17th item of the survey references the concrete manner in which students synthesize information when studying individually. We note that synthesizing information takes the second place in the students' concerns. A small part of them make use of modalities for synthesizing the information, through numbering (rank II), ordering the information (rank III), extracting the main ideas (rank IV), or systematizing the content (rank V).

Table 9. The distribution of answers on the 17th item of the survey

Describe the mode in which you synthesize the information when studying individually!	Rank
I do not synthesize the information	I
I number the information	II
I order the information	III
I extract the main ideas	IV
I systematize the content	V

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3. Conclusions and research directions

During their higher‑education studies, unlike their high school years, students process an ever increasing quantity of information and they operate with it on an increasingly abstract level. As they develop intellectually, students become ever more aware of the characteristics of their own cognitive processes and they acquire more and more knowledge on cognition in general (Shulman, 1986, 1987, 1992). These acquisitions, when efficiently comprehended and used, will facilitate and improve the formation of the competency for individual studying (Jucan, 2005, 2007, 2009):

There is a category of students that learn these strategies implicitly, another category of students that deduce them through reflection upon their own cognitive style (Ornstein, Thomas & Lasley, 2000), but there are also categories of students that do not acquire them or that deduce counterproductive strategies. For these situations, the interventions for the development of efficient self‑study strategies (in accordance with the individual style of learning of the students) prove to be very useful. In the present study, the conclusion that becomes evident is that most students are not sufficiently reflective and they do not establish deep connections when studying individually; they prefer to read the entire textbook or their notes and they do not synthesize or process the information in any certain manner, and as such they rarely utilize key‑terms, organizing graphics, charts, figures, etc.

Furthermore, they do not problematize sufficiently when studying individually, they generally take notes by writing down everything they hear the professor say and they do not have a particular system for note–taking.

Even though the strategies for studying are, for the most part, specific to the area of study, we consider that there is knowledge and there are skills relevant to the development of strategies for studying that can be transferable (Brodkey, 1986). As such, the teaching staff proposes superior strategies for individual studying, strategies that involve the development, the organization, and the comprehension or processing of the information (Shulman, 1986, 1987, 1992). We also propose the acquirement of strategies of intellectual activity that will contribute to the efficient processing of the information and to the accelerated acquirement of knowledge by the students (Jucan, 2005, 2007, 2009).

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COOPERATIVE LEARNING AND MINDSET
WITH YOUNG STUDENTS

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ABSTRACT. Cooperative learning has been an important philosophy of teaching and learning for many years (Johnson & Johnson, 2013). The concepts of cooperative learning are now more important than at probably any other time in education. The skills necessary for the future go beyond the core subjects taught in schools (Wagner, 2008). Skills like communication, critical thinking, problem solving, innovative thinking, creativity, teamwork, collaboration, and negotiating are far more important than are the skills used to memorize facts for tests or learning the basics (Caine & Caine, 2011; Pink, 2006; Wagner, 2008; Zhao, 2013). Additionally, students who succeed in school and in life tend to be those students who can persevere during times of difficulty (Duckworth, 2013; Dweck). We need our future leaders of this world to understand how to get along with other people and solve problems in more effective ways than the use of bombs (Fitzgerald, 2013; Glasses, 2006). Education has to change or our students and our nation will be left behind (Pink, 2006; Wagner, 2008).

This study was developed to determine if first grade students could learn complex social skills and develop positive mindsets. We worked with a class of first grade students for eight weeks introducing three social skills and putting students into cooperative groups to solve complex issues. The results were encouraging and point to the idea that first grade students can grow in the positive mindsets and learn to work cooperatively with their peers. These students give us hope for our future.

Keywords: cooperative learning, growth mindset, social skills

ZUSAMMENFASSUNG. Kooperatives Lernen ist seit vielen Jahren eine wichtige Philosophie des Lehrens und Lernens gewesen (Johnson & Johnson, 2013). Die Konzepte des kooperativen Lernens sind jetzt wichtiger als bei wohl jedem anderen Zeitpunkt in der Bildung. Die Fähigkeiten, die für die Zukunft nötig sind, überschreiten die Kernthemen, din in den Schulen gelehrt sind (Wagner, 2008). Fähigkeiten wie Kommunikation, kritisches Denken, Problemlösung,

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innovatives Denken, Kreativität, Gruppenarbeit, Zusammenarbeit und Verhandlung sind weit wichtiger als die Fähigkeiten verwendet, um auswendig Fakten für Tests oder die Grundlagen zu lernen (Caine & Caine, 2011; Pink, 2006; Wagner, 2008; Zhao, 2013). Zusätzlich Studenten, die in der Schule und im Leben erfolgreich sind, sind in der Regel diejenigen, die in Zeiten von Schwierigkeiten beharren können (Duckworth, 2013; Dweck). Wir brauchen, dass unsere zukünftigen Führer dieser Welt verstehen, wie man mit anderen Menschen auskommen sollte und Probleme in einer effektiver Weise als die Verwendung von Bomben lösen (Fitzgerald, 2013; Glasses, 2006). Bildung muss sich ändern oder unsere Schüler und unsere Nation werden zurückgelassen sein (Rosa, 2006; Wagner, 2008). Diese Studie wurde entwickelt, um festzustellen, ob die Erstklässler komplexe soziale Fähigkeiten und positive Mentalitäten entwickeln könnten. Wir arbeiteten mit einer Klasse von Erstklässlern acht Wochen, führten drei soziale Fähigkeiten ein und setzen die Schüler in kooperativen Gruppen um komplexe Probleme zu lösen. Die Ergebnisse waren ermutigend und weisen auf die Idee, dass die Erstklässler in den positiven Mentalitäten wachsen können und lernen, kooperativ mit ihren Kollegen zu arbeiten. Diese Schüler gaben uns Hoffnung für unsere Zukunft.

Schlüsselwörter: *kooperatives Lernen, Wachstum Mentalitäten, soziale Fähigkeiten*

Introduction

As we progress through the 21st century it is becoming much more obvious that our students need to become more proficient in their problem solving skills, their ability to work in teams, their ability to negotiate, and to creatively develop solutions to issues (Johnson, Johnson, & Holubec, 2013; Wagner, 2008). Today perhaps more than at any other point in history we have to develop students who understand how to work with other people (Johnson, Johnson, & Holubec, 2013). Unfortunately it appears that our abilities to work in the realm of human relationships have not kept up with our technical knowledge (Fitzgerald, 2013; Glasser, 2006; Johnson & Johnson, 2013). Many of our best schools ignore most of the skills our students will need in the real world (Wagner, 2008; Zhao, 2012). We are often told that pedagogical philosophies and techniques like cooperative learning are too complex to implement with young students (Popa, 2010). Our observations of classrooms over the years show us that some teachers very effectively incorporate informal and formal cooperative learning on a regular basis. So, we set out in this study to implement cooperative learning with first grade students in order to begin the process of developing developmentally appropriate cooperative learning activities for younger students.

Literature Review

Introduction

Cooperative learning has been used in education for many years and its population has grown and lessened a number of times over the years (Johnson & Johnson, 2013). With the development of concepts about 21st century learning (Wagner, 2008) problem solving, critical thinking, communication, and collaboration have become important aspects for educators. Wagner (2008) explains that schools that do not teach their students are leaving their students behind in their abilities to compete for the best jobs of the 21st century. Pedagogical practices such as Project Based Learning (PBL), Inquiry Based Learning (IBL), Sustainability Education (SEF), Problem Based Learning, Critical Thinking strategies, and other methods of teaching are all based on the concept that students have to work in concert with their peers in to develop and implement the skills of the 21st century (Caine & Caine, 2011). Sousa (2011) also asserts that the latest research on the brain supports these practices as valid in the development of the brains of our students. This research indicates that the brains grows with learning, the more one learns the more one can learn (Caine & Caine, 2011). Johnson & Johnson (2013) have been study cooperative learning for many years and conclude that the research is clear, students who work with their peers cooperatively learn more, remember it longer, and learn more deeply the material with which they work than do students who work independently or competitively. Hattie (2012) has studied hundreds of meta-research studies and has developed effect sizes on achievement for at least 150 strategies used with students (he states that effect sizes above 0.40 are significant for raising student achievement). Hattie has determined that cooperative learning vs. individual learning has an effect size of 0.59 and cooperative learning vs. competitive learning has an effect size of 0.54. In other words student achievement is significantly higher when students work cooperatively than when they work individually or competitively. Johnson and Johnson (2013) also have determined that students who work together cooperatively also gain more effective social skills and psychological strength than do students who work alone or competitively. In his description of the use of Piagetian techniques (effect size of 1.28) Hattie (2012) states, "…cognitive development is a social process promoted by high-quality dialogue among peers supported by teachers" (p. 43). Piaget's (Piaget & Inhelder, 1966) concepts of assimilation and accommodation work more effective in social settings, not in isolation. Vygotsky (1978) developed the concept of the zone of proximal learning in which students learn from their peers who understand more or more deeply concepts upon which they are working. Learning according to Vygotsky (1978) is a social endeavor.

Grit and Mindset

In an interview with Deborah Perkins-Gough in 2013 Angela Duckworth explained the power of what she calls Grit. She explained that there are two pieces to the concept of Grit, "So grit is not just having resilience in the face of failure, but also having deep commitments that you remain loyal to over many years." Her research has found that dedication to getting the job done, a hard work ethic, and resilience in the face of adversity is important for student success. Duckworth explains how non-cognitive traits are at least as important as cognitive ability. She told her interviewer, "Grit predicts success over and beyond talent. When you consider individuals of equal talent, the grittier ones do better." She goes on the say that there is not relationship between Grit and talent. Those people who end up being the most talented at something often start out being not being so talented. Their talents progress with their dedication, hard work, strategic practice, and willingness to sacrifice.

Dweck (2006) describes the differences between what she calls a growth mindset and a fixed mindset. Basically, she explains, a growth mindset is one in which a person believes that her/his intelligence, talents, and personality traits are fixed (unchangeable), while a growth mindset is when a person believes that her/his intelligence, talents, and personality traits can be changed. Dweck writes, "…people have more capacity for life-long learning and brain development then ever thought" (p. 5). She quotes Robert Sternberg, a "guru" of intelligence, as believing the major factor in whether people achieve 'expertise' "is not some prior fixed ability, but purposeful engagement" (p. 5). According to Dweck, people with fixed mindsets feel that they have to prove themselves over and over. They feel that they have to be correct or they are not a smart or talented as they thought. The biggest problems with students with fixed mindsets is that they give up easily, they do not challenge themselves, they do not seek new things to learn, they hide their deficits instead of building them up, and they deceive themselves in their self-assessments because they fear showing weakness, less talent, or less intelligence. Dweck writes, "The passion for stretching yourself and sticking with it, even (or especially) when it's not going well, is the hall mark of a growth mindset" (p. 7). In order for people to determine if they have a growth mindset in terms of intelligence and personality traits, Dweck has develop two sets of yes/no statement:

Intelligence Statements

1. Your intelligence is something very basic about you that you can't change very much.(F)
2. You can learn new things, but you cannot really change how intelligent you are. (F)

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3. No matter how much intelligence you have, you can always change it quite a bit. (T)
4. You can always substantially change how intelligent you are. (T)

Personality and Character Statements
1. You are a certain kind of person, and there is not much that can be done to really change that. (F)
2. No matter what kind of person you are, you can always change substantially. (T)
3. You can do things differently, but the important parts of who you are can't really be changed. (F)
4. You can always change basic things about the kind of person you are. (T)

The important message from both Duckworth (2013) and Dweck (2006) is we can all change our Grit levels and Mindsets. We are not stuck where we are presently. Through strategic hard work and dedication we can improve both our Grit and our Mindset. Teachers can teach students to be grittier and to create positive growth mindsets.

Cooperative Learning

There are three basic patterns for students as they work in classrooms: individual work, competitive work, and cooperative work (Johnson, Johnson, & Holubec, 2013). In the world students will need to know and use the skills necessary for all three interaction patterns (Popa, 2008). So, it makes sense to develop a system of teaching and learning that gives students the best of all the patterns (Johnson, Johnson, & Holubec, 2013). The cooperative learning system used in this review was developed by the Johnsons to incorporate all three processes under the umbrella of cooperation. According to the Johnsons students should learn how to work and make decisions independently. They also should understand how to compete and deal with winning and losing in positive ways, keeping their emotions and actions in perspective (e.g. be gracious winners and good losers). Students should also learn how to be positive and contributing members of groups or teams. They need to understand how to be leaders and followers, and they need to learn how to do their parts to make their groups successful.

At this time in history it appears that working together in positive ways is more important than ever (Wagner, 2008). According to Wagner and the Center for 21st Century Learning (p21) one of the four most important skill areas for the 21st century is collaboration. Wagner believes that too many school's today, even some of our best schools, still do not take the skills of collaboration,

communication, problem solving, creativity, and critical thinking seriously enough. Pink (2006) believes that the leaders of the future and the people with the best jobs will be those who understand how to be innovative, creative, and problem solvers who know who to communicate and work with other people. Both Wagner (2008) and Pink (2006) believe that students need to be placed in educational activities in which they can work together on real world problems in deep and engaging ways. They believe that the real curricula are the skills associated with creativity, problem solving, entrepreneurship, leadership, collaborative efforts, and critical thinking. The Greenwich Public Schools (*http://www.greenwichschools.org/page.cfm?p=6697*) have developed ideas in relation to what people call the transdisciplinary curriculum, the curriculum that transcend subjects. In other words the most important skills are the 21st century skills listed above and the school subjects are used as the vehicles to give students access to these skills. In addition to the benefits explained earlier of cooperative learning socially, psychologically, and academically, cooperative learning also is instrumental in the critical thinking, problem solving, collaborative and communication skills necessary for 21st century and beyond learning (Johnson, Johnson, & Holubec, 2013).

In order to accomplish the tasks discussed above the Johnsons (2013) suggest cooperative learning as a major aspect of the teaching and learning process. The Johnsons advise that there are four different kinds of groups used in cooperative learning: base groups, informal groups, formal groups, and academic controversy groups. Base groups are used as long term groups in which students offer their members academic and personal support to each other. A form of base groups in middle schools and high schools are advisories in which a teacher and a small group of students work together for at least a year to support each other. Many high schools maintain these groups for four years. In formal groups are used for short periods of time within the classroom. These groups can last for a minute or up to a class could share pairs, homework check groups, reading groups, study groups, research groups, review groups, etc. The third group is a formal cooperative group that lasts for the length of an assignment. These formal groups could last for a class period or for an entire term if the students are working on a long-term project. The final group is an academic controversy group that usually lasts for up to a week as students research debate, take notes, switch sides, debate again, and then come together to develop a final solution or set of rules for some issue that can be historical, simulated, or for solving a real issue. Groups can be formed in a number of ways (random, stratified random, by interest, by ability, heterogeneously, by student choice, etc.) depending on the task at hand and the needs of the students as determined by the teacher and students (Johnson, Johnson, & Holubec, 2013).

The Johnsons (2013) have developed five basic elements for formal cooperative groups: Positive Interdependence, Individual Accountability and Personal Responsibility, Promotive and Face-to-Face Interactions, Individual and Small Group Skills, and Active Individual and Group Processing. For a formal group to be effective all five elements must be present in the group. When the group is not working effectively then usually one of the basic elements is missing from the process.

Positive Interdependence occurs when every member of the group believes that her/his job is to learn all of the material, accomplish the tasks of the group, do their individual parts, support every member of the group, and believe that together they can accomplish more than they each could individually. Positive interdependence is the key to cooperative groups at any level in school or on the job. Individuals in the highest functioning groups anywhere believe in and support each other (Popa, 2005). We see these kinds of groups in sports on a regular basis and in companies or schools that promote and support cooperation. These groups believe in synergy, the idea that our abilities as a group are greater than the mere sum of our parts. Teachers structure interdependence in different ways (e.g. limited materials that members have to share, individual jobs in the group, a common task, individual tasks to put together for the final task, bonuses for group participation, break up the learning material and members teach each other, etc.). Any process that makes students count on each other will help with Positive Interdependence (Johnson, Johnson, & Holubec, 2013).

Individual Accountability and Personal Responsibility is the second basic element of cooperative learning. Here each individual is responsible for learning the academic material and for completing the assigned individual tasks. Each individual will have to prove they have learned the material (e.g. do the homework, pass the quiz or test, write an exit slip proving what they know, be interviewed by the teacher, be assessed by the other members of the group, self-assess and defend their scores, do a presentation, write an essay, etc.). The goal is that every student learns all of the material and can prove her/his knowledge and/or skills achievement. Each individual student is also accountable for doing her/his part of the tasks to complete the final product for the project or activity. Students have to learn how to positively hold each other accountable for their efforts, as they will need to do in the career fields. The point here is that every individual is responsible for her/himself and for her/his efforts for the group (Johnson, Johnson, & Holubec, 2013).

The third basic element of cooperative learning is Promotive and Face-to-Face Interactions. In this element students must learn how to support each other. Here students employ the Caring Habits discussed earlier so that they support each other in their efforts. Students are required to support, challenge appropriately, assist, encourage, ask for help from, and offer information to each

other. Even when students are working independently on their tasks, they are asked to find material and ideas that they can share with their teammates. Students are also asked to give each other feedback that is honest, specific, helpful, and positive in order to promote the growth and success of each member of their group (Johnson, Johnson, & Holubec, 2013).

Individual and small Group skills compose the four element of cooperative learning. For this element to occur the teacher must teach, allow students to practice, and give students feedback for improvement for specific social skills. There are four groups of skills in this process. The Johnsons have broken these social skills into four categories:

1. **Forming:** The bottom-line skills needed to establish an effective group.
2. **Functioning:** The skills needed to manage the group's activities in completing the task and in maintaining effective working relationships among members.
3. **Formulating:** The skills needed to build deeper-level understanding of the material being studied, stimulate the use of higher quality reasoning strategies, and maximize mastery and retention of the assigned material
4. **Fermenting:** The skills needed to stimulate re-conceptualization of the material being studied, cognitive conflict, the search for more information, and the communication of the rationale behind one's conclusions.

In order to learn these skills the Johnsons suggest a process in which the teacher demonstrates: a. the need for the skill, b. the definition and practical skills needed for the skill, c. Allows for practice and feedback, d. continues the process until students use the skill in an unconsciously competent way (Johnson, Johnson, & Holubec, 2013).

The final basic cooperative learning element is Active Individual and Group Processing. Caine and Caine (2011) believe that active processing is integral to deep learning. The Johnsons (2016) agree. They state,

Students do not learn from experiences that they do not reflect on. If the learning groups are to function better tomorrow than they did today, members must receive feedback, reflect on how the effectiveness of their actions may be improved, and plan how to be even more skillful during the next group session. (p. 4)

Students need to think individually, process within their group, and share their ideas with the entire class, as well as receive feedback from their teacher. Then individuals, the groups, and the class create goals for improvement (Johnson, Johnson, & Holubec, 2013).

Cooperative learning takes a great deal of effort, planning, and feedback to be successful. The goal of preparing our students for the 21st century and beyond though makes it imperative to engage in such a process. Our future is dependent on the skills of our students as they become adults. We cannot afford to allow our students to be prepared for a century gone by. If we do not engage our students in cooperative and collaborative learning they will be left behind.

Methodology

In this study we conducted a series of lessons with the first grade students introducing cooperative learning and the social skills of taking turns, voice levels, and encouragement. We introduced each skill to the students and then we had the students practice the skills so they could reflect on them and gain feedback from the instructors. After students had practiced each of the skills we developed a project based series of activities in which the students learned the basics of storytelling. Students were then placed in groups by the topics the students chose for their story. Each group wrote a story based on their common topic. Students in each of their groups then developed a Big Book by copying their story into the Big Book and then illustrated their books with pictures from the internet and/or pictures drawn by the students.

Setting and Participants

The participants were 30 students in a fist grade classroom in a city in Romania of approximately 200,000 people. The school is within walking distance of the city center and house grades Per K to eighth grade. This school has a reputation as being a good school in the city. There were 19 girls and 11 boys in this study. There are diverse families in the school (Romanian, Iranian, Turkish, Hungarian) and the families have a range of socioeconomic standards.

The classroom teacher was an observer in the study as she allowed two pre-service teachers from the local university along with their university supervisor to conduct the 12 lessons implemented during the study. She also followed up the lessons with opportunities for the students to continue their practice of the social skills.

In addition to the students and teacher there were two pre-service teachers and their university supervisor who conducted the surveys, observations, and lessons during the study. Both of the female pre-service teachers were in their last semester of their program. Their supervisor is a lecturer at the university who regularly supervises pre-service teachers in the field.

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Design

Creswell (2003) developed three important questions for designing research:

1. What knowledge claims are being made by the researcher (including a theoretical perspective)?
2. What strategies of inquiry will inform the procedures?
3. What methods of data collection and analysis will be used?

Our perspective in relation to the first question is a constructivist view. We believe, „The goal of research, then, is to rely as much as possible on the participants' views of the situation being studied" (Creswell, p. 8). Our strategies of inquiry were developed from a mixed methods perspective, collecting both quantitative and qualitative data. „In this design, the investigator collects both forms of data at the same time during the study and then integrates the information in the interpretation of the overall results" (Creswell, p. 16). In our study we used both quantitative (survey, inventory) and qualitative (observation and interviews) data collection methods.

The quantitative methods used in this study were a pre and post classroom life survey (Popa, 2008) related to the classroom environment (academic and personal care and support from peers and the teacher; level of general cooperation among the class) and a pre and post mindset inventory (Dweck, 2006). The qualitative methods used in this study were observations of students in their group work (cooperative social skills: taking; mindset behaviors: perseverance, asking for assistance, providing assistance). Pre and post observations were implemented, as well as ongoing observations during the study. The classroom teacher also participated in a post study interview.

Table 1 displays the methods and tools applied during the study.

Table 1. Mixed Methods Design

Quantitative Method	Quantitative Tool	Qualitative Method	Qualitative Tool
Survey	Classroom Life Survey	Student Observations	Pre and Post Observation Protocol
Inventory	Mindset Inventory	Student Observations	Researcher Journal
		Teacher Interview	Interview Protocol

Research Questions

This study was based on two research questions:
1. What effects will the introduction of formal cooperative learning lessons and activities have on the social skills of first grade students when they work in groups?
2. What effects will the introduction of formal cooperative learning lessons and activities have on the mindsets of first grade students as they work together in groups?

The first hypothesis for this study was that if we taught students social skills they would gain better skills for working in groups. The second hypothesis was that if students gained more social skills their mindsets would be more positive when they faced difficult work in their groups. Our fear was that because of the timeframe of this study (8 weeks) students would not have enough time to go through the implementation dip of learning new skills to make enough gains to give us a true picture of where they will be after another term of work.

This study employed a mixed methods design to gather and analyze data. Quantitative data was gathered through the use of a pre and post surveys for the students. More qualitative data was gathered through pre and post study observations using a standard chart for each observation. During the course of the study instructors maintained researcher observations of the students during the nine lessons/activities. Finally, at the completion of the study the classroom was interviewed to gather her observations during the study.

Phases of Inquiry

The following 15 phases of inquiry were applied during this study:
1. Gain administrative consent
2. Gain teacher and student consent
3. Pre student observations
4. Pre student class life survey
5. Pre student mindset inventory
6. Introduce concepts of cooperative learning and social skills
7. Introduce concept of mindset skills
8. Teach and practice social skills and mindset skills
9. Implement final project to implement cooperative social skills and mindset skills
10. Post student observations (cooperative social skills and mindset skills)

11. Post student classroom life survey
12. Post student mindset inventory
13. Teacher interview
14. Data analysis
15. Development of final conclusions and recommendations

The study began with a pre observation of the students. During these observations the two university students and their supervisor divided up the class to observe the students' social skills (taking turns and encouragement) and growth mindset concepts (perseverance, effort, asking for help, helping others). This data gave us a baseline for the students in the classroom. The observation was repeated at the conclusion of the project in order to analyze growth from the beginning to the end of the process.

The three instructors surveyed the students giving them fifteen statements related to cooperative learning to rate on a scale of 1 to 5 (always false to always true). One instructor led the process while the other two people circulated through the class to answer questions or assist students. There were five statements in each of three categories: 1. personal support in learning from peers, 2. personal support in learning from the teacher, 3. cooperation. The statements for personal support in learning from peers were as follows:

1. In this class my peers like to help me to learn.
2. My peers want me to learn well.
3. In this class the other students care how much I learn.
4. In this class my peers like me the way I am.
5. In this class every colleague is my friend.

The personal support in learning from my teacher statements were as follows:

1. My teacher really cares about me.
2. My teacher cares how much I learn.
3. My teacher likes to see the results of my work.
4. My teacher likes to help me to learn.
5. My teacher cares about how I feel.

The cooperation statements were as follows:

1. In this class I like to cooperate with other colleagues.
2. In this class we help each other.
3. In this class we learn more when we work together.
4. In this class learning in cooperative groups is better than learning alone.
5. In this class it is a good that we have students help each other in their learning.

The instructors then gave a mindset inventory to the students (see Appendix A). The inventory consisted of twenty statements about growth and fixed mindsets. There were five statements for each category: fixed ability, growth ability, fixed personality, and growth personality. The students rated each statement on a four point scale from strongly disagree to strongly agree. The inventory results were based on the following scale: 0 – 20: Strong Fixed Mindset; 21 – 33: Fixed mindset; 34 – 44: Growth Mindset; 45 – 60 Strong Growth Mindset.

After completing the pre study observation and surveys, the university pre-service teachers and their supervisor began a series of nine lessons with the students. They implemented two lessons/activities for each of the three social skills: taking turns, voice levels, and encouragement. The process for each of the social skills lessons included helping students to become aware of the social skill; working with students to define each social with the use if a T chart (what does the skill look like and what does the skill sound like); initial practice of the skills; individual and group processing of progress; more practice; individual and group processing. During the practice phases of each skill students were placed in small groups and observed by the classroom teacher and the three people from the university. In addition to the student processing, the three university instructors and the classroom teacher processed in order to adapt for the next lesson.

After the completion of the six lessons working with social skills, the instructors taught the students how to develop and create stories. The students practiced working in groups with the three pieces of a story, beginning, middle, and end. Students practiced creating and telling their stories using pictures and words. Students then brainstormed a list of possible topics for their final task. The class voted on the items until they had chosen six topics: Lego, memories from my childhood, love, princesses, ghosts, and pets. Then students were placed into groups based on their topics. There were seven groups (two groups worked with the topic of pets).

Students then were given the task to develop and then write a story based on their chosen topic. Each student in the group wrote two sentences for the group story. The instructors then edited the sentences with the students, and each student wrote her/his sentences into the Big Book. Each student then either drew or cut put a picture for each of his or her sentences. Then each group created a title for their story and after sharing it with an instructor, wrote the title on the front page of the book. Finally, each author wrote her/his name on the front cover of the book.

At the completion of this process the students were again given a group activity to accomplish and the three instructors observed the students taking notes as they did in the pre study observation. They rated the students in relation to their social skills of taking turns and encouragement and their mindsets by charting their perseverance, effort, asking help, and helping others. Finally students were given the post study survey, which was the same survey used in the pre study process.

During this process the instructors observed the students in their efforts and kept researcher journals for this notes. They analyzed their notes in order to draw conclusions about the progress of the students during the entire study. The classroom teacher was interviewed at the completion of the study to gain her insights for the study.

Results

Cooperative Learning Survey

The cooperative learning survey was divided into three categories with five statements in each category: peer support, teacher support, and general cooperative learning attitudes. Teacher support (4.8) and cooperative attitudes (4.6) had high scores in the pre survey. After working at learning the social skills and completing the complex activities in their formal cooperative groups these scores remained high but were slightly lower on the post survey (teacher support 4.5 and cooperative attitudes 4.3). In the area of peer support the score in the pre survey was 3.9 and in the post survey was 4.1. Again the positive difference was slight. In this class the students have a high level of trust in their teacher and in general want to be cooperative. Their amount of trust that their colleagues will help them rose during study but remains lower than the other two categories.

Mindset Inventory

In the pre inventory for mindsets there were 18 (67%) students who scored in the Fixed Mindset range and 9 (33%) students who scored in the Growth mindset range. There was no student who scored in either the Strong fixed or the Strong Growth Mindset ranges. In the post inventory 11(41%) students scored in the Fixed Mindset range and 16 (59%) students scored in the Growth Mindset range. One of those students scored in the Strong Mindset range. Three students also fell from the Growth Mindset to the Fixed Mindset range. This inventory indicated a 26% overall increase in students in the Growth Mindset range from the beginning to the completion of the study.

Cooperative Skills Pre and Post Observations

Prior to and at the end of the study the three instructors observed the students as they completed grouped tasks. The students were charted as to their display of the social skills of taking turns and of encouraging their peers in their work. In the pre observation the activity had students working in pairs and in the

post observation the students were working in groups of four. This caused a problem in trying to compare the results. When students are working in pairs the complexity of the interactions is much less. Students in pairs tend to either be the speaker or listener. When working in groups of four the communication becomes more complex because the students have to interact with and try to understand three times as many people. In addition the observers' task became more complicated as they observed four students at a time rather than two. In spite of these complications the data proved interesting.

For the area of taking turns there were three items observed: students waiting for their turn, students looking at the speaker, and students making some sort of sign that they would like to speak (e.g. raising a hand). In the pre observation there were 19 observations of student waiting for their turn to speak and no interruptions of the speaker. In the post observations there were 12 observations of students waiting for their turn to speak and 17 times of interrupting another student to speak. In the case of looking at the speaker there were 39 observations of students accomplishing this skill in both the pre and the post observations. In the pre observation there were 16 times when students were observed not looking at the speaker. In the post observations there were no such observations. In terms of students making signs to try to gain a time to speak, in the pre observations there were 33 times students made a sign for attention for a turn. In the post observation there were 10 such instances. In both cases there were no negative attention getting signs used by students. In the pre observations there were 23 more positive observations (91 to 68) for taking turns than in the post observations. In the post observations there were 10 fewer negative behaviors (27 to 17) than in the pre observation in relation to taking turns than in the pre observations.

In the area of encouragement there were also three categories observed: smiles, nods, and saying something positive. In the pre observation there 35 times when students were observed smiling at the speaker; in the post observations there were 50 such observations. In the pre observation there were 18 instances of students making negative faces while another student was talking. In the post observations there were 12 such instances. In terms of student nods to the speaker, there were 10 observations of student nodding in the pre observation and 4 instances in the post observation. In the pre observations one student was observe saying something positive or helpful to the speaker and one student saying something negative. During the post observation there were 5 instances of students saying positive things to the speaker and one observation of a negative comment. There were 13 more instances (59 to 46) of positive observation in the post observations as compared to the pre observations. There were also 3 fewer instances (16 to 19) of negative behaviors in terms of encouragement in the post observations.

In summary, in spite of the more complex nature of the task in the post observation, the students displayed fewer negative social behaviors both in terms of taking turns and in encouraging their peers. There were more positive observations in the pre observation time in terms of taking turns, and there were more positive observations in the post observations in terms of students encouraging one another.

Mindset Skills Pre and Post Observation

For the pre and post observations for Mindsets the instructor observed four categories of a positive mindset: perseverance, effort, asking for help when needed, and offering help to peers. In the pre observation there were 26 instances of visible perseverance and in the post observation there were 20 such instances. In the post observations there was one instance of a student giving up during the process. In terms of effort in the pre observations there were 18 instances of obvious effort and one case of a lack of effort. In the post observations there were 16 cases of visible effort and two instances of negative effort. In the pre observations there were 9 observations of students asking for help and one observation of a student refusing to accept help. In the post observations there were three instances of students asking for help. Four students were observed offering help to a peer in the pre observations and there were 6 students who refused to help a peer. In the post observations 8 students agreed to assist their peers and 2 students refused to give help to a peer. In addition the instructor observed 1 student in the pre observation and 13 students in the post observations who exhibited behaviors that she considered positive in terms of mindset. In terms of negative mindset actions the instructor noted 7 negative mindset behaviors in the pre observation and 3 in the post observation. In summary there were a total of 58 positive mindset visible behaviors by students in the pre observation and 60 such behaviors in the post observation. There were 16 negative mindset behaviors in the pre observation and 8 in the post observation.

Teacher Interview

We interviewed the classroom teacher to gain insights from her perspective. The first question was, *To what degree did you observe any differences in your students in their use of taking turns in your classroom during this study?* She replied that:

In the beginning of the research the students did not use this skill successfully, Gradually, I notice an improvement. They get along by looking at each other. They accept and respect each other in their groups.

The second question was, *To what degree did you observe any differences in your students in their use of encouragement in your classroom during this study?* She answered that:

I noticed that they encourage each other and that they are challenged. The students that had a tendency to not be involved in the lessons are more active even with traditional lessons.

The third question was, *To what degree did you observe any differences in your students in their use their voice levels in their groups in your classroom during this study?* Her response:

This skill needs more work. There are students who talk a very loud, even shout, when they are working in groups. Still I noticed groups that are using a low voice/tone.

The fourth question was, *To what degree have you seen students persevere in their work if they face a difficult task?* She stated:

Unfortunately, I noticed this only once during your work with my students. I liked what I saw. Slowly, but surely they are learning to persevere.

The fifth question was, *What do you see as the benefits of this work with your students?*

I feel that this action helped my students to become closer. They successfully came to know each other better, and they made new friends within the classroom.

We finally asked the teacher if she had any other comments she would like to add. She stated,

This study showed me another approach of teaching that I would like to try.

Instructor Observations

The three instructors also maintained observations throughout this study. They major conclusion from their experience was that they saw progress from the students. One instructor stated, *At the beginning the students would not share materials or ideas with each other. At the end when they were making their big books they were very willing to share and help each other complete their books.* Another instructor said, *Even though it was hard for the student to always keep their voices low, they knew that it was better for everyone when they did.* An instructor said, *It was special to observe the students and hear them encourage each other when they knew we were observing. Even though it was difficult they wanted to learn the skills, and they were proud to show us what they were learning.* One of the instructors stated, *I was so excited to see the students move into the mechanical stage of encouragement. We have talked about the stages of skill development and it was so exciting to see it in action with these students.* Finally, an instructor related, *This is really hard work but it is so cool when you see students grow in front of you. It was amazing to see the progress of the students from the beginning of the study to the end.*

Discussion

The objective of this study was to work with first grade students to see if we could help them to learn social skills necessary to work effectively in groups. We also wanted to see if we could begin to help students to strengthen their positive mindsets. Both of these issues are complex and our study is just the beginning stage of a much larger process. We agree with people like Wagner (2008), Pink (2006), Caine and Caine (2011) that the future success of our students in their post education lives lies in their abilities to problem solve, understand diversity, think critically, communicate effectively, be creative, innovative, and flexible, and to understand how to work with different kinds of people effectively. We also agree with people like Dweck (2006) and Duckworth (2013) that our students need to have the skills to persevere through difficult times and the attitude to face challenges with a positive mindset. These kinds of skills will not be gained by passing standardized tests or sitting rows learning how to spit back to teachers what they have been told. If we really want our students to be independent thinkers, innovators, creative problem solvers, and collaborative adults then we have to work with them in ways that assists them in developing the attitudes and skills needed to accomplish those goals (Zhao, 2012). We have to change what and how we teach if we are going to help our students be prepared for the future (Wagner, 2008). Cooperative learning (Johnson & Johnson, 2013) is a philosophy of teaching that allows teachers and students to learn about and develop the skills necessary to be effective citizens of the future. This study is one small piece of the process but it is important because it does show that young students want to and can begin the work to begin gaining these skills at early ages. First graders can learn to develop positive mindsets and they can learn important cooperative social skills. We are not encouraging this work because it is easy, we are encouraging it because it essential to the future our students and our world.

Limitations

This was small study conducted over a relatively short period of time. The results are interesting and give us some great food for thought. But these results cannot be generalized beyond this study. This study was conducted by people who were not part of the regular classroom of the students. That caused some normal issues of disrupting the normal flow of the day for students when we were present in their classroom. Although the teacher and the students were gracious and wonderful this process would probably have been even more effective if we had been a regular part of the school. We had three people implementing the

study in the class and that is something that most classrooms do not have the ability to do. It would be good to see studies like ours accomplished in schools with the regular number of personnel that work in a classroom.

Recommendations for Further Study

We have become convinced that young people can learn the complex social skills needed for cooperative learning, and we are convinced that we can teach young students Grit and positive mindset skills. More research with young students needs to be developed so that we can learn even more effective ways to help young people gather these skills. We also believe to would be worthwhile to conduct research on the effects of Mindset on teachers and administrators. We also believe that further research on teaching important social skills to young people to develop the most developmentally appropriate techniques to employ with our young students. Finally, we recommend longer term studies to understand the longer term effects and needs for effective cooperative learning in elementary schools.

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AN EVALUATION OF THE ROLE OF INSTRUCTIONAL
LEADERSHIP ON THE PERFORMANCE
OF SCHOOLS IN ZIMBABWE.

MAXWELL SANDADA[1] & MWANYARA MAKAMANI[2]

ABSTRACT. The purpose of this research was to investigate the extent to which instructional leadership is contributing to the performance of schools in Zimbabwe. The research was prompted by the little body of knowledge about the phenomenon in Zimbabwe. The study adopted a quantitative approach. A self-administered survey was conducted to collect data from three strata; council primary schools, government primary schools and secondary government schools. Data was analysed using descriptive, correlation and regression analyses. The findings of the study revealed that instructional leadership significantly contributes to both dimensions of school performance: teacher and pupil performances. The results provide some invaluable insights on how school leaders can improve the performance of schools through instructional leadership. Given the robust relationship between instructional leadership and school performance, the school heads should consider to use instructional leadership style in order to enhance the performance of their schools.

Key words: leadership, transformational leadership, performance, school

ABSTRAKT. Der Zweck dieser Forschung war es, zu untersuchen, inwieweit die Führungskompetenz der Leitung der Schule in Simbabwe beitragend. Die Forschung erfolgte aufgrund der wenige gemeinsame Erkenntnisse über das Phänomen in Simbabwe. Die Studie hat einen quantitativen Ansatz angenommen. Eine selbstverwaltete Umfrage wurde durchgeführt, um Daten aus drei Schichten zu sammeln; staatliche Grundschule, Regierungsschule und sekundär Regierungsschule. Die Auswertung der Daten erfolgte mit den Deskriptiv-, Korrelations- und Regressionsanalyse. Die Ergebnisse der Studie enthüllt dass, die Fuhrungskompetenz erheblich den beiden Dimensionen von Schulaufführung beiträgt: Lehrer- und Schule- Aufführung. Die Ergebnisse geben unschätzbare Einblicken wie die Schulleiter ihre Aufführung durch die Führungskompetenz verbessern können. Angesichts des robusten Beziehungen zwischen

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Führungskompetenzen und Schulaufführung, die Schulleiter sollen berücksichtigen, den Führungsskompetenzenstil zu verwenden, zur Verstärkung der Aufführung ihren Schulen.

Schlüsselwörter: *Führung, Transformationale Führung, Aufführung, Schule*

1. Introduction

School leaders are critical for the success of schools as their leadership has a bearing on teacher performance and the overall pass rate of schools (Boonla, 2013; Horng, 2010). In recent years, the view of principalship that has been growing focuses on instruction, and not building management or other administrative matters, (Mendels, 2012). Many leadership styles, which include beaureucratic style, autocratic style, among many, were being practiced in Zimbabwean schools. The most effective leadership style is not really known. This study seeks to investigate the impact of instructional leadership style on school performance. According to the (Ministry of Education , 2011-2015), education was proclaimed as a basic human right and as such, a lot of investments were made in the education system in order to achieve the set objectives. Two decades into Independence, Zimbabwe's education system still remains the envy of Africa as it is regarded as one of the best and strongest in sub-Saharan Africa. However, schools in Zimbabwe are having different pass rates year in year out yet they all have pupils and teachers of almost similar credentials. Teachers are coming from almost similar training colleges and pupils from almost similar environments and backgrounds but yielding totally different performance levels in schools. What is not known is why there are different levels on teacher performance and pass rates in schools that have almost similar conditions. Could instructional leadership be the cause? If so, to what extent is instructional leadership impacting on teachers' performance and ultimately the children's pass rate? Few studies have been carried to investigate the impact of leadership styles on school performance in Zimbabwe. Such a somehow similar study was done in Kadoma Rural, by Mazise (2011) where he investigated the challenges and prospects of quality primary education in Zimbabwe. Ncube (2004) looked into the internal efficiency in rural day secondary schools in Zimbabwe. This study is one of its own in terms of research objectives and content since school heads are still using different leadership styles and still having pass rates disparities. No leadership style has been recommended to school heads as the best so far.

This implies that the results of the study will effectively contribute to the existing body of knowledge. It is against this background that the study sought to examine the effect of instructional leadership on the performance of schools in Harare Province.

The contributions of this study are expected to be academic and practical oriented. For instance, exploring the influence of instructional leadership on school performance will provide practical basis and motivations for schools in Zimbabwe to adopt instructional leadership style targeted at improving the performance of schools. On the academic front, the current study is expected to generate new literature on school leadership from an African perspective.

The rest of the paper is arranged as follows: A theoretical review, the conceptual framework and hypotheses will firstly be presented. Thereafter the methodology, data analysis and conclusions are discussed. The final section presents the managerial implications, limitations and recommendations for future research.

2. Leadership Theories

2.1 The Trait Theory

The assumption on trait theory , according to (Yukl, 2006), is that leadership is inherent in a few, select people and that leadership is restricted to only those few who have special talents with which they are born with. According to Stogdill (1975), successful leaders can be characterized by task persistence, self-confidence, tolerance of interpersonal stress and the ability to influence other peoples' behavior. Fayol (1949) managed to identify vigor, mental qualities like the ability to learn and understand and moral qualities like energy, firmness, loyalty and dignity as the three leadership qualities in the trait theory. The current study submits that a leader's traits have a bearing on how he/she leads the school and this has an effect on the performance of the school.

2.2 Instructional Leadership Style

Jenkins (2009) defined instructional leadership as leadership which occurs when the principal provides direction, resources and support to both educators and learners with the aim of improving teaching and learning at school. Instructional leaders are known for always ensuring an effective learning and teaching culture in schools. Horng and Loeb (2010) discovered that many new principal preparation and development programs emphasise the role of principals as "instructional leaders" and schools demonstrating growth in

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student achievement are more likely to have principals who are strong organizational managers who are effective in hiring and supporting staff, allocating budgets and resources and maintaining positive working and learning environments. These schools demonstrating academic improvement are the ones being led by effective organizational leaders. The principal must possess certain skills to carry out the tasks of an instructional leader; that is interpersonal skills; planning skills; instructional observation skills and research and evaluation skills (Lashway, 2002).

DuFour (2002) also stipulated that instructional leaders also need up-to-date knowledge three areas of education that is curriculum, instruction and assessment. Curriculum involves educational curriculum and beliefs, curriculum sources and conflict and curriculum evaluation and improvement. Onyango and Akinyi (2014) also defined an effective principal as an instructional leader who must perform at high level in four areas: as a resource provider, as an instructional resource, as a communicator and as a visible presence. These two researchers were concurring on their identification of instructional leadership skills. Drawing from this reasoning, this study contends that the four instructional leadership skills are visible presence of the school head, the head as the instructional resource giving instructions to both pupils and to the teachers, heads as good communicators and last but not least, heads as resource providers. These four skills make an effective instructional leader.

2.3 Performance of Schools

There are various ways of measuring performance within the education system. According to the Alberta Treasury (1995), performance measures range from outcome measures, intermediate outcome measures, output measures, process measures and input measures. These performance measures help the organizations, schools in particular to assess and report on progress, find priorities for improvement and make budget decisions. The report states that the measures in school authority and school plans and in results reports focus on outcomes and constitute the core set of measures for assessing and reporting on progress and achievement (Alberta Treasury, 1995). For the performance measures to be effective, they should be understandable, valid, and relevant and appropriate for the study, reliable, comparable, discrete (non-overlapping), empowering and practical. In this study, teacher performance is to be measured using the outcomes. The final ordinary level results and the final grade seven results are under consideration in determination of the performance of school teachers.

3. The Conceptual Framework and Hypothesis Development

In order to empirically test the influence of instructional leadership on the overall school performance, a conceptual framework is developed. Performance of school pupils is the outcome variable, school performance is the outcome variable and is measured in terms of teacher performance as well as pupils performance. The relationship between the variables is that the adoption of instructional leadership style by school headmasters will have a positive effect on school performance dimensions of teacher and pupils' performance. Figure 1 illustrates the relationships and the details will be provided in the following sections.
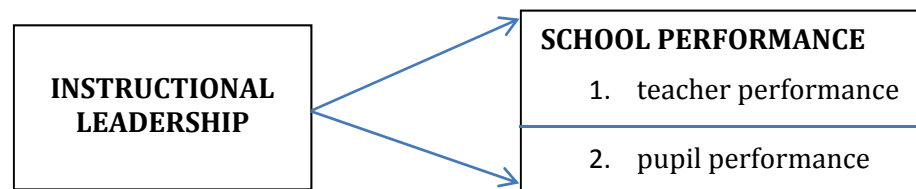
Figure 1. Conceptual Framework

3.1 Instructional Leadership and Teacher Performance

Scholars such as Jenkins (2009), Horng and Loeb 2010) maintain that instructional leadership style has four key aspects or dimensions which underpins it. These are resource provision by the school head, the head as an instructional resource giving instructions to teachers and school pupils, good communication skills by the school head and last but not least the visible presence by the school head whereby the school head should be visibly present, going down as far as sometimes monitoring how lessons are delivered by teachers to school pupils. These attributes are what instructional leadership is and their impact on the teacher performance and hence on the overall school performance matters most. Kruger's (2003) study of the impact of instructional leadership by school heads on the culture of teaching and learning in two effective secondary schools in South Africa found that the schools that had experienced good matriculation examination results for a number of years would be characterized by a sound culture of teaching and learning, resulting from effective instructional leadership by school heads. The results showed a move away from the traditional authoritarian methods of instructional leadership towards a collaborative approach. The findings of a study by Enueme and Egwunyenga (2008) also found that influence instructional leadership style is a precursor to school performance.

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This is further corroborated by studies done by Balu, Rekha, Horng and Loeb (2010) and Kruger (2003) which confirmed the hypothesis that instructional leadership impact positively on school teachers and pupils' performance. Another study on instructional leadership was carried out by Ponnusamy (2010) and found that that there is a positive relationship between the external orientation dimension of teachers' organizational commitment and students' academic achievement and hence on the overall schools' pass rates.

A recent study by Msila (2013) confirmed that an effective instructional leader embraces a vision and succeed even in schools with few resources. All school principals should be hands-on in curricular issues and if they are directly involved, the learning climate is most likely to improve and hence effective learning and teaching. If teachers are involved in goal setting, they are more willing to achieve the set goals. Effective principals are also recommended to do constant staff appraisals and these should be negotiated with teachers beforehand to avoid witch hunting which is usually resisted by the teachers. The principals should be seen on the forefront magnifying reflection and teachers who reflect on their teaching are good learners who always improve their teaching. Drawing from these previous studies, in this study, it is noted that instructional leadership style positively influences the school teacher performance. Deducing from all these findings from previous researchers, the study hypothesized that:

The instructional leadership attributes by the school head positively influence school performance.

4. Research Methodology

The study adopted the quantitative research design which helped in qauntify the impact of instructional leadership on school performance and to generalise the results to a wider population. The targeted population is all school teachers in council and government, primary and secondary schools in Harare Metropolitan Province which were drawn from the region randomly. According to the Ministry of Education, Sports, Arts and Culture report (2013); in Harare Metropolitan Region there are thirty (30) council primary schools, one hundred and fifty three (153) government primary schools and eighty two (82) government secondary schools. Three strata were formed; one for council primary schools, the other for government primary schools and lastly the one on government secondary schools. From each stratum, teachers to participate in the study were randomly selected.

4.1 Data Collection instrument and procedure

A self–administered questionnaire with standardised questions was distributed in person and through emails. A five point Likert scale was devised ranging from 1=Strongly Agree to 5=Stongly Disagree. The study adapted Robinson, Lloyd and Lowe's (2008) instructional leadership scale to develop a questionnaire for the current study. The items included were supervising and evaluating the curriculum; monitoring student progress; coordinating and managing curriculum; providing advice and support; visibility; promoting school improvement and professional development; and achievement orientation. The performance of schools was measured by pass rate, motivation of teachers to carry out duties, teachers' willingness to participate in extra-curriculum activities, and willingness to help needy students. The use of the Likert scale on both constructs (instructional leadership and school performance) helped to standardise response items and this ultimately made the responses easily comparable amongst respondents. It also eliminated response bias and made coding and analysis directly from the questionnaire possible (Cant 2003). Of the 120 questionnaires that were distributed, 83 were returned which gave a 69.17% response rate.

The data were then analysed in three phases. Firstly, descriptive frequencies were used to establish the distribution of the sampled respondents. Secondly, correlation analysis was utilized in order to ascertain the strength of the relationship between the variables under investigation. Lastly, regression analysis was carried out to identify the effect of instructional leadership style on school performance dimensions namely teacher and pupils' performance.

5. Results

Gender analysis depicts that more females participated in the study than males constituting 54.2% whilst male participants were 45.8%. The age composition provides evidence that the majority of the participants are from the age group of 31-40 (50.6%), the least percentage of participants is on the age group of above fifty (50) years which constitutes 3.6%. With regards to experience, those respondents who are below 5 years of experience constituted 28.9% while those with at least 15 years' experience constituted (34.9%). Furthermore, an analysis of educational qualifications revealed that most of the respondents are having first degrees and diplomas constituting 39.8% and 43.45% respectively. A handful is at ordinary and advanced levels in terms of qualifications constituting 3.6% of the respondents. Those respondents with post graduate qualifications are 13.3%.

5.1. Reliability and Validity Tests

Table 1. Reliability and validity tests

Variable	Items	Cronbach Alpha
Instructional leadership	23	0.941
Teacher performance	6	0.775
Pupil performance	5	0.768

As shown by the results in Table 1, the internal consistency of the reliability test gave a Cronbach's Alpha coefficient of 0.941, 0.775 and 0.768 for instructional leadership scale, teacher performance scale and pupil performance respectively. The figures are all greater than the acceptable benchmark of 0.7. Further checks ot ensure face and content validity were done by seeking expert advice which enhanced the validity of the instrument. A pilot study was also conducted with a maximum of 20 respondents to check for adequacy of the questionnaire instrument. The pilot study results aided in adjusting the items in the instrument to fully represent each variable.

5.2. Correlation Analysis

Spearman's rank correlation "rho" was adopted. This is a non–parametric rank based statistical test that is unevenly distributed data. Correlation takes range from -1.0 for a perfect negative relationship to +1.0 for a perfect positive relationship. The table below shows the level of association between the independent variable (instructional leadership) and the outcome variable (school performance dimensions namely teacher and pupil performances).

Table 2. Correlation Analysis

Factors	Teacher performance	Pupil performance	Instructional leadership
Teacher performance	1		
Pupil performance	.575**	1	
Instructional leadership	.593**	.592*	1
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 2 shows there is a moderate and statistically significant relationship between instructional leadership and school performance dimensions which are teacher performance (r = .593, p<0.01) and pupil performance (r = .592, p<0.01).

5.3. Regression Analysis

The study also conducted regression tests because correlation analysis only helped in ascertaining the direction of the relationship between the variables but regression is more robust since it analyses the cause-and-effect relationships amongst variables. The regression tests were carried out to test the predictive power of instructional leadership on teacher performance. Table 3 depicts the regression results.

Table 3. Regression of Instructional Leadership and Teacher Performance

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	.760	.215		3.534	.001
infor	.568	.086	.593	6.630	.000

Dependent Variable: teachperf, F=43.953, sig 0.000,
R-squared =.352, Adjusted R-squared= .344

As depicted in Table 3, the R-squared value of .352 demonstrates that 35.2% of variance in teacher performance is explained by instructional leadership. The F value (43.953, p<0.05) demonstrates that the model is fit to predict teacher performance since the level of significance is less than 0.05. The regression Beta value depicted in Table also indicates that instructional leadership is a significant predictor to teacher performance (β= 0.593, p<0.05). Regression analysis was also conducted to establish the influence of instructional leadership on pupil performance. The results are shown in Table 4 overleaf.

Table 4. Regression analysis results

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.211	.213		5.679	.000
teachperf	.604	.095	.575	6.329	.000

Dependent Variable: pupil performance,
R-squared =.331, Adjusted R-squared = .32.3

Table 4, depicts an adjusted R-squared value of .323 which shows that 32.3% of variance in pupil performance is explained by instructional leadership of school headmasters. The F value (F = 40.053, p<0.05) also demonstrates that the model is fit to predict school performance. The Beta value (β= 0.575, p<0.05) is an indication that the headmaster's instructional leadership style has a statistically significant influence on the school performance dimension of pupil performance.

6. Discussion of Results

This research's main aim was to establish the influence of instructional leadership style by school heads on school performance dimensions of teacher and pupil performance. The results indicate instructional leadership style has a positive impact on teacher and pupil performance. This conclusion is supported by Crankshaw (2011) who concluded that effective heads may possibly improve teachers' perceptions of their instructional leadership efforts by being more visible and practicing effective communication among them. Rhodes and Brundrett (2010), in their research, also concluded that a successful instructional leader talk to teachers about their instruction and encourage collaboration between teachers hence teachers' effectiveness. Kruger (2003) found that schools that had experienced good matriculation examination results for a number of years would be characterized by a sound culture of teaching and learning, resulting from effective instructional leadership by school heads. Another study by Figlo and Kenny (2007) concluded that students learn more in schools in which individual teachers are given financial incentives to do better job or that better schools are creating good teaching environments for the teachers to perform and hence good school performance (pass rate).

7. Implications of the Study

The current study is an attempt to investigate the instructional leadership style as a predictor of company performance in an often most neglected context – the sub Saharan context. By and large, the findings of this empirical study are expected to have to provide fruitful implications to both practitioners and academicians. On the academic side, this study makes a significant contribution to the school leadership literature by systematically exploring its impact on school performance in Zimbabwe. Overall, the current study findings provide tentative support to the proposition that instructional leadership style should be recognized as a significant predictor of school performance in Zimbabwe.

On the practitioners' side, the significant influence of instructional leadership in Zimbabwe is highlighted. This study therefore submits that headmasters in schools can benefit from the implications of these findings. For instance, given the robust relationship between instructional leadership and school performance dimensions of teacher and pupil performance, schools administrators may need invest in this leadership style in order to improve the performance of their schools. Due to instructional leadership, teachers will be motivated and hence become more effective at work thereby improving the pupils' pass rate.

8. Limitations and Areas of Further Study

Despite the usefulness of this study aforementioned, the research has its limitations. First and most significantly, the study can be strengthened by including other schools in the country's different provinces. Second, the current study was limited to Zimbabwe. Subsequent research studies perhaps could contemplate replicating this study in other developing countries. All in all, these suggested future avenues of study stand to immensely contribute new knowledge to the existing body of school leadership literature in developing countries.

9. Conclusion

The purpose of this study was to assess the effect of instructional leadership on school performance dimensions (teacher and pupil performances). In particular, two hypotheses were developed. To test the proposed hypotheses, data were collected from Harare Province in Zimbabwe. The empirical results supported both the posited research hypotheses in a significant way. While in general the results indicate that instructional leadership positively influences school performance, in particular study findings show instructional leadership impacts stronger on teacher performance than it does on pupil performance. Therefore, it is important for schools to adopt instructional leadership when they want to enhance their performance. Through instructional leadership, Zimbabwe may sustain its position as a one of the countries with a very high literacy rate on the African continent.

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THE INFLUENCE OF BACCALAUREATE AVERAGE SCORE ON ACADEMIC ACHIEVEMENT OF UNDERGRADUATES

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ABSTRACT. The present study researched: 1.The correlation among the baccalaureate average grade for admission to the university and average grades earned each semester 2. The correlation among grades for each semester of the three year program. The data used in this study includes scores and grades for the 125 students who had taken their entrance exam in the 2012/2013 academic year. Data was analyzed using the Bravais-Pearson correlation coefficient and the Cohen criteria for analyzing effect size. The results indicate that there is a significant positive correlation between the entrance scores and the grades for the first five semesters. The data indicate that the correlation between the exam average and GPA average is not significant for the last semester. The effect size scores indicate that this significance is medium for the first two semesters (.48 and .43); the effect size is low for the next three semesters (.37, .22, .20). The results also indicate there are significant positive correlations between the GPA of each of the semesters. These results indicate that each semester's GPA average has a high effect size score for the subsequent semesters. The effect size scores are lower for each subsequent semester but remain in the high effect size levels, ranging from .82 to .72. The conclusion drawn from this data is that in order to develop more consistent decision-making predictions the university should use both baccalaureate averages and GPA both in the transition from high school to university and between semesters and years within the university program.

Key words: Pedagogy of primary and Preschool Education, baccalaureate exam average grade, average grade per semester, GPA, access requirements, academic success

ZUSAMMENFASSUNG. Die vorliegende Studie erforschte: 1. Die Korrelation zwischen dem Bakkalaureat Durchschnittsnote für die Zulassung zur Universität und die Durchschnittsnoten erwarb jedes Semester. 2. Die Korrelation zwischen

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den Noten für jedes Semester des Dreijahresprogramm. Die Daten verwendet in dieser Studie umfassen Noten und Wertungen für 125 Studenten, die ihre Aufnahmeprüfung im Studienjahr 2012/2013 übernommen haben. Die Daten wurden mit dem Bravais-Pearson-Korrelationskoeffizient und die Cohen Kriterien für die Effektgröße analysiert. Die Ergebnisse zeigen, dass es eine signifikante positive Korrelation zwischen den Eingangswertungen und die Noten für die ersten fünf Semester gibt. Die Daten zeigen, dass die Korrelation zwischen der Prüfung Durchschnitt und GPA Durchschnitt für das letzte Semester nicht signifikant ist. Die Effektgröße Werte zeigen, dass diese Bedeutung für die ersten beiden Semester Medium ist (0,48 und 0,43); die Effektgröße ist für die nächsten drei Semestern niedrig (0,37, 0,22, 0,20). Die Ergebnisse zeigen auch, dass es eine es signifikante positive Korrelation zwischen der GPA jedes Semester gibt. Diese Ergebnisse zeigen, dass GPA Durchschnitt jedes Semesters eine hohe Effektstärke- Wert für den nachfolgenden Semestern hat. Die Effektgröße Werte sind niedriger für jedes weitere Semester aber bleiben in den hohen Effektgröße Niveaus, von 0,82 bis 0,72. Die Schlussfolgerung anhand diesen Daten ist, dass, um einheitlichere Entscheidungsfindung Prognosen zu entwickeln, sollte die Universität sowohl Bakkalaureat Durchschnittswerte und GPA in den Übergang von Gymnasium zur Universität und zwischen Semester und innerhalb Jahren der Universität Programm verwenden.

Schlüsselwörter: Pädagogik der Grund- und Vorschulbildung, Abitur-Prüfung Durchschnittsnote, Notendurchschnitt pro Semester, GPA, Zugangsvoraussetzungen, akademischen Erfolg

Literature Review

There have been many attempts to work on retention and graduation rates of university students. Ellucian (n.d.) has pointed out that about 60 percent of students who enter college graduate within six years of entry. The information for two year institutions is even worse. This issue is important for students because according to the 2013 *Digest of Education Statistics*, the National Center for Education Statistics students who graduate from high school earn 70% more than students with a high school diploma. From an ethical standpoint this is an issue for universities that knowingly accept a student body from which 40% will drop out of the university and never return.

Tinto (1993) has developed the theory that student retention or attrition is based upon factors from both the social and academic life of the student. He also has taken into consideration the ideas of Bean and Eaton (2000) which indicate that student retention is affected by experiences and the environment

outside and inside of the institution. Tinto's (1993) belief is that students who are successful in university learn how to negotiate the transitions into and within the university. In fact he has stated that in order to be successful in schools students separate themselves from their previous lives and fully engage in their university life. Bean (2012) has stated that there are some very common attributes or disadvantages that students who drop out of college tend to possess. He states:

- The highest institutional retention rates in the country are above 95 percent, while the lowest may be only 10 percent;
- Typical graduation rates for elite schools may be 85 percent or higher; for average schools about 50 percent; and for non-elite schools 15 to 25 percent;
- Freshmen are most likely to drop out of school, while seniors are least likely to leave. For an average institution, freshman to sophomore year attrition is about 25 percent; sophomore to junior year attrition is about 12 percent; junior to senior year attrition is about 8 percent; and about 4 percent of seniors might leave school. Roughly half of an incoming class graduates in four to five years. (p. 3).

Students who start from disadvantaged backgrounds have the highest likelihood of dropping out of college. Hosler and Bean (1990) point to the importance of strategically identifying students who are at risk in order to develop programs or processes to help these students to be more successful.

McKenzie and Schweitzer (2001) indicate that academic success is influenced by multiple factors. These predictive factors include: academic abilities, psychological factors, cognitive traits, and demographic circumstances. The authors not that test scores account for less than half of the variances is student GPA averages. In agreement with Bean and Tinto, the authors point out the importance of looking beyond standardized test scores. In addition McKenzie and Schweitzer point out the fact that attrition cannot be completely attributed to poor grades. In other words, some students with low grades do retain and recover to graduate, while some students with high grades do drop out of university. Both Tinto and McKenzie and Schweitzer agree that factors like satisfaction with the university, financial issues, career goals, and social support are important factors in student retention or attrition. For example, Himelstein (1992) points out that career goal changes in students can negatively affect grades.

According to Tinto (1993) and Bean (2012) we know that academic success is a positive predictor of student success at the university level. Although there are exceptions the trend is clear that many more students who are successful retain in university and a high percentage of students who struggle

leave the university. Both authors agree that universities should develop multifaceted and strategic approaches to help students succeed at university.
A common set of procedures would include the following elements: 1. Create a shared vision for student success. 2. Develop a focus on what successful students do. 3. Identify students who might be or are at risk and develop strategic interventions early. 4. Begin with one program at a time and grow strategically. 5. Build bridges across the university and between the university and the outside community. 6. Collect and use data to strategically take action.

The goal is to identify who needs assistance and develop effective ways to assist students. Additionally, the climate of the university should be a positive and supportive one. The process should be systemic throughout the university. Fitzgerald and Laurian (2012) point out the importance of developing a caring community for student success. Laurian (2015) has demonstrated that students want and need support academically and emotionally from their advisors. Johnson and Fitzgerald (2013) have also displayed the importance of academic and social support for university students both from their professors and their colleagues. In line with Tinto (1993) and Bean (2012) they have indicated the importance of setting the stage for success for all students. Laurian-Fitzgerald, Popa, and Fitzgerald (2015) also found in their research that creating positive habits in relationships among the professor and students and among students in class enhanced academic learning.

How the university makes its entrance decisions are important for the entire institution. Roşeanu and Drugaş (2012) in their study of university entrance decisions found that high school average grades were more accurate in predicting student success at the university than were the baccalaureate exam scores and grades in high school psychology classes. Their research agrees with the conclusions of Geiser and Santiceles (2007) who state that high school GPAs consistently outperform exam scores in predicting university academic success for first year students. Their research also indicated that high school GPAs also are more effective predictors than test scores throughout students' years at the university. Both sets of researchers agree that the idea that test scores are the best predictors of student success is a misconception. Chamorro-Premuzic and Furnham (2003) have found that personality traits are significantly related to academic achievement for university students. Harackiewicz, Tauer, Barron, and Elliot (2002) in their research found three effective predictors of academic success at the university: academic achievement goals, ability, and high school performance.

Research Method

Goal

The study aims to determine if the correlational relationship among college entrance scores (bacalaureate exam average score) and average grades per each of the three academic years for the *Pedagogy of Primary and Preschool Education (PPPE)* study program. Additionally, this study aims to determine the correlational relationships among grades within each of the semesters of the program.

Subjects

The data gathered for this study was developed from the bacalaureate exam average scores and semester averages for 125 students in the education department from the University of Oradea, Faculty of Social and Humanistic Sciences, specialization of PPPE at both modes of education, full-time learning in Oradea (N=62) and in Beiuş (N=42) and blended weekend classes (N=21) who had taken their entrance exams in 2012-2013 academic year and who passed each semester of the three academic years.

Method

Data analysis and interpretation were conducted based on the entrance exam scores and GPA averages for students that managed to get all the necessary number of credits per each semester. The entrance exam class average and each semester class GPA average were reviewed and compared to each other for each of six semesters of the program. These scores were analyzed using the Bravais-Pearson correlation coefficient for significance and the Cohen criteria for analyzing effect size. According the Bravais-Pearson scores below .05 are considered to be significant. According to Cohen's criteria, scores from the Bravais-Pearson of .32 and lower are considered to have a low effect size. Scores between .33 and .55 are considered to have a medium effect size. Scores between .56 and 1 are considered to have a high effect size.

Results

Research data were analyzed for significance using the Bravais-Pearson's correlation coefficient, after the conditions of conducting it had been verified. The conditions of verifying included a determination of the normal curve distribution, which was checked by Kolmogorov-Smirnov Z test.

The results for the baccalaureate average exam grade used for entrance requirements as well as the academic results per each semester of the three academic years resulted in scores for both modes of education that were at a significance threshold higher than the critical value of .05.

Data analysis for Bravais-Pearson's correlation coefficient show there is a significant positive correlation between the entrance scores and the academic results at the end of each the first five study semester. There was no significant correlation between entrance scores and the results of the last semester of the 3rd year of study (see Table 1).

In relation to Cohen's criteria (1988), the relationship between variables has a medium effect size for the correlations between exam average and the first three semesters that have statistically significant results (see Table 1). The effect size for the fourth and fifth semesters is low. The sixth semester correlation to the exam average is not significant. By calculating R^2 coefficient of determination, we can state that baccalaureate-average-score variable explain the variance of average grades per semester: 23% of it in the 1st sem. (r=.479, df=120, p<.001), 18% in the 2nd sem. (r=.432, df=123, p<.001), and the percentages are lower and lower with each of the following semesters – 13% in the 3rd sem. (r=.432, df=123, p<.001), 4% in the 4th sem. (r=.223, df=110, p=.009) and 2% in the 5th sem. (r=.204, df=111, p=.015).

There are positive correlations between the academic results of each of the semesters of the three academic years (see Table 1). The academic average grade per 1st semester significantly and positively correlates with the average grades obtained in each of the other five semesters. Thus, 68,3% of the variance of the 2nd semester results is explained by the 1st semester results (r=.827, df=121, p<.001), 62,4% in the 3rd semester (r=.790, df=109, p<.001), 50,4% in the 4th semester (r=.71, df=108, p<.001), 37,6% in the 5th semester (r=.614, df=111, p<.001), and 27,5% in the 6th semester (r=.525, df=110, p<.001).

Similar results are encountered with the correlations between average grades per semesters (see Table 1). We noticed there are higher R^2 coefficients of determination between the average grades of a semester with the previous semester (except the 3rd semester with the 4th semester), which means the variability of one semester's results is explained in a higher proportion by the results obtained in the previous semester. Thus, when associating average grades per 5th semester with those per 6th semester, there is R^2=.517 (51,7% of the variance of results in the 6th semester is explained by the grades obtained in the 5th semester) as compared to R^2=.275 in the 1st semester (27,5% of the variance of results in the 6th semester is explained by the grades obtained in the 1st semester).

Table 1. Pearson's correlation coefficients for college-entrance-average-grade and average-grades-per-semesters-and-academic-years variables

		1sty_1st sem_av. grades	1sty_2nd sem_av. grades	2ndy_3rd sem_av. grades	2ndy_4th sem_av. grades	3rdy_5th sem_av. grades	3rdy_6th sem_av. grades
Pearson Correlation	entrance_ exam_av.	.479**	.432**	.372**	.223**	.204*	.149
Sig.		.000	.000	.000	.009	.015	.059
Effect Size		Medium	Medium	Medium	Low	Low	Low
Pearson Correlation	1sty_1st sem_av. grades		.827**	.790**	.710**	.614**	.525**
Sig.			.000	.000	.000	.000	.000
Effect Size			High	High	High	High	Med.
Pearson Correlation	1sty_2nd sem_av. grades			.763**	.650**	.717**	.522**
Sig.				.000	.000	.000	.000
Effect Size				High	High	High	Med.
Pearson Correlation	2ndy_3rd sem_av. grades				.734**	.811**	.681**
Sig.					.000	.000	.000
Effect Size					High	High	High
Pearson Correlation	2ndy_4th sem_av. grades					.759**	.716**
Sig.						.000	.000
Effect Size						High	High
Pearson Correlation	3rdy_5th sem_av. grades						.719**
Sig.							.000
Effect Size							High

When the data is disaggregated by the mode of program there are some interesting differences (see Table 2). Data analysis for students enrolled in the full-time learning mode of education show there is a significantly positive correlation between college entrance scores and average grades per 1st semester (r=.420, df=99, p<.001), per 2nd semester (r=.354, df=99, p<.001), per 3rd semester (r=.317, df=92, p=.002), and for the 5th semester (r=.208, df=91, p=.045), but not for the other two semesters (correlation between baccalaureate average grade and average grade per 4th semester r=.193, df=91, p=.064, correlation between baccalaureate average grade and average grade per 6th semester r=.152, df=92, p=.143).

According to Cohen's criteria (1988) for effect size, the relationship between variables has a medium effect size for the semester one and two correlations that have statistically significant results (see Table 2). The other two statistically significant correlations have a low effect size (semesters three and five). By calculating R^2 coefficients of determination, we can state that the baccalaureate-average-score variable explains the variance of average grades per semester only in low percentages: 17,6% of the results in the 1st semester, 12,5% in the 2nd semester, 10% in the 3rd semester, and 4,3% in the 5th semester.

Table 2. Pearson's correlation coefficients for college-entrance-average-grade and average-grades-per-semesters-and-academic-years variables for full-time learning students

		1st y_1st sem_av. grades	1st y_2nd sem_av. grades	2nd y_3rd sem_av. grades	2nd y_4th sem_av. grades	3rd y_5th sem_av. grades	3rd y_6th sem_av. grades
entrance_av.grades for full-time learning	Pearson Correlation	.420**	.354**	.317**	.193	.208*	.152
	Sig.	.000	.000	.002	.064	.045	.143
	Effect Size	Medium	Medium	Low	Low	Low	Low
1st y_1st sem_av. grades	Pearson Correlation		.818**	.781**	.690**	.657**	.521**
	Sig.		.000	.000	.000	.000	.000
	Effect Size		High	High	High	High	Medium
1st y_2nd sem_av. grades	Pearson Correlation			.779**	.630**	.771**	.569**
	Sig.			.000	.000	.000	.000
	Effect Size			High	High	High	High
2nd y_3rd sem_av. grades	Pearson Correlation				.795**	.833**	.719**
	Sig.				.000	.000	.000
	Effect Size				High	High	High
2nd y_4th sem_av. grades	Pearson Correlation					.756**	.725**
	Sig.					.000	.000
	Effect Size					High	High
3rd y_5th sem_av. grades	Pearson Correlation						.721**
	Sig.						.000
	Effect Size						High

Data analysis for Bravais-Pearson's correlation coefficient for blended weekend classes mode of education show there is a significant positive correlation between the entrance scores and the average grades per 1st semester (r=.704, df=18, p<.001), per 2nd semester (r=.766, df=22, p<.001), and 3rd semester (r=.589, df=22, p<.001), but not for the other semesters (see Table 3).

In relation to Cohen's criteria (1988) for the weekend classes, the data indicate that the relationship between variables has a high effect size for all three correlations statistically significant results (semesters one, two, and three). By calculating R^2 coefficients of determination, we can state that baccalaureate-average-score variable explains the variance of average grades per semester in proportion of 48% in the 1st semester, 58% in the 2nd semester, and 34% in the 3rd. There were no statistically significant results for the correlations between baccalaureate average grade and the average grades per the next three semesters; but there were also relationships of positive association between the grades of one semester with the previous semester (see Table 3).

Table 3. Pearson's correlation coefficients for college-entrance-average-grade and average-grades-per-semesters-and-academic-years variables for blended weekend classes students

		1sty_1st sem_av. grades	1sty_2nd sem_av. grades	2ndy_3rd sem_av. grades	2ndy_4th sem_av. grades	3rdy_5th sem_av. grades	3rdy_6th sem_av. grades
entrance_av. grades for blended weekend classes	Pearson Correlation	.704**	.766**	.589**	.300	.193	.128
	Sig.	.000	.000	.002	.212	.415	.612
	Effect Size	High	High	High	Low	Low	Low
1sty_1st sem_av.grades	Pearson Correlation		.894**	.848**	.792**	.532*	.568*
	Sig.		.000	.000	.000	.013	.011
	Effect Size		High	High	High	Medium	High
1sty_2nd sem_av.grades	Pearson Correlation			.853**	.650**	.568**	.416
	Sig.			.000	.001	.007	.061
	Effect Size			High	High	High	Medium
2ndy_3rdsem_ av.grades	Pearson Correlation				.650**	.742**	.500*
	Sig.				.003	.000	.041
	Effect Size				High	High	Medium
2ndy_4th sem_av.grades	Pearson Correlation					.821**	.767**
	Sig.					.000	.000
	Effect Size					High	High
3rdy_5th sem_av.grades	Pearson Correlation						.731**
	Sig.						.000
	Effect Size						High

Conclusions

After analyzing the research data for the entire population of PPPE students from the University of Oradea who had been successful in completing their programs, we reached the conclusion that there is a positive relationship between the baccalaureate average exam scores and the average grades per the first five semesters of university. But the effect sizes at the end of each of these five semesters were medium for first three semesters and low for the last three semesters. This means that using the exam average to predict success in the university is moderate to low. When analyzing the GPA averages for the students in each semester we found the effect sizes to be significantly higher than those of the entrance exam averages. This means that the predictive value of each semester's grades is more accurate and significant than are the exam averages.

From these results we have determined that only using the exam scores for entrance into the university has a moderate to low chance of predicting which students will succeed academically at the university. It appears that using grades might lend more accuracy to the entrance requirements because they consist of multiple elements of the academic lives of our students: work ethic, collaborative abilities, learning abilities, dedication to task, resilience, motivation, etc. It appears that by combining examination scores with GPA would enhance the ability of the university to more accurately develop the student body. We also believe that it might enhance the process more significantly to also incorporate teacher recommendations the entrance materials for potential students. People who know the attitudes, aptitudes, work ethic, resilience, motivation, and other important qualities of their students would give the university vital information about our potential students.

Another conclusion drawn from this research is the importance of success for students each semester. Since the highest level of prediction found in this study was the GPA from the previous semester we believe that we as a university system might be able to take advantage of that relationship. Since students face different challenges each year, the university might develop a multifaceted approach for our work students. For example, first year students who are transitioning into college have very different issues and needs than do third year students who are excited to transition out of the university into the next stages of their lives. Students in the weekend program have different needs than do students in the day full-time program. The important point here is to contemplate what kinds of procedures would be worthwhile to develop in order to give our students the greatest chance of success in the university and in their careers. In alignment the Bologna agreement we agree that creating a student-centered climate built upon success would benefit all constituencies in the university.

We recommend that further study be investigated in relation to the effectiveness of entrance requirements to the university. Since relying on the average score for the baccalaureate exam demonstrates medium to low predictive capacity, it would make sense to investigate ways to add to these scores for entrance requirements. There are obviously more factors to academic success than a single score can demonstrate. Harackiewicz, Tauer, Barron, and Elliot (2002) recommend from their research that universities consider a multiple goals perspective in working toward student interest and success. The results of our study agree with their conclusions.

Our findings support the idea that baccalaureate average grade of PPPE students in blended weekend classes determines with an average intensity the variance of their results in the first year of study. However, these grades should be rather carefully interpreted because of the low number of subjects.

Because there were high coefficients of determination for the correlations between average grades per semesters, the uttermost finding is that baccalaureate average score is not an only indicator to further influence academic grades in college. A further on study based on regression analysis with variables like: type of graduated high school, average grades in specific school subjects (Pedagogy, Psychology, Special Psycho-pedagogy) or assessment of skills (diction, Arts, Music) or of student activities interest (Holland Questionnaire) could give additional information on variables that could explain academic performance or failure of PPPE students.

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SOCIAL-EMOTIONAL COMPETENCE DEVELOPMENT IN YOUNG ADULTS: A THEORETICAL REVIEW

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ABSTRACT. One method to define a concept is to extract its definitions from multiple studies and models. In the present study, we used this qualitative approach to define the concept of social-emotional development in young adults, with all its facets. Based on specific keywords, we found over 400 articles concerning these concepts and, with specific criteria, narrowed it down to 30 studies. We then found very specific definitions for social-emotional competences, social competences and emotional ones. In the end, we found important similarities and differences between two intertwined concepts, emotional intelligence and social-emotional competence, with a wide range of applications.

Keywords: social-emotional development, emotional intelligence, social competences.

ABSTRAKT. Eine Methode, um ein Konzept zu definieren ist, seine Definitionen von mehreren Studien und Modelle extrahieren. In der vorliegenden Studie verwendeten wir diesen qualitativen Ansatz das Konzept der sozial-emotionalen Entwicklung bei jungen Erwachsenen zu definieren, mit all seinen Facetten. Basierend auf bestimmten Schlüsselwörtern, fanden wir mehr als 400 Artikel, diese Konzepte unterlegt und mit bestimmten Kriterien, verengt es bis zu 30 Studien nach unten. Wir fanden dann sehr spezifische Definitionen für sozial-emotionale Kompetenzen, soziale Kompetenzen und emotionale. Am Ende fanden wir wichtige Ähnlichkeiten und Unterschiede zwischen zwei miteinander verflochten Konzepte, emotionale Intelligenz und sozial-emotionale Kompetenz, mit einer breiten Palette von Anwendungen.

Stichwort: sozial-emotionale Entwicklung, emotionale Intelligenz, soziale Kompetenzen

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Introduction

Social and Emotional development represents the process of developing and supporting social-emotional competences and skills in a proper environment and with the correct learning experiences. This process focuses on active learning techniques and learning skills that offer the opportunity to develop new abilities, behaviors and thinking processes that help young adults become healthy and competent members of the society (Elias & al., 1997).

Studies conducted so far in this area (Goleman & al., 2002; Ciarrocchi & al., 2002, 2003; Durlak & al., 2010, 2011; CASEL, 2013; Seal & al., 2010), identified five areas of social-emotional competences, essential for the correct development of young adults, that will help them reach their full potential: self-awareness, self-management, social awareness, relationship skills and orientation towards change.

Although there are several large studies and meta-analyses concerning the concept of social-emotional development (CASEL, 1997, 2003, 2013) from early ages to adolescence, there are only few ones regarding young adults (Flowers, 2005; Boyatzis & Saatcioglu, 2007; Castejon & al., 2008; Harrison & Fopma-Loy, 2010; Kotsou & al., 2011; Stewart & Chisholm, 2012; Seal & al., 2011, 2012).

The concept of social-emotional development is mostly used for the undergraduate population, for children and adolescents (Elias, 2003; Zins & al., 2004; Durlak & Weissberg, 2007), while the one of emotional intelligence is more present in the business-organizational environment (Goleman & al., 2002). The concept of social-emotional competence development has been studied more thoroughly in the last 20 years, referring to young adults, both for student population (Seal & al., 2011, 2012) or non-student (Boyatzis, 2007). Because there are so many definitions for the concept of social-emotional competences, there are still many difficulties when it comes to using it in educational programs addressed to young adults in general or students in particular. Therefore, a conceptual clarification is required that can allow successful designs and implementations of interventions for targeted groups.

Unlike other dimensions like general intelligence or personality, which can be developed mainly in childhood and remain relatively stable in adulthood, competences can be improved through the learning process throughout life (Kolb, 1984). Therefore, some authors believe that the development of social-emotional competences is justified at any age and for any target group (Seal, Boyatzis & Bailey, 2006).

According to Seal (2011), the concept of social-emotional competences development is an integration of several theories on social intelligence (Thorndike, 1920; Gardner, 1983; Sternberg, 1985), emotional intelligence (Bar-On, 1997; Salovey & Mayer, 1990; Goleman, 1995; 1998) and competences development (Boyatzis, 1982; Spencer & Spencer, 1993) applied in education.

The first concept in this unifying approach is the one of social intelligence, which can be defined as the ability to understand others, to manage social interactions and contexts (Gardner, 1983; Sternberg, 1985; Thorndike, 1920). Thorndike (1920) stated that social intelligence can be analyzed as a triad: (1) abstract or academic intelligence, or the ability to understand and use ideas; (2) mechanic or visual-spatial intelligence or the ability to manipulate objects; (3) practical or social intelligence, or the ability to adapt in the society and social interactions.

The second concept is an umbrella term, highly used in organizations as well as academia – emotional intelligence. Ever since it appeared back in 1985, it stirred a high attention among researchers and managers, which can be seen in the exponential growing number of books and studies. If we attempt a clarification of the concept, we are left with three main models: (1) emotional traits model (Bar-On, 1988), (2) emotional abilities model (Salovey & Mayer, 1990), model recommended by some authors (Oberst & al., 2009) for educational programs and (3) emotional competences model (Goleman, 1995), recommended by the same authors in the organizational area.

The third concept is the one of generic competences, a study field initiated by Boyatzis (1982). Competences are that set of inter-related behaviors that are organized based on an intent and that lead to success and excellent results (Boyatzis, 2009). Training programs based on developing social-emotional competences bring value to organizations (Spencer, 2001). Studies show that there are significant improvements in social-emotional competences when trainings and interventions are clear and well-targeted (Goleman, Boyatzis & McKee, 2002), proving that these can be developed in almost any target group, at any age (Seal, Boyatzis & Bailey, 2006).

Integrating these three approaches, Seal (2010) suggested a new concept, the one of social-emotional competences development, applied to young adults and particularly to students. Seal justifies the construction of a new model of social-emotional competences development and also an instrument for measuring these competences based on a low number of studies for this target group and lack of instruments. The present tests (MSCEIT, EQ-i, etc.) measure similar concepts such as emotional intelligence and the costs of using such instruments are huge and cannot be used on a large scale with many participants, such as student's evaluations.

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The model suggested by Seal (2010) includes four distinct, yet inter-related factors:

(1) self-awareness, which means recognizing and understanding one's emotional state, evaluating strengths and weaknesses and recognizing preferences;

(2) respect towards others, namely considering other's opinions and anticipating consequences before acting;

(3) connecting with others, or the ease or effort needed to build strong and significant relations with others;

(4) orientation towards change, or the intention to self-change or changing others.

Self-awareness is also defined as knowing and understanding your own emotional states, evaluating your strengths and limitations and recognizing your preferences. It includes three categories: (a) emotional self-awareness, (b) correct self-evaluation and (c) identification of tendencies. Emotional self-awareness has two sub factors: knowing what you feel and knowing why you feel what you feel. The correct self-evaluation also has two sub factors: the talent part, or the correct evaluation of your strengths and the limitations part, or the correct evaluation of your weaknesses. Again, the identification of tendencies has two sub factors as well: closeness, or knowing your preferences and avoidance, or knowing what you dislike Seal, 2010).

Respect towards others include empathy and self-monitoring and is seen as the care and concern towards people and situations, done before acting, to avoid hurting those people. Empathy has two sub factors: understanding the way others feel and understanding the importance of others. Self-monitoring as well has two sub factors: anticipating consequences and thinking before acting or speaking. This factor can moderate the ability to recognize or understand the perspective others have, in order to interact better or avoid and solve conflicts (Colby & Sullivan, 2009).

Connection to others focuses on building significant relations and represents the regulation dimension of the model. The concept of connection includes sociability and intimacy and is understood as the ease or difficulty in developing good, quality relations with others, by exchanging ideas and feelings. Sociability involves two aspects: the comfort in building relations and the effort in keeping them working. Intimacy involves communicating thoughts and feelings and the level of trust and honesty.

Orientation towards change focuses on positively influencing others and represents the dimension of task regulation within the model. It is defined as the propensity to influence others in finding opportunities and the motivation for change. It includes initiative and inspiration, each with two sub factors. Initiative involves taking lead and the passion to coordinate groups. Inspiration involves the motivation to inspire others and the trust to coordinate others (Seal, 2010).

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This model, as an integrative one, offers the theoretical frame to understand young adult's emotions and behaviors, and it is ideal for planning and implementing personal development programs for improving social-emotional competences. It can be used both as a diagnostic tool for evaluating the level of social-emotional competences on each factor and as a development instrument. Based on this model, one can create a long term plan for developing young adults competences on all four factors.

Methodology

To define the concept of social-emotional competences development, we relied on the studies published between 1990 and 2012, identified with several keywords: competence/competences/competency, social emotional, social competences, emotional competences, young adults, young adulthood, university students, higher education. We searched articles from the following data bases: APA Psych Info, Science Direct, Sage Pub, Ebsco, Elsevier, ProQuest and Springer Link.

Inclusion-exclusion criteria

From a number of over 400 studies that we found on a first search based on the previously mentioned keywords, we then applied three criteria, to refine the results.

A first criterion was the year the articles were published. In a first stage we searched for those articles that appeared from 1990 till 2012, because 1990 was the year the concept of emotional intelligence was first published in a scientific journal. In all fairness, the first mentioning of the concept of emotional intelligence was in 1985, in a PhD research, but in the five years that followed, no other noticeable study was done. We then decided to narrow the period of time, because the studies that focused on both emotional intelligence and social-emotional competences only appeared in the beginning of the year 2000.

A second criterion was the age category that the concepts referred to. Thus, we eliminated the studies that analyzed social-emotional development in children.

And a third criterion was for the articles to belong to scientific journals (not books), peer reviewed, with a detailed analysis of the results and the study.

Data analysis

After applying these criteria, we were left with a number of 30 studies, which we carefully analyzed to extract the relevant information for the purpose of this research.

Of a total of 30 articles, 4 articles (13%) discussed the concept of social competences, 15 articles (50%) talked about emotional competences and 11 articles (37%) were about social-emotional competences.

Competences are defined as being the description of the learning results, namely what a person knows or can prove to have learned, following a learning process (Oberst & al., 2009). As for the old polemics between intelligence and competence, the latter refers to the set of skills involved in solving problems in the personal and professional area, while the former involves subcomponents of these skills, present in the general form of thinking and understanding (Sternberg, 1985).

Conceptual Analysis

Social competences are defined as the ability to successfully get involved in social and interpersonal relations, such as the ability to interpret verbal or nonverbal messages (Larson & al., 2007). There is an increasing body of research in the study of social development as a marker of psychosocial functioning of young adults, thus proving a higher interest of the scientific community.

In a larger approach, Topping, Bremner & Holmes (2000) defines social competences as the ability to integrate thoughts, emotions and behaviors so that social results can be valued in a certain context or culture. This way, a person that has good social competences is able to control one's emotions and behaviors, to achieve the desired results, in a large array of contexts.

Although social competence is a larger and more generic term, it is often equaled to the one of social skills which, normally, refers to specific behaviors, either verbal or nonverbal, such as eye contact, voice tonality or even more general behaviors such as assertiveness (Oberst & al., 2009). At a closer look, we see that there is a fine difference between social competences and social skills and that the two concepts are not identical (Black & Ornelles, 2001). Skills are specific abilities needed to perform in a certain task (McFall, 1982), and social skills are measurable interpersonal behaviors. Competences, on the other hand, are more general and measure the general performance in a certain task (Black, 2001). Therefore, social competences include more general behaviors and responses, with a very interpersonal nature.

Starting from Thorndike's (1920) definition on social competence as the ability to act wisely in human relations, Smart & Sanson (2003) define the concept as referring to the range of socially appropriate behaviors and responses such as cooperation, initiation of relations, interaction with others, conflict resolution or helping others. Four factors become transparent in this approach: assertiveness, self-control, responsibility and empathy. In terms of

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relating social competences with other factors, it was shown that people with high social competences tend to feel less depressed, anxious or stressed. Also, they get involved in less antisocial behaviors and, in general, are more satisfied with their life achievements (Smart & Sanson, 2003). As time passes by, the stability of social competences lowers, proving once again the need for developing these competences at all ages, for the entire life span.

In the attempt to understand and define *emotional competences*, Seal & Andrews-Brown (2010) begin from the approaches on emotional intelligence. There are nowadays tenths of thousands of articles on emotional intelligence, in one context or another, or related to other psychological concepts. In essence though, there are three main approaches, and the studies about the concept of emotional intelligence fall in one of these three categories.

The first perspective is the one of emotional quotient (EQ), developed by Bar-On, which focuses on the general wellbeing, measured with the Eqi, Emotional Quotient Inventory (Bar-On, 1997).

The second approach is developed by Mayer & Salovey (1990), which focuses on emotional abilities, measured with MSCEIT (Mayer-Salovey-Caruso Emotional Intelligence Test) (Mayer & al., 2000).

And the third view is the one developed by Goleman (1995), centered on behaviors that lead to performance, measured with ECI (Emotional Competence Inventory) (Boyatzis & Goleman, 2002).

In other words, Bar-On suggests a model of emotional coefficient, Mayer & Salovey propose a model of emotional abilities and Goleman a model of emotional competences. Reuniting these three approaches, Seal (2010) suggests a more integrative model which can offer a better understanding of the concept of emotional intelligence and its role in the development of emotional competences. Seal considers that a possible solution to this never ending debate is to treat the concept as a holistic one. In this view, the emotional abilities moderate the relation between the emotional traits and the active emotional competences, in order to identify and regulate one's and others' emotions for a successful adaptation to the environment.

To eliminate the possible confusions that might arise between emotional intelligence and emotional competences, Goleman (1998) shows that emotional competences are rooted in emotional intelligence, but they are a developed ability that leads to special results. In other words, people have the potential of emotional intelligence, but also need to learn how to develop their emotional competences. This way, emotional intelligence is at the base of emotional competences, which are, in turn, antecedents to performance. This proves that the mere presence of emotional intelligence is not enough. This means that people with a high emotional intelligence have the capacity to learn and develop certain competences not that those competences have been developed too. As an

analogy, Goleman suggested the idea of musical education, where some people are born with an incredible voice but without a proper training and musical education, they will never become outstanding singers. Confirming Goleman's studies, Abraham (2004) claims that emotional intelligence is really a predictor of performance when it acts through emotional competences. This is why, explains the author, many researches made on organizations and institutions found little or no contribution of emotional intelligence to overall performance ((Murensky, 2000; Wolff, Pescosolido, & Druskat, 2002; Wong & Law, 2002).

On the same idea, Wakeman (2006) suggests that emotional competences cannot exist without the factors of emotional intelligence, which support the development of these competences. A person who is capable of emotion regulation has the possibility to develop an emotional competence in self-discipline. Similarly, a person who can correctly identify his/her emotions has the possibility to develop an emotional competence in empathy or conflict management. In both cases, it's clear that emotional intelligence factors offer the elements for developing emotional competences. Wakeman (2006) suggested that a person's level of emotional intelligence can be assessed in a certain degree by measuring the emotional competences developed by that person.

Oberst & al. (2009) considers emotional competences to be the individual differences that appear while doing emotions management and solving emotional problems (Ciarrocchi & Scott, 2006) and emotional intelligence to be the ability to perceive correctly one's and others' emotions in order to facilitate thinking and understand and control emotions (Mayer & Salovey, 1997). Ciarrocchi & Scott (2006) avoid using the term of emotional intelligence because they consider that, for a concept to be considered intelligence, it should be measured with an ability test with "right" or "wrong" answers. Wang & al. (2011) differentiates emotional intelligence from emotional competence motivating that the first is somewhat innate, while the latter can be learned and developed, thus confirming previous studies (Goleman, 1998).

Social emotional competences. To understand and define social-emotional competences in students, we should start from the main roles of the higher education institutions: (a) preparing professionals on specific domains; (b) doing impact, innovative and up to date researches and (c) developing "cultivated" people. In this view, Ortega refers to culture in a broad sense, which involves values and a global vision. This way, the educational functions of the higher education institutions can be summarized as transmitting knowledge, procedures/techniques and attitudes. In other words, "knowing", "doing" and "being" (Oberst & al., 2009). The last dimension, the attitude, includes inter and intrapersonal competences which, also include social and emotional competences.

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Trying to develop social-emotional competences with young adults, Seal & al. (2011) suggested a new model, based on the theories of social intelligence (Thorndike, 1920; Gardner, 1983; Sternberg, 1985), emotional intelligence (Bar-On, 1988; Salovey & Mayer, 1990; Goleman, 1995; 1998) and theories of competence development (Boyatzis, 1982; Spencer & Spencer, 1993). This model is organized on two dimensions and it includes four distinct factors: self-awareness, considering others, connection with others and impact changes. The two dimensions of the model focus on recognizing one's and others' emotions (for the first two factors) and regulating relations and tasks (for the last two factors). The model can be used either as a diagnostic tool, with the possibility to evaluate competences on each factor or as a development instrument, allowing the identification of strengths and weaknesses. According to the theory of self-directed change, learning appears when one can notice the difference between the present level of development and the desired level (Boyatzis, 1994; 2006; Taylor, 2006). this way, once identified the competences on each factor, one can design and implement an efficient development plan.

For a better understanding of these three concepts (social competences, emotional competences and social-emotional competences, as referred to young adults), we present a summary of the definitions depicted from the selection of the 30 articles previously mentioned:

Table 1. Definitions of social competence, emotional competence, and social-emotional competence.

Social competences

Definition	Reference
Social competence refers to those behaviors and answers with an interpersonal nature.	Black & Ornelles, 2001
A learned modality of behaving, that is socially accepted and allows efficient interaction with other persons.	Smart & Sanson, 2003
The ability to successfully get involved in social interactions and interpersonal relations, as well as the ability to correctly interpret verbal and nonverbal messages.	Larson, Whitton, Hauser & Allen, 2007
A way to build and manage social relations in a certain context.	Murakami, Murray, Sims & Chedzey, 2009

Emotional competences

Definition	Reference
Individual differences concerning how efficient people control their emotions and emotional problems.	Ciarrochi, Deane & Anderson, 2002
Those competences that, based on emotional intelligence, predict performance.	Abraham, 2004

Definition	Reference
Self-awareness (emotional awareness, self-trust), self-management (emotional control, trust, adaptability, optimism, initiative), social awareness (empathy, organizational awareness), relations management (developing others, leadership, communication, conflict management, teamwork, collaboration).	Offermann, Bailey, Vasilopoulos, Seal, Sass, 2004
Interpersonal abilities and skills, adaptability and stress management, that can lead to academic success.	Parker, Summerfeldt, Hogan, Majeski, 2004
The ability to identify, use and make a proper management of emotions.	Drago, 2004
A category of skills that relates to a proper management of internal emotions, external situations and relations, all promoting mental health.	Flowers, 2005
The ability to perceive emotions, access and generate emotions, understand and regulate them in order to promote intellectual and emotional development.	Wakeman, 2006
The way that a person manages his/her emotions in daily life situations or at work.	Seal, Andrews-Brown, 2010
The ability to reason upon emotions and control them in order to improve thinking.	Harrison & Fopma-Loy, 2010
Individual differences in identifying, expressing, understanding, regulating and using emotions.	Nelis, Kotsou, Quoidbach, Hansenne, Weytens, Dupuis, Mikolajczak, 2011
The ability to identify, understand, express and control one's and other's emotions.	Kotsou, Nelis, Gregoire, Mikolajczak, 2011

Social-emotional competences

Definition	Reference
Competences that lead to learning, interpersonal development and increase academic potential.	Liff, 2003
Set of skills involved in achieving performance or solving personal or professional problems.	Castejon, Cantero & Perez, 2008
Description of the learning results (what a person knows or can prove, as a result of a learning process).	Oberst, Gallifa, Farriols & Villaregut, 2009
Personal ability to use emotional information, behaviors and traits, to facilitate socially desirable results.	Seal, Naumann, Scott & Royce-Davis, 2011
A way of monitoring, disciminating and using emotional information to facilitate thinking.	Galal, Carr-Lopez, Seal, Scott, & Lopez, 2012
Improvement of personal abilities for a proper management to the environment challenges.	Seal, Beauchamp, Miguel, Scott, Naumann, Dong & Galal, 2012
Abilities like self-motivation and frustration tolerance, impulse control and delaying rewards, empathy.	Stewart & Chisholm, 2012
Product of emotional development and social learning, that can happen in an educational frame.	Wang, Wilhite, Wyatt, Young, Bloemker & Wilhite, 2012

Conclusions

As a result of this theoretical analysis of the concept of social-emotional competences development in young adults, we can draw a series of useful conclusions.

First and foremost, it is clear that the concepts of emotional intelligence and social-emotional competence are closely linked both in theory and applications (Goleman, 1998; Seal & Andrews-Brown, 2010; Wang & al., 2011). Probably this close relation led to the difficulties in defining the concepts and seldom considering them as similar or even identical (Nelis & al., 2011).

Second, we found a conceptual difference between the two terms. Emotional intelligence represents a set of innate factors (Goleman, 1998), while social-emotional competences can be developed (Spencer, 2001; Boyatzis & al., 2002). Prerequisites like emotional intelligence are certainly necessary but not sufficient. This way, we can explain why emotional intelligence can have little or no contribution over general performance (Murensky, 2000; Wolff, Pescosolido, & Druskat, 2002; Wong & Law, 2002) and why it becomes a good predictor only when it acts through social-emotional competences (Abraham, 2004). Therefore, we can state that emotional intelligence is at the base of emotional competences (Goleman, 1989), which are antecedents of performance. Worth being noticed is the fact that a high level of emotional intelligence does not guarantee success and performance, unless social-emotional competences are developed too.

Third, we noticed that the development of social-emotional competences can be done based on the understanding and development of emotional intelligence. The clarifications brought by Seal & Andrews-Brown (2010) are very important, because they present the three main models existing in the scientific literature and offer an integrative model. The two authors suggest that emotional intelligence should be analyzed as a holistic construct, where emotional abilities moderate the relation between emotional traits and emotional competences. From a wide range of definitions for the analyzed concepts, we extracted the following four as working definitions:

a) competences are the capacity to adopt the behaviors that lead to performance.

b) social competences represent the ability to control the behaviors and responses that have an interpersonal nature, with the intent of building successful relations, in a wide array of contexts.

c) emotional competences are based on emotional intelligence and imply an emotional management (identify, express, understand, regulate and use of emotions) and predict performance in a personal and professional level.

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d) social-emotional competences are a product of emotional development and social learning (what one knows or can prove to have learned), that lead to improvements in inter or intrapersonal relations and personal or professional performance.

We found that competences can be improved through learning (Kolb, 1984) and that social-emotional competences are highly necessary (Flowers, 2005; Harrison & Fopma-Loy, 2010; Galal & al., 2012) and bring significant improvements both socially (Nelis, 2011) and physically, in the form of stress reduction (Kotsou, 2011).

In summary, some of the conclusions of this theoretical review state that competences can be developed at any age and social-emotional competences fit this rule. The development of these competences has proven to have many benefits and is a necessity in the present world. On the plus side, there are many theoretical models that can be used to design and implement long term programs for social-emotional competences development for young adults. The link between social-emotional competences and emotional intelligence is an interdependent one; based on emotional intelligence, social-emotional competences can be developed and lead to personal and professional performance. And, last but not least, social-emotional competences are a product of emotional development and social learning, which lead to improvements and performance.

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