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CULEGERESEMESTRIALĂ DESTUDII ŞTIINŢIFICEŞI DIDACTICE

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CONTENT

EDUCATIONAL NEEDS OF PRESCHOOL CHILDREN WITH RECOGNIZED RARE DISEASE AND INTELLECTUAL DISABILITY – TEACHERS` PERSPECTIVE

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Abstract: *The studies concerned the creation of a picture of needs of children with a rare disease and intellectual disability in the post-positivist paradigm. The author used a quantitative strategy. She also used the preexperimental study, one-group pretest-posttest design - the experiment on the test group including the pretest and post-test, but without the control group - modified by the cascade strategy (double measurement), because it is more suited to the actual learning and consolidation of teachers' knowledge. The research involved teachers of randomly selected primary schools in Poland. On the basis of literature analysis, 27 educational needs were identified, which referred to three categories: rare disease, intellectual disability and common needs. Teachers creating a picture of educational needs of a child with a rare disease and intellectual disability perceive the most of their common features. With each stage of research, the awareness (ability to perceive) of educational needs related to diagnosing a rare disease in a child increased.*

Keywords: *educational needs; child with a rare disease; child with intellectual disability; teachers;*

Introduction

The way of thinking about the needs of children with developmental difficulties is constantly changing. It is a dynamic process, taking into account changes in the scope of early support of child development (a girl/boy with developmental difficulties is covered more earlier), professionalization of people involved in the issue, and changes in school image (inclusive education, integration classes, teacher-specialist, child assistant etc.) (Kamyk-Wawryszuk 2018). Hence, the discussion of educational needs of children with developmental difficulties is important. So far, only a few publications have appeared that address the issue of education of a child with rare disease and intellectual disability. This is due to the fact that many publications on the development and functioning of a child with rare disease are casuistic and they prevent any forecasting the overall development of a child, which determines the individual approach.

Educational needs of a children

There are a lot of definitions of educational special needs of children with developmental difficulties. Some of them underline medical aspects (somatics) of their functioning, and others refer to functional diagnosis. Taking into account the specifics of a child with rare disease, in theoretical assumptions it was assumed that:

„Children have special educational needs if they have a learning difficulty which calls for special educational provision to be made for them. Children have a learning difficulty if they: a) have a significantly greater difficulty in learning than the majority of children of the same age; or (b) have a disability which prevents or hinders them from making use of educational facilities of a kind generally provided for children of the same age in schools

within the area of the local education authority, (c) are under compulsory school age and fall within the definition at (a) or (b) above or would so do if special educational provision was not made for them" (The Education Act 1996).

At the same time, it was assumed that child's needs are superior to the category of special educational needs. This is due to the fact that parents associate the term "special educational needs" with a stigmatizing (special) way of thinking about their child who has health problems (Gernsbacher MA, AR Raimond, Balinghasay MT, Boston JS, 2016 , p. 1).

Based on a literature analysis (Griffin 2014, Bendová, Čecháčková and others 2014, Forrest, Bevans and others 2011), a total of 27 educational needs were specified, including 10 relating to intellectual disability, 10 to diagnosed rare disease and 7 common needs (Table 1). All needs included difficulties in physical, intellectual, social and emotional development.

Table 1. Educational needs of a child with rare disease and intellectual disability.

Educational needs		
Intellectual disability	Rare disease	Common needs
taking into account the slower than average rate of mental operations	strengthening peer relationships due to frequent absences or limiting the possibility of participating in all activities in classes	application of the method of view - making it possible to get to know multi-sensory
adjusting the level of difficulty (number of elements) of images, etc.	opportunity to participate in activities outside of the classroom (competitions, professions) adapted to the child's physical limitations	learning by solving problems
transmission of short and precise verbal messages	taking into account the slower pace of work resulting from specific physical limitations	strengthening the child's self-esteem in group and individual classes
adapting to the child's needs ways of presenting knowledge and developing skills and providing guidance	using breaks while working as needed	extending working time
using the work principle on particulars	using breaks during work in accordance with individual needs of a child, resulting from high physical fatigue or current treatment process	strengthening the child`s interests
systematic repetition of new knowledge	frequent change of a seat position during work	combining the content of education with the closest environment of life and education, as well as individual experience
depending on child's needs, the recommendation to divide into smaller parts of material to	adjusting the level of physical activity necessary in the class to	functional teaching based on the child's activity, commitment, experience,

learn and to increase the number of exercises and repetitions of new knowledge	the current state of health/well-being of a child	discovery and cognition
controlling the pace of work	planned breaks during didactic classes resulting from the specifics of a child`s treatment and medical-hygiene procedures	
the use of accessible instructions in didactic materials - picture, pictorial, and animated	very close cooperation with specialists during the creation of support programs	
reducing - to the necessary minimum – the number of subjects with a high degree of abstraction, far from the cognitive abilities and everyday life of a child	supporting active contacts with a child during periods of hospitalization	

Based on: Griffin 2014, Bendováa, Čecháčková i in. 2014, Forrest, Bevans and others 2011.

At the same time, the author is aware that the above table may not take into account all the needs arising from the analyzed categories. It is due the fact that the development of a child with a rare disease and intellectual disability may occur individually, thus reveal other educational needs.

1.2. Child with a rare disease and intellectual disability

The portal for rare diseases and orphan drugs announces, that „Rare diseases are diseases which affect a small number of people compared to the general population and specific issues are raised in relation to their rarity. In Europe, a disease is considered to be rare when it affects 1 person per 2000. A disease can be rare in one region, but common in another" (Orphanet 2019). Thus, the number of patients can be up to several million (in Poland it is estimated that it is 3 million people). From this perspective, rare disease is not so rare, so it is likely that there may be several children in a rare disease in the region and even in a given school. Currently, over 8,000 rare diseases are diagnosed and described. Still, many of them have no name. Then we use a term SWAN, Syndrome without Name (brochure SWAN Australia 2019). Some rare diseases, such as Cri du Chat Syndrome, Corneli de Lange syndrome or Sanfilippo syndrome, coexist with moderate intellectual disability. This article adopts the definition of intellectual disability in accordance with the classification of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V):

„intellectual disabilities is a neurodevelopmental disorders that begin in childhood and are characterized by intellectual difficulties as well as difficulties in conceptual, social, and practical areas of living. The DSM-5 diagnosis of ID requires the satisfaction of three criteria: (1) Deficits in intellectual functioning—"reasoning, problem solving, planning, abstract thinking, judgment, academic learning, and learning from experience"—confirmed by clinical evaluation and individualized standard IQ testing (2) Deficits in adaptive functioning that significantly hamper conforming to developmental and sociocultural standards for the individual's independence and ability to meet their social responsibility; and (3) The onset of these deficits during childhood" (T.F. Boat, J. T. Wu, 2015).

Diagnosis of a rare disease and intellectual disability may contribute to difficulties in physical and cognitive development that may translate into the emergence of individual educational needs.

The methodology of research

In the research in the post-positivist paradigm a quantitative strategy was used. The preexperimental study, one-group pretest-posttest design were applied - the experiment on a test group including pretest and posttest, but without the control group - modified by the cascade strategy (two-fold double measurement), because it is more suited to the actual learning and consolidation of knowledge. The second posttest was determined by an evaluation posttest. The third measurement was used to show the process of consolidation of knowledge ("knowledge composition") of surveyed teachers. Doing only one study could not indicate active involvement in learning and knowingly identifying/differentiating needs.

The following main research problem was formulated: How do teachers construct an image of educational needs of a child with a rare disease and intellectual disability? And detailed questions: What are educational needs of a child with rare disease, and what are educational needs of a child with intellectual disability in the opinion of teachers? What educational needs of a child with rare disease and a child with intellectual disability are common in the opinion of teachers?

The group of respondents consisted of 87 early school education teachers working in randomly selected primary schools in Poland (city has up to 50,000 residents - 33%, from 50,000 to 100,000 residents - 15%, over 250,000 residents - 21%). The group was different in terms of age (20-25 years - 3%, 26-30 years - 8%, 31-35 years - 18%, 36-40 years - 24%, 41-25 years - 15%, 46 years and more – 32%), and seniority (0-5 years - 23%, 6-10 years - 23%, 11-15 years - 19%, 16-20 years - 12%, 20 and more - 23%). Most of the surveyed teachers did not have contact in their work with a child who was diagnosed with a rare disease (81%), the others met with a child with Williams-Beuren syndrome (3%), Leigh syndrome (3%), DiGeorge Syndrome (2%) and Cornelia de Lange Syndrome (1%).

In the research, an original questionnaire was used, containing 27 definitions of educational needs of a child with intellectual disability and a rare disease specified on the basis of a literature analysis (Griffin 2014, Bendová, Čecháčková and others 2014, Forrest, Bevans and others 2011). The needs have been divided into three categories: (1) associated with intellectual disabilities, (2) with rare diseases, (3) common needs. Each category took into account the child's needs resulting from specific physical, cognitive, social and emotional development (Table 1). It is worth noting that, intentionally – forcing in-depth reflection - groups 1 and 2 are not fully disjoint (hence category 3).

The research protocol consisted of the following stages:

First meeting: (1) Pretest – included the assessment of teachers' knowledge about the educational needs of a child with rare disease and intellectual disability, (2) after the test, the first lecture on the educational functioning of a child with rare disease and intellectual disability (Cri du Chat syndrome, Cornelia de Lange Syndrome, Sanfilippo syndrome) and transfer of educational materials,

Second meeting (two weeks later): (1) Posttest – assessment of the variables under investigation after applying the intervention (lecture on the educational functioning of a child with rare disease and intellectual disability), (2) after the completion of the posttest, a second lecture,

Third meeting: (1) Posttest evaluation – consisted in evaluating the lecture two weeks after the last lecture on the functioning of a child with rare disease and intellectual disability (Figure 1).

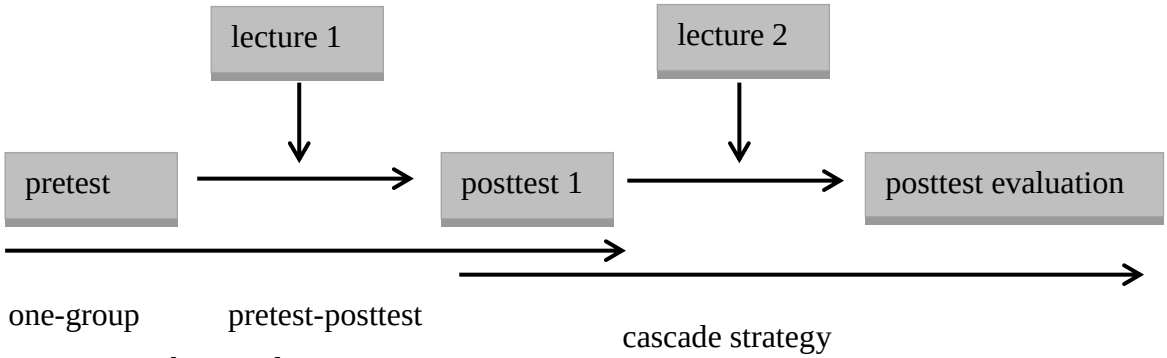

Figure 1. Research procedure.

The results and interpretation of the research

Based on the collected data, it can be concluded that, on average, teachers from I, II and III studies pointed to the common educational needs of a child with a rare disease and intellectual disability (study I Σ = 44,96; study II Σ = 53,85; study III Σ = 41.96) (table 2). The perception of educational needs varied and depended on the stage of research.

Table 2. The type of educational needs of a child with rare disease and intellectual disability in the opinion of the surveyed teachers.

Educational needs	Rare disease (N)			intellectual disability (N)			common needs (N)		
	I	II	III	I	II	III	I	II	III
application of the method of view - making it possible to get to know multi-sensory	7	7	8	41	30	26	39	50	53
learning by solving problems	8	10	10	52	40	36	27	37	41
strengthening the child's self-esteem during group and individual classes	8	8	6	20	19	20	59	60	61
strengthening peer relationships due to frequent absences or limiting the possibility of participating in all activities during classes	35	30	47	6	9	10	44	48	30
opportunity to participate in activities outside the classroom (competitions, professions) adapted to the child's physical limitations	22	23	50	20	18	7	45	46	30
taking into account the slower than average rate of mental operations	4	10	11	36	16	47	47	61	30
taking into account the slower pace of work resulting from specific physical limitations	31	31	47	16	10	10	40	46	30
extending working time	7	4	3	24	18	15	56	65	69
adjusting the level of difficulty (number of elements) of images and etc.	4	5	6	42	17	50	41	65	31
transmission of short and precise verbal messages	6	5	5	36	11	62	45	71	20
adapting to the child's needs ways of presenting	8	3	4	24	18	50	55	66	33

Educational needs	Rare disease (N)			intellectual disability (N)			common needs (N)		
	I	II	III	I	II	III	I	II	III
knowledge, developing skills, and providing guidance									
combining the content of education with the closest environment of life and education, as well as individual experience	11	5	7	28	21	20	48	61	60
using the work principle on particulars	8	5	5	35	21	50	44	61	32
depending on the child's needs, the recommendation to divide into smaller parts of the knowledge to learn and to increase the number of exercises and repetitions	4	5	5	42	23	43	41	59	39
controlling the pace of work	5	7	7	26	15	16	56	65	64
Using breaks while working as needed	8	8	7	13	9	8	66	70	72
the use of simple instructions in the didactic materials - pictorial, pictorial-verbal and animated	3	2	2	45	21	50	39	64	30
reducing to the necessary minimum subjects with a high degree of abstraction, far from the cognitive abilities and everyday life of a child	11	8	8	46	20	51	30	59	28
the need for functional teaching based on a child's activity, commitment, experience, discovery and cognition	12	14	13	24	13	14	51	60	60
breaks during work in accordance with individual needs of a child, resulting from high physical fatigue or current treatment process	21	29	40	8	4	8	58	54	39
frequent changes of a seat position during the task	39	35	39	14	9	11	34	43	37
adjusting the level of physical activity necessary during the class to the current state of health/well-being of a child	51	53	53	8	7	7	28	27	27
systematic repetition of new knowledge	5	6	5	33	24	23	49	57	59
strengthening the child's interests	20	16	16	18	21	21	49	50	50
planned breaks during the didactic classes resulting from the specifics of treatment and medical-hygienic procedures of a child	45	46	45	0	1	1	42	40	41
close cooperation with specialists during the creation of support program	29	35	36	2	5	4	56	47	47
maintaining active contact with a child during periods of hospitalization	60	62	65	2	3	2	25	22	20

N – numbers of answers, I- pretest, II- posttest, III – evaluation posttest

At the same time, while constructing the picture of child's educational needs during the first research, the attributes in the questionnaire were assigned to the following categories:

rare disease – 4 characteristics, intellectual disability - 6 characteristics, common - 17 characteristics (table 3). On the other hand, in the study of the second category of rare disease, the respondents assigned three traits, intellectual disability and one trait, and common 23 traits (table 4). In the last study (III), teachers pointed out 8 traits associated with a rare disease, 8 characteristics relating to intellectual disability and 12 common (table 5). In the first research the most points referred to the need of using breaks while working as needed, in second to the transmission of short and precise verbal messages and in third to the need of extending working time. All of those needs were attributed to the category of common needs.

Table 3. The type of educational needs of a child with rare disease and intellectual disability in the opinion of the surveyed teachers (first research).

Educational needs		
Rare disease	Intellectual disability	Common needs
frequent changes of a seat position during the task	application of the method of view - making it possible to get to know multi-sensory	strengthening the child's self-esteem during group and individual classes
adjusting the level of physical activity necessary during the class to the current state of health/well-being of a child,	learning by solving problems	strengthening peer relationships due to frequent absences or limiting the possibility of participating in all activities during classes
planned breaks during the didactic classes resulting from the specifics of treatment and medical-hygienic procedures of a child,	adjusting the level of difficulty (number of elements) of images and etc.	opportunity to participate in activities outside the classroom (competitions, professions) adapted to the child's physical limitations
maintaining active contact with a child during periods of hospitalization	depending on the child's needs, the recommendation to divide into smaller parts of the knowledge to learn and to increase the number of exercises and repetitions	taking into account the slower than average rate of mental operations
	the use of simple instructions in the didactic materials - pictorial, pictorial-verbal and animated	taking into account the slower pace of work resulting from specific physical limitation
	reducing to the necessary minimum subjects with a high degree of abstraction, far from the cognitive abilities and everyday life of a child	extending working time
		transmission of short and precise verbal messages
		adapting to the child's needs ways of presenting knowledge, developing skills, and providing guidance
		combining the content of education with the closest

		environment of life and education, as well as individual experience
		using the work principle on particulars
		controlling the pace of work
		using breaks while working as needed
		functional teaching based on the child's activity, commitment, experience, discovery and cognition
		breaks during work in accordance with individual needs of a child, resulting from high physical fatigue or current treatment process
		systematic repetition of new knowledge
		close cooperation with specialists during the creation of support program
		strengthening the child's interests

Table 4. The type of educational needs of a child with rare disease and intellectual disability in the opinion of the surveyed teachers (postest 1).

Educational needs		
Rare disease	Intellectual disability	Common needs
adjusting the level of physical activity necessary during the class to the current state of health/well-being of a child	learning by solving problems	application of the method of view - making it possible to get to know multi-sensory
planned breaks during the didactic classes resulting from the specifics of treatment and medical-hygienic procedures of a child		strengthening the child's self-esteem during group and individual classes
planned breaks during the didactic classes resulting from the specifics of treatment and medical-hygienic procedures of a child		strengthening peer relationships due to frequent absences or limiting the possibility of participating in all activities during classes
		opportunity to participate in activities outside the classroom (competitions, professions) adapted to the child's physical limitations

	taking into account the slower than average rate of mental operations
	taking into account the slower pace of work resulting from specific physical limitations
	extending working time
	adjusting the level of difficulty (number of elements) of images and etc.
	transmission of short and precise verbal messages
	adapting to the child's needs ways of presenting knowledge, developing skills, and providing guidance
	combining the content of education with the closest environment of life and education, as well as individual experience
	using the work principle on particulars
	depending on the child's needs, the recommendation to divide into smaller parts of the knowledge to learn and to increase the number of exercises and repetitions
	controlling the pace of work
	breaks while working as needed
	the use of simple instructions in the didactic materials - pictorial, pictorial-verbal and animated
	reducing to the necessary minimum subjects with a high degree of abstraction, far from the cognitive abilities and everyday life of a child
	the need for functional teaching based on a child's activity, commitment, experience, discovery and cognition
	breaks during work in accordance with individual needs of a child, resulting from high physical fatigue or current treatment process
	frequent changes of a seat position during the task
	systematic repetition of new knowledge
	strengthening the child's interests
	close cooperation with specialists during the creation of support program

Table 5. The type of educational needs of a child with rare disease and intellectual disability in the opinion of the surveyed teachers (postest evaluation).

Educational needs

Rare disease	Intellectual disability	Common needs
strengthening peer relationships due to frequent absences or limiting the possibility of participating in all activities during classes	taking into account the slower than average rate of mental operations	application of the method of view - making it possible to get to know multi-sensory
opportunity to participate in activities outside the classroom (competitions, professions) adapted to the child's physical limitations	adjusting the level of difficulty (number of elements) of images and etc.	learning by solving problems
taking into account the slower pace of work resulting from specific physical limitations	transmission of short and precise verbal messages	strengthening the child's self-esteem during group and individual classes
breaks during work in accordance with individual needs of a child, resulting from high physical fatigue or current treatment process	adapting to the child's needs ways of presenting knowledge, developing skills, and providing guidance	strengthening peer relationships due to frequent absences or limiting the possibility of participating in all activities during classes
frequent changes of a seat position during the task	using the work principle on particulars	extending working time
adjusting the level of physical activity necessary during the class to the current state of health/well-being of a child	depending on the child's needs, the recommendation to divide into smaller parts of the knowledge to learn and to increase the number of exercises and repetitions	combining the content of education with the closest environment of life and education, as well as individual experience
planned breaks during the didactic classes resulting from the specifics of treatment and medical-hygienic procedures of a child	the use of simple instructions in the didactic materials - pictorial, pictorial-verbal and animated	controlling the pace of work
maintaining active contact with a child during periods of hospitalization	reducing to the necessary minimum subjects with a high degree of abstraction, far from the cognitive abilities and everyday life of a child	breaks while working as needed
		the need for functional teaching based on a child's activity, commitment, experience, discovery and cognition
		systematic repetition of new

	knowledge
	strengthening the child's interests
	close cooperation with specialists during the creation of support program

As it can be seen from the above data, in each study the most indications referred to the category of common needs. At the same time, it can be noticed that along with subsequent lectures on a child's functioning with a rare disease and intellectual disability, the awareness of educational needs related to the diagnosed disease increased (I-4 traits, II-3 traits, III-8 features).This indicates the process of knowledge consolidation. All the features indicated as educational needs resulting from the diagnosis of a rare disease referred to the difficulties in somatic development and the resulting problems with fatigability (changing the position of the seat, the use of breaks, etc.) and reduced level of physical activity. In the case of educational needs related to the diagnosis of intellectual disability in a student, it can be noted that the most indications were in study III (8 needs) and least in study II (1 need), which may also indicate - as in the case of needs arising from rare diseases - about the consolidation of knowledge. This indicates the process of knowledge consolidation. For instance, the need <use of simple instructions in the didactic materials - pictorial, pictorial-verbal and animated> is connected to the diagnosed intellectual disability of child. In research I the most teachers pointed, that it belongs to that category. In research II to common needs, and in III again was pointed as intellectual disability.

All the features indicated as educational needs resulting from the diagnosis of a rare disease referred to the difficulties in somatic development and the problems with fatigability (changing the position of the seat, the use of breaks, etc.) and reduced level of physical activity. In the case of educational needs related to the diagnosis of intellectual disability in a child, it can be noted that the most indications were in study III (8 needs) and the least in study II (1 need), which may also indicate - as in the case of needs arising from rare diseases - about the consolidation of knowledge. All the indicated needs were related to difficulties of a child with intellectual disability in cognitive processes (perception, concentration of attention, cause and effect thinking, etc.). They did not take into account the often co-occurring health problems of a child (fatigue of the hand during writing, fatigue of eyes while working on the elements graphic etc.). In research III teachers created a picture of needs of children with a rare disease and intellectual disability closest to the image which based on literature analysis.

Conclusion

There are no publications dealing with the educational needs of a child with a rare disease and intellectual disability. The publications that have appeared so far present case studies and are of a casuistic nature, making it difficult to generalize. As the National Council for Special Education emphasizes, primary school teachers are responsible for the educational progress of all children, including those with special educational needs (National Council for Special Education 2014). Therefore, they should provide them with adequate support and assistance. In the case of a child with a rare disease and intellectual disability, pedagogues should have knowledge about the specific physical and cognitive functioning of these pupils and recognize the needs related to the current state of health (diagnosed disease) and the level of cognitive functions. At the same time, the author is aware that children with a rare disease are only part of a group of children with learning difficulties, hence the problem of choosing appropriate methods of work and preparing a personalized strategy to support such a child

may arise. This determines the lack of a specific path to support a child, hence it seems important to raise this issue during pedagogical councils or meetings of specialist teachers. The observation of educational needs resulting from a rare disease will allow to personalize therapeutic and pedagogical interactions and will enable the child - despite his/her uniqueness - to find himself/herself in a school group and follow his peers.

The following conclusions can be made on the basis of the research:

- teachers creating a picture of educational needs of a child with a rare disease and intellectual disability notice the most of their common features,
- the educational needs identified by the teachers related to a child with a rare disease were related only to the physical sphere (health problems) of the child, there were no indications of needs related to cognitive functioning,
- along with each stage of research, the awareness (ability to perceive) of educational needs related to diagnosing a rare disease in a child increased, which also indicates the need to consider this issue during training of the pedagogical board and in the teacher's study programs. This will enable to prepare future teachers to personalize teaching strategies and individualize therapeutic interactions,
- further research should be carried out on the perception of the needs of children with rare diseases.
- In the course of the research, other research areas have also been revealed, such as:
- constructing personalized teaching strategies for a child with a rare disease,
- combining therapeutic methods that will complement and support the child's development.

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MUSIC EDUCATION, CREATIVITY AND CURRICULA. THE CONTRIBUTION OF THE TEACHER'S PRACTICAL KNOWLEDGE IN THE CURRICULUM DESIGN

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Abstract: *In the last decades, research on music education has witnessed a significant increase focusing on different epistemological perspectives. Any artistic experiences represent an essential right aimed at enhancing creativity as well as fostering creative entrepreneurship, as recently confirmed by recent international policies, programmes, and best practices which underline the innovative, social, economic and occupational role of creativity. In Italy, music culture in the school system is backed by several legislative provisions; nevertheless, the role of music in school curricula still suffers from a certain subordination. We discuss the outcomes of a survey carried out within the project named "A vertical experimentation of music". The methodological protocol has been articulated according to the practice analysis' framework. The survey – conducted through in-depth interviews (target: 25 music instruments teachers) – allowed for an insight into the contribution of teachers' practical knowledge in music curriculum planning stages.*

Keywords: *music education; curriculum design; teacher's practical knowledge; creativity;*

1. Theoretical framework

In the last decades, research on music education has witnessed a significant increase in terms of studies focusing on different fields and epistemological perspectives (Colwell, Webster, 2011; Barrett, Webster, 2014; Darrow, 2015; Young, 2016), including: studies on music-oriented perceptions, propensities, and behaviours in children (Delalande, Cornara, 2010); sociocultural studies focusing on the environmental impact on the development of music skills (Barrett, 2010); studies on the impact of technologies on music development (Vestad, 2010) and on the modalities through which technologies can be embedded, adapted or planned in order to enhance music educational practice (Kim, 2013); studies on the effects of music on the ability to perceive and analyse sound stimuli (Kraus, Chandrasekaran, 2010) and on the ability to develop sensory and motor functions (Steele, Bailey, Zatorre, Penhune, 2013). These studies contributed to the problematisation of music-oriented educational practices as well as the related educational interventions. In the last decades, a development in the differentiation of contents and topics in the so-called *music curriculum* has been observed (Hanley, Montgomery, 2005; Barrett, 2007). There was a shift from an exclusive, central role based on music performance towards a broader perspective involving music-related fields (improvisation, composition, listening, analysis, historical contextualisation) aimed at providing students with a deeper understanding of music by studying the several and collateral variables of music performance (Reimer, 2004) and by means of "eclectic" music curricula. These planning forms were based on the hybridization of music styles and on the implementation of music repertoires and training which were different from "traditional" instrumental and choral approaches; these proved to be closer to students' extra-school experiences, such as jazz, folk, electronic or popular music repertoires; or chamber music *ensembles* as well as new improvisation-based music educational forms. Furthermore, music

teachers showed a growing attention to an embodied vision of mind on kinaesthetic and emotion-based grounds (Bresler, 2004): knowledge of the body is an essential feature in planning effective learning environments in music-related contexts (Powell, 2004). Darrow (2015) critically claims that arts disappeared from the standard compulsory education system, since they are considered as having poor influence on the innovation potential of the new "economy-based" curriculum. Music and arts, in this framework, are only available to talented students who can enhance their ability in specialised, elitist schools. A 19th century-like model seems to prevail based on claims such as "music for music" and "art for art" (Winner, Goldstein, Vincent-Lancrin, 2013), thus limiting the universal right to acquire artistic knowledge, skills and competence. Actually, music represents a social practice (Woodford, 2005) that should be thoroughly implemented in school curricula, since it is an unalienable right in one's education (Unesco *Universal Declaration on Cultural Diversity of 2 November 2001; Declaration of the Cultural Rights*, Freiburg, 2007). Artistic experiences (Dewey, 1934; Eisner, 2003) represent a fundamental right in enhancing creativity and socially encourage creative entrepreneurship, as demonstrated by recent international policies, programmes and best practices on the innovating role of creativity even in economic and occupational terms (UNPD 2015; EU, 2016, 2018a, 2018b; EC, 2017; UNESCO, 2017). In Italy, several legislative provisions fostered music culture in pre-school contexts, a vertical curriculum planning of music studies, and teachers' professional qualification and training. These provisions reaffirm the need for music education to be part of the educational process for everyone. The Italian law decree no. 60/2017 (*Norme sulla promozione della cultura umanistica, sulla valorizzazione del patrimonio e delle produzioni culturali e sul sostegno della creatività* - Regulations on the fostering of humanities, on the promotion of heritage and cultural productions and on the support of creativity) entails the development of the so-called *Piano delle Arti* (Art Program) aimed at supporting school networks in the creation of educational practices, research programs and experimentations in the field of creative expressions and artistic and cultural orientation. Notwithstanding creativity is explicitly mentioned in Italy's educational priorities, the role of music in school curricula still suffers from a certain subordination.

2. The research project

The project *La musica sperimentata in verticale* (A vertical experimentation of music) (Vinci, 2018a, 2018b) has been developed from the cooperation between five schools (a Music school being the reference institution), the University of Bari, a conservatory, and two local music organisations. Its main aim is the formalisation of a curricular planning document aimed at teaching music in all school levels, from pre-schools to high schools. By means of a collaborative research&training project (Desgagné, 2007; Perla, 2014), a bottom-up vertical educational curriculum has been developed together with teachers, arising from the analysis of educational practices in schools and starting from exploratory research. The overall period of this research was one year. The project involved 1,460 students, 40 teachers, 5 school heads, and 1 Conservatory dean. Exploratory research has been carried out by means of interviews (teachers) and surveys (students). This paper aims at focusing on a specific stage of research dealing with an interview with 25 music teachers employed in secondary schools and high schools.

3. Methodology

Theresearch protocol has been developed on a phenomenological-based framework represented by *semi-structured interviews*. Some questions have been asked following Vermersch's *explicitation interview* (2005), based on prompts (questions, reformulations) aimed at simplifying its verbal realisation and the action-related awareness. A particular

focus has been dedicated to the understanding of teachers' set of representations in the music field, or the so-called *teachers' beliefs* (Wong, 2005). The following research cores have been taken into account: the interviewee's education and their cultural references; the music-related image; music teaching; students' learning. All interviews have been recorded, transcribed and analysed by means of inductive processes of textual corpus-based encoding which are part of the Qualitative Data Analysis approach (Richards, Morse, 2009). Data encoding (open coding) stages include a selection of some significant strings, as well as data conceptualisation and categorisation. The resulting matrix includes the following core-categories:

Tab. 1: Music teaching: core-categories (excerpt from analysis)

Music-related image	*Curriculum creation-assessment*	*Curriculum*	*Educational mediation*	*Students' learning*
Intimacy	Cross-curricular ability	Continuity	Posture	Competition
Habitus	Individuality	Vertical degree	Listening	Family experiences
Spirituality	Prescriptive degree	Guidance	Experience	Usefulness
Change	Metacognition	Collegiality	Body	Vocation
Beauty	Observation	Research	Group	Professionalisation
Affectivity	Music ensemble	Extra-school environments	Technologies	School-Conservatory gap
Communication	Listening, performing	Teachers' training	Feedback	Talent/training
Necessity/Randomness	Self-referentiality	Cross-cutting degree	Acoustics	Emotional management

4. Results

Theinterviewed teachers interpreted the vertical curriculum as a three-stage course: 1) The valorisation of some fundamental frameworks of music education since pre-schools: listening, early forms of music production by means of a rhythmic-based use of daily tools and use of games; 2) early forms of music reading and participation in choir activities (primary school); 3) instrument specialisation and intense choir-related activities (secondary schools, high schools). Research shows the need for an earlier implementation of instrument study since primary schools: this necessity represents a new feature compared with the current Italian music teaching programmes and it represents an essential policy to be implemented in order to create a meaningful connection with secondary schools. Research also shows the opportunity to bring forward the use of music technologies in secondary schools; the valorisation of music ensembles in secondary schools; the use of three specific mediators in music teaching that can lead to related school activities in a 'vertical' perspective: *body*, *technologies*, and *voice*. The analysis of interviews also shows the lack of assessment tools which can provide a connection between School systems and Conservatories. The explicit complexity dealing with *the assessment of musical competence* (Pellegrino, Conway, Russel, 2015) depends on many factors such as the lack of shared assessment criteria among teachers; the lack of structural tools or common formats; a

complex nature of the evaluation object, that is the individual music performance which is associated with some features that cannot be easily assessed; a low level of collegiality among teachers; lack of adequate teachers' training.

5. Implications/discussion

Theanalysis of interviews led the research group to the development of the vertical curriculum; at the same time, teachers showed an active commitment that questions any 'static' curriculum-based vision (Aoki et al. 2005). As a matter of fact, teachers implement a countless set of modifications and alterations in the curriculum planning stage, thus being proper *curriculum makers* (Rosiek, Clandinin, 2016) or *agents of change* (Priestley, Biesta, Philippou, Robinson, 2016) who can influence the context(s) in which they work. Results encourage the possibility to foster adaptive expertise unlike prescriptive approaches and technical-based visions of teaching.

6. Conclusions

Thecooperation with school has not seen its conclusion: further planning actions have been envisaged which are focused on experimentation/validation of the planned document in class contexts and in the educational transposition of the curriculum; this implies further study on mediation processes about music knowledge and on tools and modalities relating to the assessment of music competence. To conclude, research showed the need to think better of music teachers' initial educational models and professional development, since they prove to have a growing responsibility and acting as *maestros* in managing all variables underlying education-related processes; this, in turn, may enhance their reflective practices (Timperley, 2011) as well as their adaptive competence (Bransford et al., 2009; Soslau, 2012; Le Fevre, Timperley, Ell, 2016).

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THE IMPERATIVES OF CREATIVITY TO DEVELOP THE PERSONALITY OF PRESCHOOLERS

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Abstract: *The need to stimulate creativity comes from the necessity of developing the personality according to the current requirements prescribed by the educational ideal: "the free, integral and harmonious development of human individuality, in the formation of the autonomous and creative personality".Creativity, as a personality variable, has the power to influence the entire development of the child, influencing its integration into the microgroups of which he takes part initially, but with particular influences on the subsequent social roles the child performs as part of the society.Education is the "link between the potential for development given by the heredity and the infinity of possibilities of the social environment." (P. 32, Tomsa coord.) In other words, education is the one that imprints the development of personality from earliest ages. That's why its role in child's development is primary. In fact, the prescribed education requirements are different due to changes in the educational act. There are new valences, roles and functions that education fulfills and that is why it is important to advance techniques, methods and strategies that support us in the educational activity. In virtue of these things, the importance of creativity as a personality variable becomes acute, and the stimulation of children to develop a creative and autonomous personality becomes an imperative.The current challenges of contemporary education lead to the implementation from early childhood of strategies to support the child in developing a creative, innovative personality that can adapt to current and future society needs. That is why the stimulation of creativity becomes a challenge for the teachers who are supposed to support the child in the process of developing holistic and harmonious personality.*

Key-words:*pre-school; personality variables; creativity; stimulation;*

Introduction

The creativity variable determines the development of the child's entire personality. Stimulating the creative process earlier has implications for all psychic functions. The research of the creative phenomenon, the manifestations and the ways in which creativity can be stimulated are objectives that we want to achieve in the research process.

1. Theoretical Framework

1.1. Developing the child's personality in the pre-school stage

The concept of personality is defined as "a theoretical construct elaborated by psychology to understand and explain the way of being and functioning that characterizes the psychophysiological organism that we call the human being" (Dafinoiu, I., p. 75)

The personality of the child is influenced by the behavior patterns that are shown to him. The family, as the main model and single carrier of genetic structure transmitted to the child, has the influence of stimulating more or less the evolution and development of its personality.

The institutionalized environment of the kindergarten provides the necessary framework for harmonious development of the child. That is why the partnership between the family and kindergarten becomes an important link in the evolution and modeling of the personality.

The child development period in the kindergarten is divided into three stages: the high, middle and small preschool. The pre-school or "golden age of childhood is the age of basic psycho-behavioral acquisitions whose quality will greatly influence the level of adaptation and integration of the child in the later stages of his development. "(Ştefănescu, C., p. 44)

In the pre-school period "the structural development and the fine differentiation of the functional training of the cerebral cortex continue, the separation of the zones of speech and the asymmetrical domination of one of the two hemispheres, which implies the rightness of the child's hand, left or ambidextrous. The development of internal biochemistry becomes complex, emphasizing the production of hormones in the thyroid and thymus, with effects on growth. (...) The small pre-school sub-period is characterized by an increase in interests, aspirations and small skills needed to satisfy the pleasure of exploring the environment. In terms of intellectual development, there is a decentralization of operation at the level of concrete objects and their integration into increasingly complex structures. All this is done in the context of an increased anxiety generated by the need for the child's partial detachment from the family environment and its integration into the kindergarten, which contributes to a difficult adaptation of the child to the kindergarten conditions. This subperiod can be characterized by a phenomenon of flooding the objective reality with the subjective reality, a phenomenon described and named by J. Piaget by the term egocentrism. "(Ştefănescu, C., p. 44)

The next stage of development of the child's personality takes place during the middle-aged period, which "is characterized by progress in motricity, the child goes much more correctly, surely, of the language, the child learns to speak normal, correct, without stalking the words, and there is also progress in his behavior, with the child being more responsible and capable of fulfilling its tasks in order to develop personality. "The child becomes more sensitive to the events around him and is able to appreciate the behavior of others. By structuring some volitional features, the child can engage in longer-lasting activities and strives to benefit the adult. At this age, there is an evolution of the personality of the child in the direction of acquiring a certain self-consciousness. "(Ştefănescu, C., p. 44)

The pre-school sub-period is characterized by a general development of the child. "The essence of the psychological profile of this stage of development is expressed by the awakening of the personality sentiment. This is manifested by a certain attitude of opposition (Wallon - "spirit of contradiction" and "forbearance"), then through a certain "parade of the ego", revealed by the agility of the body, "graceful but glamorous" , used to determine the attention and admiration of others, and by imitation of the adult, imitation that the child practices in his games in the form of identification with persons whom he considers to be close. "(Ştefănescu, C., p. 44)

1.2.Creative process in pre-school

The specificity of child development includes the modeling of mental processes and personality variables. Creativity, as a personality variable, becomes an imperative

for the holistic and harmonious development of the child. Eugenia Enăchescu stated that "the process of creation implies the disclosure, as far as possible, of the mechanisms involved in the creative process, or how the creation evolves from the birth of the idea to its perfection" (Enăchescu, E., p. 15)

Creativity, as measured by the Torrance tests, assesses the cognitive characteristics of flexibility, fluency, originality, and elaboration, as proposed by Guilford, as well as other qualitative aspects. (Torrance, E. P., p. 55-62)

Due to the fact that preschool age is characterized by the presence of the game, its influence on the development of the child's personality is decisive. Stimulating creativity becomes a desideratum for a communicative child with a positive image and self-esteem, creative in all aspects of his personality.

The term ”creativity” was introduced in psychology by G. W. Allport ”to designate a personality formation. In his opinion, creativity can not be limited to some of the categories of personality manifestation, namely to abilities, attitudes or temperamental features. This is one of the main reasons why, in specialized dictionaries before 1950, the term creativity is not included. "(Roco, M., p. 12)

”The cognitive, decisional and activity processes involved in creativity operations can be considered as strictly reflecting emotional dynamic processes.” (Biasi, V., Bonaiuto, P, Levin, J. M.)

Human personality is complex and has some defining features that make people develop and adapt to the requirements of the environment and society they are part of. Creativity, in terms of personality, refers to man's ability to create something new, ingenious, unparalleled, as well as man's ability to solve problems by new, inventive methods. We can distinguish "three major directions in defining creativity: some authors regard creativity as the ability to produce something new and valuable; other authors designate through this concept the process by which the product is made; Finally, there are a number of authors who understand through creativity any solution to new problems. "(Tomșa, 2004, p. IV)

Erika Landau considered that "the most important premises of creativity would be originality and receptivity to the surrounding world." (Landau, E., p. 17) Creativity is seen both from its perspective as a process and as a product. Creativity as a process "for Arnold (1964) and Guilford (1967) is a problem-solving situation because such a situation requires the individual to adopt creative thinking. He uses the information at his disposal, his past experiences, combining them into new structures that can lead, in their new configuration, to solving problems. In the creative process (as well as the problem solving), we now distinguish four phases: training, incubation, understanding and verification. (Landau, E., p. 18) In terms of ”creativity as a product, Ghiselin (1957) states: A creative performance is ... a first modeling of a universe of meaning, expression of the way the individual understands the world and himself. (p. 150) "(Landau, E., p. 19)

Human behavior, in terms of creativity, supports the human individual in the process of formation and development, and has distinctive features, as well as distinct individual marks of individuality. Because we are different, our genetic structure, as well as environmental factors and education shape our personality so that the creative process, although it can contain common elements, differentiates and manifests itself in a variety of ways.

2. Methodology

Researching the pre-school creative process is a point of great interest to those who want to understand the influence of creativity on personality development. Finding

incentive methods that support creativity and its early manifestation are the goals of the present research.

The instrument used uses the questionnaire survey. The applicability of the questionnaire was verified on a sample of 50 pre-school teachers in both rural and urban areas. The characteristics of the researchers involved in the research relate to the age in education, the didactic degree and the environment in which they operate.

The teachers involved in the survey unanimously considered that the creative process had an influence on the child's personality development, and the effects are beneficial, with the child shaping his personality traits. Through the proposed activities, the variable of creativity is stimulated and thus the whole personality is involved in the process of positive change.

We also found that the factors influencing the emergence of creativity early on are related to the family environment, through heredity and imitative behavioral patterns, the socio-cultural environment, the natural and social environmental conditions that are shown to the child, but also the variety of experiences, including the game, that can influence the child in the development of the creative process. In other words, the world that shows the child, with all the defining elements, has the power to influence it.

All the teachers considered the game to be a useful method in stimulating the child's creativity. They also exemplified as methods of stimulating creativity the methods and procedures used in artistic and plastic activities, with an emphasis on the variety and attractiveness of the used materials. Pre-school activities aimed at stimulating creativity have the ability to trigger the formation of personality traits, such as the ability to be free, independent, inventive.

The methods of exploring reality used in pre-school education form its autonomy, representations and perceptions of the surrounding world. Thus, the child has the power to choose his own models of imitation.

The intellectual development of the child is influenced by creative potential through the ability to perform repeated activities, make connections, generate new ideas. The creative child is an independent child, self-confident, with a critical sense of development and an opening to novelty. Perhaps its most important feature is that it is very curious and inquiring.

Forming positive self-image and gaining personal autonomy, with a focus on socialization and microgroup integration, are some of the issues that the pre-school teacher is pursuing in the process of stimulating creativity early on.

The questionnaire survey applied to pre-school dialect teachers revealed important aspects of the creative process. The questionnaire was interpreted by finding patterns in responses. Firstly, the creativity variable has positive influences on the child's personality development, and activities in the kindergarten can generate behavioral changes in terms of creativity as well. Also, the creative act differs from one subject to another, and the influences are genetic, socio-cultural, economic, but also educational. That is why the impact of the didactic framework on the child is very important, and the proposed activities can lead to positive changes and the shaping of a creative, ingenious, free and independent personality.

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AN ANALYSIS OF TEACHER EDUCATION RESEARCH IN THE WEB OF SCIENCE

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Abstract: *The goal of this study is to analyze the scientific literature in the field of teacher education, indexed in the Web of Science (WoS) Core Collection database, one of the citation index for scientific and scholarly research. A bibliometric analysis was carried out looking at the period between 2000-2019. In total, 23327 documents on the topic of teacher education were indexed in the WoS, where it was found that: a) the Education and Educational Research category had the most documents; b) 2017 was the year with most publications (3298); c) English was the dominant language in these documents; d) the most numerous documents are the journal articles; e) the articles are much cited then proceedings papersand book chapter; f) the USA is the leading country in the field; g) Romania ranks 13th in the ranking of countries contributing to research in the field. For more impact and visibility of the research made by Romanian authors, there is a need to publish more articles in the indexed journals in WoS and to strengthen the collaboration relations with authors from other countries.*

Keywords: teacher education; teacher training; bibliometric analysis; Web of Science;

1. Introduction

Teacher education research has increased over the years and has become a popular subject in the educational field. The term "teacher education" refers to programs for the training of teachers with the knowledge, skills, and attitudes necessary to cope with the professional requirements. In line with the European Commission (2013), three stages can be identified under the cover of this initial concept: initial teacher education (education and training before any form of qualification or certification); early career period or induction (for newly qualified teachers); continuing professional development (training that teachers receive throughout their careers, and lifelong learning). Another term that is used for this reality is teacher training.

Teacher education is obviously a priority on the political agenda in many countries, where solutions are sought in terms of improving the teacher quality, over different stages. Hattie (2009) reminds us that there are significant correlations between teacher quality and student performance. Although teacher training programs vary considerably among the countries around the world, teachers face challenges in their classrooms, at school and system level. The teaching profession is becoming more and more complex, the demands placed on teachers are increasing and the environment in which they work is becoming more and more challenging (Commission of the European Communities, 2007). These pressures are valid not only at European level, but at a global level, too. Within this context, it is relevant to analyze the global productivity of research on teacher education. Scientific production is indexed into different databases. One database for scientific and scholarly research, which includes high-quality scientific publications, is Web of Science Core Collection. This is an "abstract and citation database which serves as the premier resource for research discovery, covering authoritative and multidisciplinary content: 20.000 of the highest impact journals worldwide, including open access journals, 90.000 scholarly books and over 170.000 conference titles"

(Webof Science, 2018).The database covers highly selective scientific publications from sciences, social sciences, arts, and humanities, starting with 1900.

The goal of this study is to search and analyze the scientific teacher education-related literature, indexed in the Web of Science database. We used bibliometrics analysis to obtain a broader image of teacher education research, by exploring the numbers and trends related to the articles and journals, countries, and authors.

According to Okubo (1997), bibliometrics is a generic term based on the enumeration and statistical analysis of scientific output in the form of articles, publications, citations, patents and other, more complex indicators. Aksnes, Langfeldt, and Wouters (2019) affirm that "in recent years, bibliometric indicators have increasingly been applied in the context of research evaluation as well as research policy more generally" (p.1). For instance, indicators are used for rating the scientific performance of institutions or individual researchers, for allocation of research funding, for university rankings, etc. The measurement of scientific research applies to a variety of fields, including education. For example, Panczyk, Woynarowska-Sołdan, Belowska, Zarzeka, & Gotlib (2015) conducted a bibliometric analysis of the scientific literature in the field of research in education. In other cases, a bibliometric analysis has been done in the field of educational sciences in a specific country, in this case in Switzerland (Diem & Wolter, 2013), or in different areas of interest in education, such as: teacher motivation (Viseu, de Jesus, Quevedo-Blasco, Rus, & Canavarro, 2015) or leadership model in education (Gumus, Bellibas, Esen, & Gumus, 2016). The results of such studies allow the identification of trends and directions in education research, the discovery of areas of interest to researchers in the field, the development of cooperation networks for research at the level of organizations or people from different countries or continents.

The bibliometric analysis on teacher education literature will give us an idea about this field, in terms of number and types of documents, countries and organizations involved, journals and language of publications. By its results, this study provides informative data that may be used by individual researchers or by research groups, looking for the development of research networks.

2. Method

In this study, the research on teacher education was investigated through the bibliometric analysis. The search period was between 2000-2019 (the last almost 20 years). Through this analysis, a series of indicators have been following, such as the number of publications, the Web of Science categories, types of documents, the target journals for the publication of articles on teacher training, highly active countries and institutions, etc. Two questions conducted this research:

What trends have been in the last two decades at international level in research on teacher education field in terms of number and types of documents, web of science categories, organizations involved, countries, journals and language of publications?

How does Romania position itself in the international context in research on teacher education field, in terms of number and types of documents, organizations involved and language of publications?

The data used in the present study are downloaded from the Web of Science on April 3, 2019 and were collected from the following 8 citation indexes: Science Citation Index Expanded; Social Sciences Citation Index; Arts & Humanities Citation Index; Emerging Sources Citation Index; Conference Proceedings Citation Index-Science; Conference Proceedings Citation Index-Social Science & Humanities; Book Citation Index-Science; Book Citation Index-Social Sciences & Humanities.

3. Findings

This section provides the results of the bibliometric analysis on the Web of Science database, drawing on a broader picture of teacher education at international level. First, we did an advanced research, choosing the option TS (topic) = teacher education or teacher training, enclosing the phrases in quotation marks, using Boolean operators (OR) and a wildcard symbol (*). Thus, the search using this formula TS = "teacher education" OR TS = "teacher* training" generated 23327 documents, published in the selected citation indexes, from 2000 to 2019, which contain in their title, in the abstract or among the keywords the desired syntax. Of these records, 5241 are Open access (23.23%). Although open access documents enjoy good visibility, the amount that publishers charge for open access, the reticence of some researchers to publish in such journals (perhaps less well known than others in the field) may be possible explanations for the fact that the number of documents open access is lower.

The number of works registered during the mentioned period represents 87.67% of the total of Web-indexed publications. Practically, between 1974 (when the first work on the subject of teacher education was registered) and 1999 (for 26 years) only 3290 works were registered, representing only 12.32% of the output.

The first finding was that there has been a marked increase in the number of publications since 2000 (Figure 1). The lowest output appears in 2001 with only 197 publications, and the highest output is recorded in 2017, with 3298 publications. The production of scientific works has increased over 16 times in nearly two decades. Three periods can be delimited:

A slow, but constant growth period in the first decade of the analyzed period (between 2000-2009), when a total of 3793 documents were published (between 197 and 802 per year), representing 16.26% of the total amount;

an obvious growth period in the first half of the second decade (2010-2014), when 6844 papers have been published (with a number of publications between 1205 and 1614 per year), which accounts for 29.34% of the total amount. The number of publications has almost doubled over the previous period.

An impressive growth period (2015-2018) when 12210 scientific papers (between 2908 and 3298 papers per year) were published. To this, we added the 480 papers indexed until April 3, 2019. Together these represent 12690 works (54.40% of the total amount). Again, the number of publications has almost doubled over the previous period.

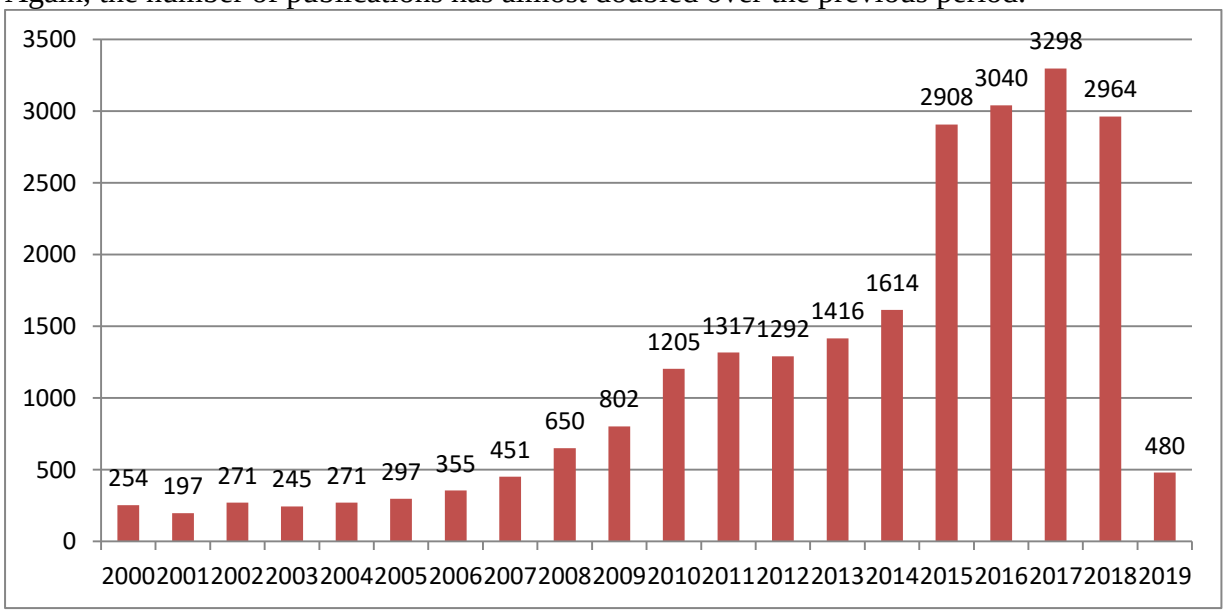

Figure 1. The numbers of publications between 2000 and 2019

We can say that there is an increased interest in the research in the field, which is confirmed by the increasing trend in the number of publications over the last two decades.

Most publications - 19,723 (representing 84.55% of the total), are written in English. Statistics show that 1685 documents are registered in Spanish (7.22%), 1025 in Portuguese (4.39%), 335 in German (1.43%), 116 in Turkish (0.49%). Therefore, English is the most used language for writing and communicating the research results in the field, which is explained by the fact that the scientific literature indexed on the platform was mostly published by US researchers. These works have been indexed in several Web of science categories. Most papers - 18276 (78.34%) were indexed within Education and Educational Research category. In the Web of Science, this category covers resources on the full spectrum of education: pedagogy, methodology, history of education, reading, curriculum studies, educational policy, sociology and economics of education, as well as the use of computers in the classroom. Other categories in which these papers were indexed were: Education scientific disciplines (4.92%), Linguistics (4.43%), Social Science inter-disciplinarity (3.48%), Language Linguistics (3.11%), Educational Psychology (2.73%) etc.

According to the Web of Science, indexed documents for the field of teacher education are grouped into several categories, three of which are more important: articles, proceedings papers, and book chapter (Figure 2).

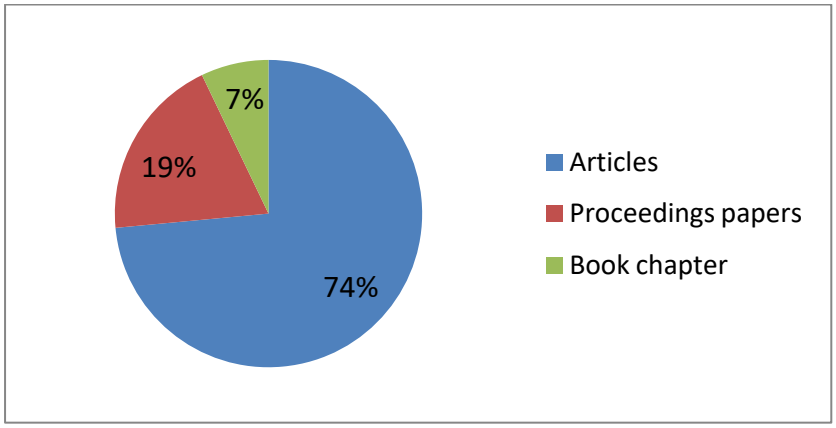

Figure 2. Document types on teacher education field on Web of Knowledge

Articles represent the category with the most records - 17366, representing 74% of total publications. The second category is represented by proceedings papers, with 4563 documents, representing 19% of total publications, and the third category refers to the book chapter, amounting to 1,684, representing 7% of the total. The greater importance that journal articles have in comparison with proceedings papers in scientists' research is an explanation for the generous number of articles compared to the number of papers presented at conferences. We mention that, in the Web of Science, some papers can be identified as both articles and proceeding papers. This is the case of papers that were initially presented at a conference or workshop and later adapted for publication in a journal (González-Albo, & Bordons, 2011).

One indicator for measuring the impact of the research over the scientific community is citation. The most quoted types of documents within the teacher education field on the Web of Science database are the articles. The 17366 articles received 135630 citations (with an average of 7.81 citations/article) over the past 20 years, while 4563 proceedings papers received only 5329 citations (averaging 1.16 citations/paper). For example, the most cited three articles in the field have a number of citations between 495 and 458 and are published in the top two top-ranked journals in the field (Table 1).

Table 1. The most cited articles on teacher education field on Web of Knowledge database

The most cited articles	Number of citations
Darling-Hammond, L. (2006). Constructing 21st-century teacher education. *Journal of Teacher Education, 57*(3), 300-314.	495
Zeichner, K. (2010). Rethinking the connections between campus courses and field experiences in college- and university-based teacher education. *Journal of Teacher Education,61*(1-2), 89-99.	493
Korthagen, F.A.J. (2004). In search of the essence of a good teacher: towards a more holistic approach in teacher education. *Teaching and Teacher Education, 20*, 77-97	458

Proceedings papers receive fewer citations than journal articles, although the percentage of open access documents is comparable for the two types of documents (22.97% for articles and 22.92% for conference papers, respectively). This reality can be explained by the fact that articles are usually considered to be more elaborated and more mature than proceedings papers and enjoy greater weight and influence in the scientific literature. In the case of books chapters, the number of citations is significantly lower (the three most quoted chapters each have between 30 and 33 citations, recorded on the WoS database.) An explanation for this could be the fact that only 1.76% are open access documents. In addition, chapters in books are not as visible as articles in journals.

As shown in Table 2, 15.76% of articles were published in the top 10 most prolific journals in the field. The top-ranked journal is Teaching and Teacher Education (Impact Factor = 2.472 in 2017), which published 921 papers in total, containing 5.31% of all articles in the field. It is followed by other journals, but with fewer works. The authors have numerous (over 100) and various journals in which they can publish their work related to teacher education.

Table 2. The most prolific journals for the field of teacher education

Rank	Journal	Record count	Percent
1	Teaching and Teacher Education	921	5.31 %
2	Journal of Teacher Education	384	2.21 %
3	Journal of Education for Teaching	254	1.46 %
4	European Journal of Teacher Education	249	1.43 %
4	Australian Journal of Teacher Education	216	1.24 %
6	Asia Pacific Journal of Teacher Education	188	1.08 %
7	Teachers and Teaching	147	0.84 %
8	International Journal of Science Education	140	0.80 %
9	Advances in Research on Teaching	126	0.72 %
10	Teachers College Record	112	0.65 %

In terms of geographic distribution, more than 100 countries contribute to research in the field of teacher education. The most active countries are shown in Figure 3.

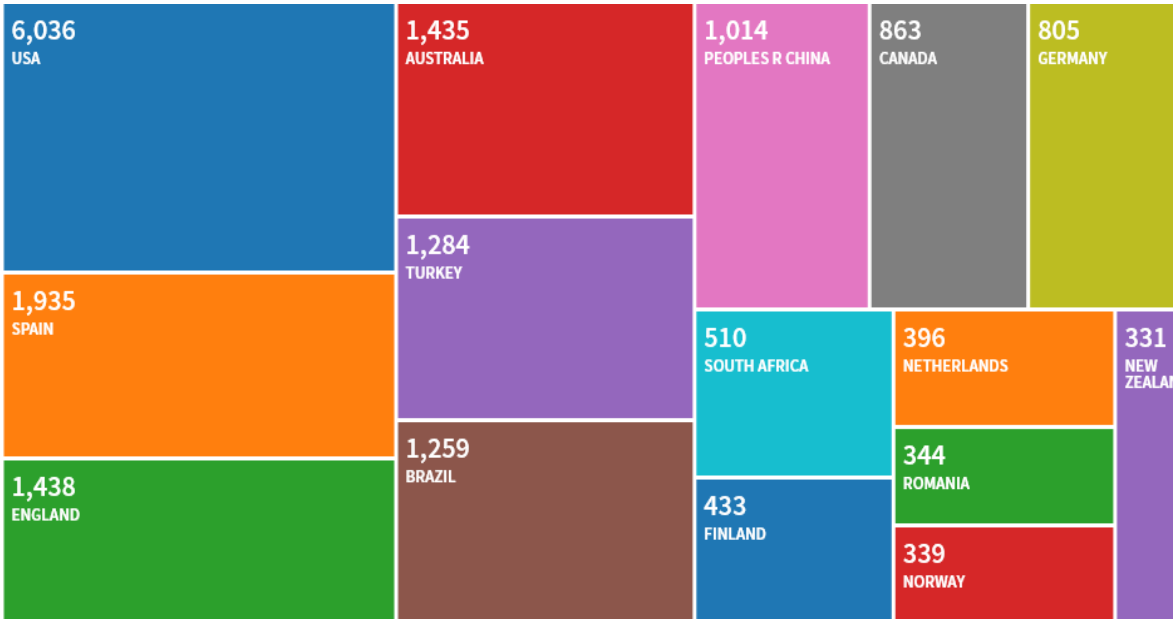

Figure 3. Rankings of countries that contribute to the scientific literature regarding teacher education (Source: Web of Science database)

With 6036 papers, representing over one-quarter of total works (25.87%), the United States leads the rankings of countries for the production of research in the field of teacher education. The American universities most productive in the field of teacher education are State University System of Florida (304 records), University of North Carolina (304 records), University of Georgia (296), California State University System (201) and they dominate the rankings. The USA is followed, at a great distance, by a wide range of countries, such as Spain (8.29%), England (6.16%), Australia (6.15%), Turkey (5.5%), etc.

This ranking also allows us to address research question 2, regarding Romania's contribution to research in the field of teacher education. With 344 registered works (representing 1.47% of all publications), Romania ranks 13th in the hierarchy of countries contributing to research in the field of teacher education. It is a quite honorable position if we take into account the fact that it is only from 2008 that we can talk about a constant presence of works written by Romanian authors on the platform. After only two works were recorded in 2008, a peak reached in the production of scientific publications in 2014 and 2015, with a record of 65 works per year for two years.

Regarding document types, 314 (ie 91.27% of the works) are classified as proceedings paper (314), and only 30 (8.72%) are classified as articles. The most cited article (with 24 citations), written by a Romanian researcher - Singer, F.M., in collaboration with a US researcher - Moscovic, H., is called "Teaching and learning cycles in a constructivist approach to instruction" and was published in 2008, in the best quoted journal of the field - Teaching and teacher education, in vol. 24, issue 6, pages: 1613-1634. The most cited conference paper (10 citations) is also written by Singer, F.M., in collaboration with a Romanian author Stoicescu, D. It is called "Use blended learning as a tool to strengthen teaching skills" and was presented at the 1st World Conference on Information Technology (WCIT), Bahcesehir University, Istanbul, Turkey in 2010 and published in 2011. We can conclude that Singer is the most cited Romanian author on the platform in the field of teacher education.

The work of the Romanian authors, indexed on the platform, is 99.41% written in English, which is explicable considering that most of the international conferences that bring

materials to the platform are being conducted in English. There are only two works in Romanian indexed on the platform. Collaborations between Romanian researchers and researchers from other countries are quite few (7 with the USA, 4 with Germany, two with Canada, two with Spain, etc.). It is necessary to multiply and strengthen international collaborations of Romanian researchers in order to increase the quality and visibility of the research. Identifying the institutions with a larger number of research articles in the Web of Science can be a first step to initiating collaborative research.

From Romania, the most active organizations publications in the field of teacher education are: University of Bucharest (70 record counts, representing 20.34% of the national contribution), "Babes-Bolyai" University from Cluj-Napoca (with 36 papers, 10.46%), "Alexandru Ioan Cuza" University (24 papers, 6.97%). According to the Web of Science rankings, with 14 papers published in this field (4.07%), "Lucian Blaga" University of Sibiu ranks 7th in the ranking of Romanian universities that contribute with publications in the field of teacher education.

The focus of recent years on performance-related indicators in the assessment of universities, but also in the assessment of scholars, may be a possible explanation for the fact that Romania has become a more visible presence in international teacher education research over the last decade, although the number of articles is rather modest, compared to the number of proceedings papers. It would be necessary to focus the creative energies of the Romanian authors in this direction and to strengthen the collaboration relations in order to increase the quantity and quality of the articles.

4. Conclusions

In this paper, the research of teacher education at the international level from 2000 to 2019 is over-viewed from a bibliometric perspective. It has been found that the interest in research in the field of teacher education has increased over the past two decades, which is objectively reflected in a large number of journals and articles, conferences organized in the field, or published books. A generous international community made up of researchers and scholars, organizations, departments or foundations do or support research in this field. English is the dominant language in these works, due to the fact that the United States of America leads by far in the ranking of countries contributing to scientific production in the field. In addition, most scientific journals and international conferences organized for the communication of research results are in English. The main focus of teacher education in the world was article production in journals indexed in Web of Science. Several prolific journals were also identified. This is relevant for researchers looking for quality materials and identifying those journals in which they can publish their papers. Also, Romania's contribution to research in the field of teacher education has been identified and analyzed, in terms of number, types of papers, contributing institutions, and language of publications. Due to the importance of the teacher education field and the trends reported as a result of annual publication outputs, we estimate an increase in the number of studies in the coming years at international and national levels.

Finally, this study offers a global overview of teacher education research, but it has some limitations. Due to a large number of papers, a more in-depth analysis of selected papers has been difficult. This could, for example, identify the main themes, research directions in the field of teacher education, the purposes of these studies, the methods used by researchers, the population surveyed, etc. The study can be continued by integrating the bibliometric data provided by other platforms (Scopus, Google Scholar, etc.). The use of combined data from different databases could provide a more comprehensive picture of research performance in the field of teacher education.Further analyses dealing with teacher education fields would be needed.

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HEUTAGOGY (SELF-DETERMINED LEARNING): NEW APPROACH TO STUDENT LEARNING IN TEACHER EDUCATION

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Abstract: *The idea of self-determined learning of students is quite prevalent at least from the times of Rousseau. This paper presents innovative teacher education heutagogy (self-determined learning) courses (250 students). The students chose what to learn in the context of the main course subject, with whom (individually or in small groups), how to learn, from what resources and how to present the knowledge they had constructed. The data were collected from students' written blogs and students' products and was analyzed by collaborative self-study and multiple case-study methods. Findings demonstrated how the students and the lecturers cope with challenges like uncertainty and vagueness and turn them into meaningful learning which enhance their passion for knowledge and pleasure in learning. At the first stages of the courses most of the students felt helplessness about acting in total autonomy setting. As oppose to conventional courses, the students expressed senses of self-competence and capability and self-autonomy.*

Keywords: *Heutagog; teacher education; autonomy;*

"I feel as someone who was received a blank paper, paintbrush, paints, markers and scissors… started to draw a line, then more lines without pre -planning about what will come next… The picture became to be clearer and then a storm arrived and erase everything… the paper became to be blank again…I started to paint again… The creating wind blow and everyone look at it differently, sometimes it is a cloud and sometimes it is a house." (taken from reflection of a teacher education college student following his participating in heutagogy course)

1. Introduction

In the 21st century we face changes in the way knowledge is organized, distributed and learned. These changes can strongly influence the learning processes in educational systems. In an era where organized knowledge is not only a tree-like structure, the classic pedagogies, including those based on constructivist psychology, are no longer effective. It is essential to develop innovative pedagogies and to surround them with learning environments suited to the students who spend (learn) many hours, almost 24/7, facing various types of screens. These learning environments are based upon the premise of self-learning (Davidson & Goldberg, 2009;2010).

2. Theoretical Framework

The idea of self-determined learning of students is quite prevalent at least from the times of Rousseau. However, it had been usually addressed from a psychological point of view (e.g., Deci & Ryan, 2000). The pedagogical impact of its implementation is barely discussed. Hase and Kenyon (2000;2013) have developed an approach called heutagogy or self-determined learning. This educational method hypothesizes that learning is related to weaving connections in the brain, and involves ideas, emotions and experiences that bring the student to a new understanding of himself and the world. They maintain that learning occurs in a haphazard and chaotic manner, as a response to individual needs.

Heutagogy, based on ideas of Carl Rogers (1969), is described by Hase and Kenyon as “occurring in situations where the focus is "on what and how the student wants to learn, and not on what he is taught" (Hase & Kenyon 2013 p.7). To explain this approach, they compare it to two other alternatives: pedagogy and andragogy. In pedagogy, the teacher steers the students on their way, determining the route of their learning, its contents and its pace, since he knows what is good for them. Similarly, in andragogy, which deals with teaching adults, the teacher is responsible for the learning and keeps in mind the students’ age, experience and desires. These two types present processes in which the teacher determines what and how the students will learn (teacher-centred learning). In heutagogy, the learner takes upon himself to lead his own learning topic, aims, process, and evaluation (Blaschke and Hase, 2016). Blaschke and Hase (2016) claim that successful heutagogy requires an environment that will allow the students to wander and reflect about the contents of learning, the learning process, its impact (double-loop reflection) and themselves as learners (triple-loop reflection).

Hase and Kenyon (2013) emphasize that heutagogy enhances the students' autonomy, their passion to expand their knowledge and their enjoyment in learning by establishing their sense of capability.

The objective of the present research is to study our (the authors) heutagogy courses, and especially their pedagogical impact on the students who experienced them in a college of education, in order to improve our practice as heutagogy facilitators.

3. The Intervention

3.1. Setting, participants and courses' contents

For two years, six heutagogy courses (approximately 250 students) had been studied in a teacher college of education. Each author taught different courses. The courses' subjects were varied (e.g. Ethics and Philosophy of Education, Youth Cultures, and Teachers’ Phronetical Knowledge).

3.2. The course stages

Although each course is a little different from the others, all courses maintain the fundamental pedagogical stages: An introduction, the self-determined learning and the presentation of learning.

3.2.1. An introduction

The introduction session first aim was to expose the students to the subject of the course in a way which intends to increase their curiosity, interest and motivation to learn more about it. The second aim was to introduce the rationale of self-determined learning.

3.2.2. The self-determined learning

In this stage the students as individuals or as groups had been asked: a) to choose a topic which relates to the course subject in order to learn about it; b) to initiate the process of self-determined learning as individuals or in groups and to make their own decisions concerning questions such as: from what and from who I'll learn (What will be the learning sources)? How do I learn (What will be the strategies)? How do we organize our group learning and our work division (if it is a group); c) to construct pre-expectations (i.e. personal or group contract) for self-formative evaluation by coping with questions such as: How can I know that we will experience a meaningful learning process? How can we know that we will construct appropriate knowledge? What will be the indications for these?

During this stage we, the lecturers, played the role of facilitators who help individuals/groups in thinking about how to cope with their learning challenges.

We invited the students to discussions meetings (at least 2-3 meetings with each group or individual) to share their learning process including their difficulties and challenges in order to discuss about it. We tried to avoid giving the students instructions, and instead, we helped them to ask questions for thinking and invited them to think by saying for example: "O.K. let's think together how to cope with this difficulty".

3.2.3. presentation of learning and evaluation

At the end of the courses, each individual or group chose how to present her/their learning and/or its products/outcomes during a different setting such as 10 minutes presentation, academic works or exhibitions of products or activities.

Each individual or group were asked to take a part in the evaluation of her/their own learning process and the knowledge she/they had been constructed, relating to her/their pre-expectations. In addition, we, the lecturers evaluated the students' learning by following our meeting discussions with them, their written reflections and their presentations.

4. Methodology

The present research is a collaborative self-study research (Hamilton and Pinnegar, 2014; Ritter, 2018) combined with multiple cases (Mudrak and Zabrodska, 2015). Heutagogy courses in teacher-education programs provided the cases as "an innovative program may be a case" (Stake, 1995, p.2).

Data were collected from: a) the students' on-going reflections in e-mails and blogs during their learning process, including their final reflections at the end of the courses (about 500 reflections); b) The authors' reflections and discussions.

The data were analyzed by identifying similar patterns of reflections (categories) within cases (courses) and between cases in cross-sectional analysis. First, each author independently analyzed the data from his courses (within), then, both collaboratively analyzed by comparing our self-findings. The results illustrate the shared patterns we found.

5. Results

5.1. Coping with autonomy

In the beginning of the self-determined stage most of the students felt helplessness about acting in a total freedom setting.

Two students wrote that they didn't believe they would really experience a true freedom and expressed some suspiciousness. More students wished to know how they would get their grades, the lecturer's exact expectations, and the implicit intentions of the lecturer. Many felt confused and looked for specific instructions of what and how to learn. Some didn't know how to choose a topic or how to look for different learning resources and some were not used to learning in a group. A few students expressed difficulties regarding learning without frequent deadlines and tasks. One student reported that her ongoing difficulty that bothers her:

"Still something in my mind refuses to be open… waiting for clear instructions, directions, rules… without too much thinking… it still bothers me." (S- first letter of the student's name)

However, most of the students wrote they finally coped with the difficulties and turned it into new opportunities:

"I understood that things are not always clear and explicit, and this gave me a chance to be developed." (A)

"I believe that this confusion enables me to think creatively… It fires me the light of curiosity." (D)

One student struggled with internal ethical issues:

"I think that the first thing I did when I understood that we got almost full autonomy is creating self-expectations: How much effort I will devote to the learning? How do I keep myself from translating the autonomy I received to laziness?... I'm happy I succeeded in not surrendering to my negative impulses." (V)

5.2. Meaningful learning

Most of the reflections described students' sense of meaningful learning:

"This way of learning simulates the uncertain way of life." (W)

Students described that meaningful learning occurred when they were activated and involved in their learning. They felt the powerful sense of autonomy, self-efficacy and being trusted:

"At last someone trust me by giving me to decide how to act and learn… these are the skills I was expected to develop." (E)

Reflections demonstrated students' sense of responsibility:

"I felt the experience of taking responsibility without any inspection, and it strengthened me. I found myself thirsty to knowledge." (A)

5.3. Learning as wandering

Students described the beneficial effect of letting them choose from what sources they would learn:

"In my research process I shot in all directions. This was difficult.... I read books, papers (if I had not read them, I wouldn't have understood the roles of all the people in the system). I learned from observations. It was important for me to know how the child behaves in his natural environment. I connected with experts and professional people who already had rich experience. I learned to take responsibility. It felt like a self-production." (R)

Such searching demonstrates the student's learning as 'wandering in networks. Whenever students wrote about losing their way (e.g. "It wasn't clear where I should go in the process"), they conducted such learning to find possible ways:

"Following the process, I found myself very curious and just wished to get more and more information about the topic… I found myself drawn to read research on my leisure time…I felt I was in a race to read more and more… I promised myself to keep investing and going deeper when the course is over… I was very excited, and a lot of questions echoed in my head. Sometimes, in the middle of the night I turned on my mobile phone and wrote the questions that were raised in my mind. "(W)

"I wandered back in time, and thought about the people who inspired me, who were meaningful teachers for me and why/" (G)

"I started with a specific point and discovered that I had to study more aspects and points of view." (F)

5.4. Intrinsic motivation

Some students reported about their intrinsic motivation:

"It fires me the light of curiosity." (D)

Few students described their discovery of enjoyment from learning for its own sake.

Most students described what they learned about themselves as learners through triple-loop reflections:

"During the year I learned some lessons. First and foremost is that I still don't know enough about myself. Second, I learned that there are a million topics that I wish to learn, and

third, that the learning process is more meaningful for me when I am asked to choose my learning topic." (V)

5.5. Team-work

Students emphasized the opportunities to exercise the development of team-work skills of collaboration and cooperation including interpersonal communication, searching for relevance information sources, asking for help, convincing others by presenting good arguments and making common decisions:

"We sat many hours, alone and together, trying to understand what we read." (L)

"The group collaborative thinking increased the level of the learning when each of us brought different point of view and ideas, and we discussed them and had to make compromises until making decisions." (V)

Few students mentioned problematic issues experienced in group's learning:

"Sometimes, when you give the responsibility to the students and enable them to work in small groups, unpleasant situations may happen when someone stay alone. I want to tell you about someone who really get heart." (A)

5.6. Understanding of courses' processes and subjects

Most of the students emphasized that they gained a deep understanding of the courses' process and subjects (including examples of transfer to other theoretical and practical issues). S. wrote she learned how "to be accurate in order to be able to go deep into the subject she decided to investigate".

"The process I underwent caused me to look at the children differently. Hence, their learning yielded more understandings about relations than about conceptual generalizations." (A)

"I hope to take it to my teaching and invite my students to learn about things that fascinate them and make them curious... I wish to enable them to enjoy learning and to grow with it, as I did… to be there for them in the background and to respect their choices. I experienced a sense of self-efficacy…I feel I can trust my students to learn to choose the best". (H)

6. Conclusions and Implications

The results show that most of the students in all courses experienced sense of autonomy and capacity, learning as wandering, and more symmetrical (non-hierarchical) and dialogical interactions with the lecturers and their groups' peers. They learned about themselves as learners and change their paradigm about meaning of learning. They learned how to lead themselves, to cope with self-determined learning challenges, and to use the advantages of collaborative and cooperative learning in a small group.

The study has some implications to teacher education and education in general. It seems that heutagogy approach enhance students' intrinsic motivation for learning and reduce the gap between the formal learning in educational systems and the natural learning in the real world.

Lot of our students who already work as teachers tell us how they initiate heutagogy in their classes. They report about their own and their students' enthusiasm during teaching-learning processes.

Further research could deepen our understanding of the suitable of heutagogy to the 21th century students learning in general.

Heutagogy goes against the current. Does it have a chance to be more than an isolated and peripheral phenomenon in teacher education?

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PERFORMATIVE DIDACTIC AS A WAY TO DEVELOP INCLUSIVE LEARNING ENVIRONMENTS – A PRESENTATION USING THE EXAMPLE OF THE METHOD ACTION PAINTING

Action Painting: An Interactive Method To Work With Heterogeneous Target Groups And To Create An Inclusive Environment
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Abstract:*In the following research article, I describe the foundations of a workshop concept for the application of the Action Painting method in the context of professionalization processes in the educational and pedagogic field. This link shall form the appropriate starting point for an understanding of professionalism within the framework of inclusive education, which targets the development of an inclusive and diversity-sensitive approach by education professionals. At the same time, I refer back to a method suitable for the (further) development of reflective skills of educational staff as well as the independent development and operationalization of novel didactic education settings with concrete applicability. I will show that Action Painting, within the framework of performative didactics, can be viewed as a suitable method for taking into account this didactic dual principle in the context of inclusive education with a focus on the heterogeneity of learning groups.*

Keywords:*Inclusive Education; Professionalization; Heterogeneous Groups; Methodical-Didactics; Role of Teachers & Learners;*

1. Transdisciplinary View of the Content: The Art Style Action Painting and the Key Concept Life-Oriented Pedagogy

Action painting is actually a style of art without intended educational goals. In this research it is new contextualized and discussed as a method to develop an inclusive environment in educational settings. But what is new about this idea? To answer this question, we must contextualize existing views concerning a transdisciplinary view of the content, and simultaneously of methodical-didactics, which includes a paradigm shift of the roles of teachers and learners. At this point, there arises the question of the theoretical frameworks from a point of view that includes educational science and pedagogic tenets and key concepts.

Action painting is an art style linked to Jackson Pollock (1912-1956), an influential American painter. He was one of the leading influencers behind the abstract expressionist movement in the art world. Action painting is characterized by the fact that it does not require a structured or pre-planned image structure. The main idea and key concept of this style of art was that body movement was included and raised to the medium of expression of psychic processes. Physical motor skills, speed and dynamics of the painting process were used to eliminate unwanted influences of the intellect.

Action painting as a participative and creative method seems suitable for work with heterogeneous target groups, because it includes the expressiveness of all actors and their individual ability to act - irrespective of origin, gender, physical or mental abilities etc. In this context, there is no definition of normal or abnormal – there is no group holding a social position that legitimates them to define rules or relational positions of social power.

From a pedagogical point of view, we could combine this style of art (as a methodical concept) with the theoretical foundations of the key concept of subject-oriented and life-oriented pedagogy (Thiersch, 2014). On closer analysis, it becomes clear that the key concept of Thiersch, which was originally conceived of for social work, includes guiding principles that can be transferred to other pedagogic and educational settings (including in formal educational institutions: schools, universities, further adult education of teaching staff).

First, we will take a view of the key concept of life-orientation of Hans Thiersch. The concept of life-orientation was first introduced in the late 1970s in Germany and was based on Thiersch's conception of life-oriented social work. Thiersch tries to determine the nature of a professional socio-pedagogical self-conception. Subject-orientation is central to this concept. The main idea is that an approach is necessary in pedagogic (and thus also in educational) contexts, which is geared towards the actual needs of children, youths and adults and their multiple and diverse life circumstances. The clients, or better, the participants are not viewed as needy or unknowledgeable individuals for whom support or learning content and settings must be prescribed, but rather as acting subjects. Thus, participation is the constitutive element of a life-oriented pedagogy. As a method and goal, empowerment is crucial in the subject-oriented approaches to enable self-determination. Participants are considered directors of their lives. Professionally acting teaching staff thus has the task of accompanying the participants and changing social and institutional frameworks so that they adapt to their needs. What this means must be negotiated in every case and is oriented towards the goals of solidarity, productivity/creativity, meaningful life and autonomy.

With the Action Painting method, all activities are based on individual strengths and interests and reflect individual resources and abilities. On the one hand, different techniques of action painting are tried out in the workshop. On the other hand, the different identities of participants will be taken account of. This ensures that the didactics are oriented towards the characteristics of heterogeneous groups. In order to develop an inclusive setting, different materials and techniques are used to create a common image on a canvas and to recognize the different needs of participants. This can be, for example: balloons (filled with paint), wheelchairs, crutches, dark glasses (to simulate poor eyesight), special dance styles and various styles of music etc. In this context, the idea of John Dewey fits and expresses the function of art in the context of teamwork and solidarity, which accepts the equality of all participants: "Art is the most effective mode of communications that exists." (Dewey, 1934, p.286)

The skills, attitudes, beliefs, mind frames and constitutions of all participants will be the guidelines in the workshop. It is based on the individuals and the experiences they have gained throughout their lives and (perhaps informal) work settings. When they work together with the Action Painting method and create a picture together, it is a form of collaborative learning that is based on solidarity and recognition. What is also recognized is the fact of super-diversity in a global world. The meaning of super-diversity is based on Steven Vertovec (Vertovec, 2007). Together, they are building something new – without a predetermined structure by a teacher.

This means, in another understanding, that something that is known (traditional) and something that is unknown (new or modern) will come together for all participants. This could be designed as a kind of transcultural education, because it creates a situation that is flux and hybrid, and the contingency of the different actors is the initial situation on which to build something new as a third space – also in the context of professionalisation.

2. Inclusive Practices:

Transfer of the Guiding Principles to Teaching and Learning Situations

The aforementioned explanations imply that the approach of professional actors in pedagogic and educational settings must be geared towards the diverse needs of the individuals (e.g. young people, thus also pupils or students or socially disadvantaged groups). Their heterogeneous identities and circumstances form the foundation for the introduction and implementation of the relevant support and educational processes, in which they are included from the outset, on equal footing.

If these guiding principles are transferred to teaching/learning settings in formal educational institutions, it follows that all those involved in an educational process, i.e. teachers and pupils and students, will negotiate relevant learning content and their application (and thus also the methods and didactics) in interaction processes, and/or shape the setting via joint construction processes.

In other words, these are inclusive practices, as the teaching/learning situations are set down first in a contingent way - in the sense of Luhmann (Luhmann, 1993) - and not in a standardized way. Standardized assessment criteria set by educational institutions and teaching staff are generally oriented towards the habitus of a social group and thus form the basis for exclusive practices that are implemented during habitual deviations within the social field (school; university). This paradigm shift regarding the establishment of contingent teaching/learning situations in the formation of inclusive learning environments requires the development of a new frame of reference that differs from the guiding principle of formal education in homogenous learning groups. How should it be possible to theoretically discuss the heterogeneity of individuals and social groups without simultaneously applying didactics that correspond to the (educational; institutional) teaching practice of this theory?

First, it is necessary to create a frame of reference for the action practice, which is characterized by the fact that form and content are congruent. The axiom here is that (new learning) content can only generate an education-related added value if the form (i.e. the methods/didactics) reflects a corresponding equivalent. This requires a move away from the guiding principle of standardization, because it is crucial that any assessment (performance assessment as well as value assessment) in (educational and institutional) settings or social fields is based on measures determined by a specific group on the basis of their (privileged) social situation. On the basis of this definitional power, values and assessments resorted to cannot be free of symbolic power, sensu the French educational sociologist Pierre Bourdieu. Bourdieu illustrates this using the example of language and its (socially defined) legitimacy in the context of his exposition on the power of symbolic capital - which is also produced and reproduced in and through educational situations (Bourdieu, 1992, 1994).

3. Professionalization Concept:

Attitude and Performance in the Context of Competencies and the Necessity of a Performative Didactic Turn

This now requires a look at the underlying understanding of the profession. Following the performative competency model of Nentwig-Gesemann,Fröhlich-Gildhoff, Harms, & Richter (2012), both thinking and acting of individuals are based on a specific attitude or also guiding orientation patterns (Bohnsack, 2007), which can be termed action-generating structures and which, behind the scenes, significantly influence the level of disposition. Overall, attitudes crucially influence human action, whereby the term attitude incorporates value attitudes, action-guiding orientation and approaches. In sociological terminology in particular, the term interpretative patterns is used (c.f. for example Oevermann, 2001), whereby all terms include the same connotation and implication, as both implicit (frame of orientation) and explicit (orientation schemata) knowledge bases are implied. In the sociological definition of Oevermann (ibid.), the essentials of the interpretative pattern approach – despite the differentiation between different theoretical positions – becomes clear:

Interpretative patterns are defined as collective meanings, which makes clear that habitually fixed subjective interpretations do not yet constitute interpretative patterns. If we can assume that interpretative patterns in educational institutions exist with regard to the understanding of education and the handling of heterogeneity of learning groups, and that homogeneity principles still form the basis of operationalization in educational settings, it is necessary to change these dominant, long-standing interpretative patterns and attitudes through a suitable professionalization concept.

Attitudes can be viewed as dispositions that only become visible in an action situation. On a performance level, i.e. in a concrete action or interaction situation, the guiding orientation patterns or attitude become apparent and influence and structure it. In professional educational contexts, attitudes, orientations and approaches usually unfold their guiding effect in an unreflected manner. According to Nentwig-Gesemann et al., attitudes "represent the foundation for the shaping of practice and relationships" (Nentwig-Gesemann, Fröhlich-Gildhoff, Harms, & Richter, 2012, p.10). As attitudes are likely to lie hidden or in the background, they are thus not directly accessible to the acting individual, but rather only become visible or accessible to the acting individual through (subsequent) reflection processes.

The Action Painting method can be understood as an example of a method suitable for targeting the development of professional action in the context of professionalization processes due to its specific characteristics. The operationalization of (subject-specific and cross-subject) content can only be successful if professional action simultaneously forms a frame of reference in accordance with the described principles of congruence and contingency. Its essence thus lies in the reflected knowledge of a diverse range of methods (though applied all too often in an unreflected manner). In line with Jank and Meyer, it is assumed that didactics cannot be defined in opposition to methodology, but rather as "the question of who, what, from whom, when, with whom, where, how, whereby and why learning should occur" (Jank and Meyer, 1991, p.16). In this way, didactics incorporates methodological questions. As both attitude and performance play decisive roles in the professionalization process with a focus on inclusive education and an awareness of heterogeneity, the reflective application of methods for the development of new learning content turns into performative didactics. Leonhard (2003) makes clear that teaching/learning settings and thus lessons can be viewed as performative, as they set the scene for the specified content through a particular form. She also underlines the high level of relevance of methodological skills by emphasizing that the presentation formats decide which content is formed in the hearts and minds – and is thereby also imagined –, and then the method moves from its traditionally ascribed background of lesson planning to an absolutely prominent position (Leonhard, 2003). This approach implies the difference to the application of standardized teaching/learning methods or examinations, which are intended to test knowledge that has usually been learned in reference to examination, and often has very little relation to actual real-life settings (the term "bulimic learning" may, though often considered popular science, provide a metaphorical description of the attitude and effects that go hand-in-hand with this style).

A thus formulated paradigm shift or performative turn is generally based on new guiding principles in didactics and refers back to the maxims of life orientation described in this article. The close interlinking of life-oriented action practice and the approach of various sciences also becomes clear here. These sciences are based not only on text-based sources and secondary literature, but generate their empirical findings directly in the field, for example in sociology or ethnology.

Such an application of performative didactics can initiate change processes that also impact existing power relations with regard to the relationship between the roles of teachers

and students. By means of attitudes based on life-oriented principles, which become visible in the application of performative didactics, a renegotiation of traditional power relations in teaching/learning settings becomes possible, as the boundary between teachers and students / learners is transformed through methodological interaction and participation: The development of a new teaching/learning culture can be realised. This can be explained by the concept of Third Space by Homi Bhabha, which states that cultures are generally characterized by hybridity (Bhabha, 1994). This also concerns educational institutions, which are constituted by a culture (including a teaching/learning culture) and thus also through specific rules and rituals. Helsper demonstrated this for school culture in particular (Helsper, 2008). It thereby becomes necessary to develop a new teaching/learning culture, which is based on inclusive and hierarchy-free principles as well as the recognition of competencies acquired in real-life environments of all participants. As things stand, however, teacher-centred instruction is still applied – in particular in university education. Following Bhabha, it is not assumed that the encounter between two cultures (here, e.g. the culture of teachers and the culture of students in a hierarchical order) automatically creates a new teaching/learning culture, but must rather be viewed as a space for potential change processes. The transformation of the roles of teachers and students, or their relationships, is on the one hand not geared towards removing a traditional understanding of the teacher as an authority figure and didactically promoting collaborative learning via the exchange of experiences and the sharing of resources. The meeting on an equal footing is enabled within the Third Space, as boundaries can be renegotiated (Bhabha, 1994). Teachers and students find themselves taking alternating roles – there is mutual and reciprocal learning from one another in a (newly defined) peer learning process, which can be considered an inclusive learning environment. The application of the Action Painting method creates such a Third Space (or a contingent space) for the initiation of professionalization processes, because they include the expression of all involved actors and their individual ability to act – irrespective of origins, language, gender, physical or mental abilities, or the definition of who are teachers and who are learners. As such, there is no definition of what is considered "normal" or "abnormal", as the method allows for the relativizing of social positions of groups (e.g. also majority societies in the context of migration, but also relational positions of teachers and students in educational institutions), within the context of symbolic power and definitional power. In the context of professionalization processes, form and content become congruent through the application of the Action Painting method. Self-reflection processes enable actors to experience the necessity of the congruence of inclusive and heterogeneity-sensitive didactics that represent an equivalence to the content, and to incorporate the newly-learned knowledge and skills into their own teaching/learning settings in the future.

4. First Research Results and Ideas for a Future Research Design: Participatory Action Research

The first workshop was carried out with 40 participants. Another 80 participants will participate in the next workshops. As Action Painting with educational goals did not exist before as a method in this sense, it was necessary to find a suitable research design. In order to keep the participatory idea of the workshop, interviews were conducted with the participants as part of qualitative social research. The key question to evaluate the workshops was with which suitable research method the participants identify.

Analysis and interpretation of 36 interviews was carried out using the structured and rule-based procedure of qualitative content analysis, in which a theory-based category system is developed as the central analysis tool. In addition, the software MAXQDA was used.

The first results show that the participants themselves want to be seen as a part of the research process. The findings clearly show that the workshop should be evaluated and further developed (in the sense of action and reflection) together with the participants.

A suitable research method for future research seems to be the framework of participatory action research (Fals Borda, 1991). The goal of this research method is not the presentation of specialist knowledge; rather, it is important to consider the biographical experiences and perspectives of all participants. For the workshop and the research design, the experiences of all participants are essential. This idea is derived from the Latin American movement educación popular (Freire, 1973) and participatory action research, as carried out by Orlando Fals Borda (Fals Borda, 1991).

5. Conclusion

It is essential to understand that a paradigm shift is necessary within the educational institutions for the development of inclusive learning environments and suitable educational work with heterogeneous learning groups. The necessity of a paradigm shift refers in particular to the development and establishment of new didactics, the formation of a new, contingent teaching/learning culture as well as the simultaneous alignment towards a hierarchy-free understanding of the roles of teachers and students. This requires the development of a new frame of reference, which is not based on standardisations that prevail in formal educational settings with regard to homogenous learning groups. Instead, it is necessary to take equal account of the manifold needs and diverse identities of all participants in designing a teaching/learning arrangement and to acknowledge their real-world and biographical experiences – indeed, more: to view these as a necessary starting point and guiding principle for the construction of subject-oriented and inclusive educational spaces. This new principle implies an urgent need with regard to the professionalisation of actors in the professional areas of pedagogics and education and their curricular re-alignment. Here, it is necessary to take a performative competence model as a basis and to place a focus on the change of patterns of interpretation or attitudes by way of self-reflection. In order for this to succeed, it is crucial to develop and implement a suitable methodology and didactics, which can be considered equivalent to the content of inclusive education to ensure congruence of form and content.

The present study has shown clearly that the application of performative didactics promotes this aim. This also becomes clear in the light of the initial research results of the interactive method Action Painting, which can be unequivocally located within the context of performative didactics. This workshop or curricular building block has been shown to have special methodological and content suitability to enable a reflexive attitude with regard to the changes in interpretative patterns of actors, and thus to promote the development of new educational spaces with the aim of a collaborative formation of inclusive learning environments. It is an extremely important task for educational policy, science and research to now actively pursue this curricular re-alignment in the future. In particular, research projects should be established that show how cultural re-alignment or the application of performative didactics in a professionalisation context can change social and institutional (symbolic) hierarchical and power positions, which have so far led to exclusive practices and educational inequalities among entire population groups, and thereby lead to greater social participation and inclusion for subsequent generation.

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THE RELATIONSHIP BETWEEN THE PARENTLESS OF ADOLESCENTS AND RISK BEHAVIORS

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Abstract:*The loss of a parent is a traumatic and difficult experience for a person, especially for children and youth. Loss takes from us a very close and significant person (droum, 1990). The loss of a parent in adolescence requires the adolescent to cope cognitively, behaviourally and emotionally (Valenci & Vinai, 2004). In this study, we will combine the two methods of the study: quantitative and qualitative, to examine the relationship between the experience of loss and the functioning of adolescents (100 adolescent students), and the relationship to risk behaviours? Moreover, to examine the differences between the loss of a father and the loss of a mother and their effects on school performance. This is done by means of questionnaires and interviews that are given to them in schools in the Arab sector, analyzing the data using a statistical tool SPSS. The findings of the study confirmed that there are significant differences in the level of school adaptation be-tween both adolescents' boys and adolescent's girls and in the essence of loss. so that the level of school adaptation among adolescents' girls is higher than the level of school adaptation among adolescents' boys.*

Key words: Loss; Parent Loss; Loss process models;

Introduction

The loss of a parent in adolescence requires the adolescent to cope cognitively, emotionally and emotionally with five main dimensions: trust in the ability to observe events, acquire a sense of control, create a relationship characterized by belonging, belief that the world is right and appropriate (Layne et al. 2008).

The Ministry of Education in the State of Israel does not take responsibility for adolescents who experience the loss of one of the parents, and does not provide them with a thorough treatment of the trauma they experienced. According to the Psychological Counseling Service (Consulting Division), Counseling for students as individuals is designed to help them cope with difficulties (temporary or ongoing) in their various areas of life: Initial detection and identification of the problem, short-term intervention (if necessary), concentration of information and coordination between the various factors related to the problem, and referral if necessary. Although most children experience parent's death, a period of mourning that is considered "normal" or "typical" will occur, which will include emotions such as sadness, longing, fear ... in varying intensity and frequency over a long period of time (Cohen, J& Mannarino, 2011).

The Ministry of Education did not establish a treatment policy for traumatized students. The loss of one of the parents within the school, but it is preferred that the student be referred to the welfare services or the school psychologist whose training is not in the clinical field, which can help the affected student. This is why we will examine the effect of loss on adolescents in the field of self-adaptation.

This study may help the school's educators and counselors to take care of and help students who have experienced the loss of one of the parents in the best and most beneficial way to the student.

Loss

The death of a close person is a difficult experience that shakes the world of the individual at mental, cognitive, social, and perhaps physical levels. Alongside this is a universal human phenomenon that some mature people in their lives experience the process of mourning, which begins with the knowledge of the death, is often long, painful and intense and its possible end is a renewed adaptation to life without the deceased and reaching a renewed balance (Cohen & Mannarino, 2011).

Parent Loss

Since parents have a central role to play in the development of a child and in a person's life over the years, his death has multidimensional implications that often undermine the orphan's life, at least temporarily. From attachment theory, the strong relationship between the parent and the child is based on psychological and social needs that require a strong bond between a child and his parents (Granat, 2014).

Aline (2012) notes that the emotional connection between parents to a child develops and changes throughout the process of growing up. This relationship provides, for both the child and for the parent, many complex emotions and is a dynamic and changing relationship, moving between getting closer and moving away over time. When a parent dies, the balance that exists in such a unique system is grossly violated, resources are required and the child is reassessed to rebuild his or her life without the parent's living partner (Allen, 2012).

Loss process models

The process of mourning is an emotional, cognitive, continuous, dynamic and interactive process, which involves the dissolution and construction of the internal representations of the deceased and the relationship with him. This process develops and changes over time and it affects and is affected by the social context and life events (Silverman & Klass, 1996).

Bowlby's attachment theory

Bowlby (1982) dealt with attachment and saw the phenomenon of mourning as an attempt to maintain contact with the lost figure, rather than an attempt at detachment. He emphasized the importance of human development in general and coping with the state of separation in particular, and did so within the object relations school, which focuses on the ongoing relationship of people with introverted representations of significant others. The contact changes the shape due to loss. This theory, Rubin stresses (1993), sharpened the understanding of the need for humans to be close to significant and protective figures in physical reality on the one hand, and to the internalized representations of those characters. In children, the need to be close to motherhood is vital to their physical existence, and to adults, the need to be close to meaningful characters undergoes transformation when the representations of the characters become mental, psychic. Therefore, when a person finds himself in a state of loss, he feels the need to approach the deceased himself, among other things the need to approach his introverted representation.

Findings - Descriptive statistics

Variable	mean	Standard deviation (sd)	max	min
age	15.2	1.1	17	14
Number of brothers at home	2.5	1.29	5	0
Adaptation in school	2.5	0.12	2.7	2.5

There are differences in the level of school adaptation between adolescent's boys and adolescents' girls after the mourning of one of the parents suggests that there are differences between both sexes, so that the level of school adaptation among adolescents' girls is higher than the level of school adaptation among adolescents' boys.

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THE MOTIVATION TO BE A TEACHER. VOCATION AND CHALLENGE

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Abstract: *The extent to which teachers engage in the educational process has multiple determinations, among which motivation is the mobilizing resource in solving the assumed mission. The teacher's motivation defines their strategy of action in order to determine them to act in a certain way of performing a high-quality education. The purpose of the research was to identify the motives that led to choosing the teaching career. Identifying the motivational factors for choosing the teaching career it was also taken into account how they outline their professional image, based on the perception of the other actors of the school environment (pupils, parents, colleagues), as well as the importance assigned by the society to the profession. The correlation analysis highlighted the fact that the psychological, social and cultural-educational dimensions were significantly correlated with each other, offering a new perspective regarding the reasons for choosing the teaching career.*

Keywords: *education; motivation; teacher; behavior;*

1. Introduction

The motivation it is not only a study subject for scholars and academics, but also an introspection theme for each individual: "What makes us work?", "What makes us give the best of us?" The human being, an active being by excellence, acts over the environment in which it lives through the accumulated experience, its ability of foresight and planning (Mihaescu, L., 2018, Steers, R.M., Sánchez-Runde, C., 2017). Thus, any human behavior it is directed from within, whether it is about an action or a thought, at the basis of the personal and social conduct being always a set of motives which help fulfilling some individual and collective action (Dörnyei, Z., Ushioda, E. , 2011). If the vocation is native, the teacher will have a better insight regarding the way how they should adapt to the students' age and personality.

In this context, in choosing the career should be taken into account, primarily, the reasons regarding the skills they have, their aspiration level (goals, desires, professional and life ideals) of social reasons: safety/social and professional security, recognition, appreciation and approval, such as esteem, prestige, consideration, but also psychological and social reasons: the tendency and need of a well-defined social and professional status, and last but not least, the aspiration to achieve a social and individual ideal superior to primary needs or impulses

2. Teachers' motivation - professional performances vector

Any educational activity, regardless of its nature, its complexity and its volume, is carried out having "behind" one or more reasons. All these reasons constitute human motivation, a kind of mechanism that triggers and supports the initiation of an action. (Dörnyei, Z., Ushioda, E., 2011) If the motivation presents itself as a functional structure that ensures the correlation of the reason in the social context, a psychic mechanism that transforms the motivations' general pressure and concrete behaviors directed towards the

purpose, the teachers' motivation defines the action strategy in order to determine them to act in a certain way, namely, to carry out a performing educational process. (Beckers, 2004)

Even though the motivation can often be used as a tool which could predict the behavior, it varies greatly from one individual to another, and therefore it should be taken into consideration the capacity of each individual and the environmental factors which could influence the behavior and performance. (Dörnyei, Z., Ushioda, E., 2011; Jesus, S.N., Lens W., 2005)

Although, motivation brings its contribution to the professional performance, the performance increase is proportional with the motivation increase only to a certain point, after which it could be recorded a stagnation or even a decline. From this point of view, too strong motivation can lead to some emotions' emergence and produce a certain level of disorganization that hinders the progress, leading in this case to regress. (Beckers, 2004; Steers, R.M., Sánchez-Runde, C., 2017)

Work motivation affects the skills that individuals develop, the jobs and careers that individuals are pursuing, and how individuals allocate the resources (attention, effort, time and human and social capital) to affect the direction, the activity's intensity and persistence during work.

In the educational field, professional motivation and, above all, performance, has both subjective and objective determinations, being a balancing and supporting element for the career development (Jesus, SN, Lens W., 2005): didactic vocation (Tran, LT, 2015; Gordon, J: A, 1993; Stevenson, J., 2003; Sheldon, KM, Elliot, AJ, 1999) dedication to the profession and working with children (UNESCO, 2006; Sinclair C., 2006, Bologa, L, 2014); the success obtained in the classroom - the professional rewards received by the teacher observing the students' achievements and results (Gordon, J.A., 1993; UNESCO, 2006); the status obtained in the community by exercising a respected profession (Alderman, 2007; Sinclair C., 2006; Dörnyei, Z., Ushioda, E., 2011); the training acquired through initial and continuous training in the field; working conditions favorable to good performance of the profession (UNESCO, 2006; Jesus, S.N., Lens W., 2005); the possibility of promotion and career advancement; models offered to the society (Sinclair C., 2006; UNESCO, 2006); reward system (Sinclair C., 2006); the security offered by occupying such a position. (Gheorghe, O., 2017)

However, if we would intend to expand the investigation and analyze other education systems (such as the Indian, Australian or Japanese system), this things would be the same? The hypothesis from which we started our research is that there is a common corpus of determinants for the teaching profession. This does not exclude certain specificities, but it can be observed that the profile of the person heading toward this profession has some general lines, which allows us to consider that a new and more refined vision and strategy of how to attract and motivate toward the didactic profession represents an approach that can have a global impact beyond the particularities of an education system or another.

3. Teaching profession - Statuses and roles

Changes in the educational system (school curriculum, teacher training, education policy etc.) and at the social and economic level have led to the transformation, adaptation and change of roles of the teaching profession. Given that the status reveals the individual's expectations toward the others, and therefore their rights, and the role reveals the expectations of the others towards the individual, and thus its obligations. The result is that in any complementarity relationship the partner' status specific rights imply in the same time the specific obligations of the other partner's role. (Gheorghe, O., 2017; Dörnyei, Z., Ushioda, E., 2011; Alderman, 2007; Hargreaves, L., 2009)

The changes that took place in schools have also changed the teachers' roles. The status of the teaching profession as a whole is considered to have undergone little change in the past five years.

In this context, the didactic profession is associated with some fundamental categories of roles, accepted by most of the teacher training systems: the design, the management and learning activities planning, psycho-educational counseling, classroom management, communication with the students, parents and colleagues, lifelong professional development, contributions to the educational process improvement and school innovations, providing educational services for the community etc. (Mihaescu, L., 2018, UNESCO, 2006)

The teacher's main quality is the pedagogical vocation, expressed by finding the true calling, by feeling that you are chosen for this task and able to fulfill it. Three roles are attached to the pedagogical vocation: pedagogical love, the belief in the social and cultural values, awareness of the responsibility towards the student. Assuming multiple roles, the teacher must realize that manifesting them depend on they own personality which they are shaping. (Gheorghe, O., 2017; Hargreaves, L., 2009) Pedagogical vocation involves the coherent synthesis of instrumental forces and moral-social values, an optimum interaction between the abilities and attitudes in a highly axiological consciousness and based on a strong tendency of enhancement. (Stevenson, J., 2003; Sheldon, K.M., Elliot, A.J., 1999)

4 Methodology

The purpose of the research was to identify the main reasons that led to choosing the teaching profession by the investigated subjects. Identifying the motivational factors for choosing the teaching profession also took into account the way teachers shape their professional image, both based on the other actors of the school environment's perception (pupils, parents, colleagues), as well as the importance given by the society to the practiced profession. The stated hypotheses were: H1 The psychological dimension is positively correlated with the social dimension of motivation for the teaching profession; H2: The psychological dimension is positively correlated with the cultural-educational dimension of motivation for the teaching profession; H3: The social dimension of motivation for the teaching profession is positively correlated with the cultural - educational dimension. From this perspective, we tried to capture the perceptions of the teaching staff from the pre-university system, and of the students - the future teaching staff, thus trying to outline an overview of the investigated issues.

Data was collected between October 1 and November 1, 2018 and February 28, 2019.

At the research participated 217 subjects, 32.71% teachers and 67.29% students - future teaching staff (pre-service teacher). Regarding the teaching staff's characteristics, 78.88% were females and 21.12% males, 25.35% develop their activity in the preschool system, 22.53% primary system, 35.21% gymnasium and 16.9% high-school, covering the diversity of situations from the system regarding these attributes.

The questionnaire used exploratory factor analysis. We used the Varimax rotation method and suggested 3 dimensions of the motivation to become a teacher through the main analysis of the psychic impulse that initiates and directs the teacher's behavior: the psychological dimension, the social dimension and the cultural - educational dimension.

The psychological dimension took into consideration the following indicators: attitudinal factors (At), aptitude factors (Ap) and personal development factors (DP). The reliability of the Cronbach's scale in the present study was 0.86. The social dimension took into account the following factors: the status attained inside the community, the accomplished success, the promotion prospects and the reward system. The reliability of the Cronbach's scale in the present study was 0.84. The cultural-educational dimension took into account the following factors: the training attained through the initial and continuous training in the field,

the possibility of promotion and career advancement, the models offered by the family. The reliability of the Cronbach's □ scale in the present study was 0.82.

5. Results

Given the latent nature of the variables took into consideration in this study, we used multi-item, 5-point Likert-type scales (1 = 'strongly disagree' and 5 = 'strongly agree'). After reliability analysis, Cronbach's α in the present study was 0.84 (24 items). Analyzing the profile studies (Kline, R.B., 2011), several indicators of this research have been calculated to evaluate the overall fit of the model to the data used that acknowledged the potential for acceptable ($\square^2$ /df ratio < 3, CFI and TLI > 0.90, RMSEA < 0.08, SRMR < 0.10). The results of the confirmation factor analysis (CFA) showed an acceptable level of validity of the construct with the following welfare indicators: $\square^2 = 223.51$, $\square^2$ / df = 2.34, CFI = 0.93, TLI = 0.92, RMSEA = 0.060, SRMR = 0.036.

The average score for the psychological dimension is between 3.83 and 3.08, but the highest score was obtained by the attitudinal factors of 3.83, the indicator "autonomy". The second highest score was identified at the skills level of 3.80, the "didactic vocation" indicator. The lowest score was obtained at attitudinal factors 3.12, the indicator: "adapting to legislative changes in education". For the personal development factors, the scores obtained were averages.

The average score for the social dimension ranges between 3.76 and 2.83, but the highest score was obtained for the community status factor of 3.76, the indicator: "the respect attained by the profession". The second highest score was the success factor of 3.68, the indicator: "awards received by students". The lowest score was obtained by the reward system factor 2.83: "Received salary".

The average score for the cultural - educational dimension ranges between 3.45 and 3.12, but the highest score was obtained by the factor models provided by the society of 3.45, the indicator: "profession choice directed by the parents'. The second highest score was the training factor obtained by initial and continuous training in the field of 3.42, the indicator: "completed studies". The lowest score was the possibility of career advancement 3.12, the indicator: "care for employee's personal development".

Regarding the 3 factors of the psychological dimension: (attitudinal factors, ability factors and personal development factors), the 4 factors of the social dimension (the obtained status in the community, success, promotion, reward system) and those 3 factors of the cultural-educational dimension (the training attained by initial and continuous training in the field, the possibility of career advancement, models provided by the society) were carried out a variable analysis.

The results of the analysis showed that only 3 indicators "need to have a job", "the job's stability" and " the reward and well-being" according to their potential for research activity it were not significantly correlated, while the other dimensions emphasized a significant correlation.

The results also emphasized that the motives from the psychological dimension, the one from the social dimension and cultural - educational dimension were positively associated with the stated hypotheses 1-3.

Hypothesis 1 (H1) was confirmed because the psychological dimension *is positively correlated with* the social dimension *of motivation for the teaching profession* ($\beta = .68$, $p < .001$).

The hypothesis 2 (H2) was confirmed because the psychological dimension *is positively correlated* with the cultural-educational dimension of *the motivation for the teaching profession* ($\beta = .43$, $p < .001$).

Hypothesis 3 (H3) was validated because the partial regression coefficient of the social dimension reached a statistically significant level ($\beta = .51$, $p < .001$) after controlling the effect of the educational cultural dimension.

6. Discussions

In this study, we examined the reasons behind the choice of the teaching profession using a mediatory approach where were analyzed the factors of psychological, ability and cultural-educational dimension as factors which determine this choice. As it was to be expected, the results of this study showed that the psychological dimension is positively associated with the social dimension, the psychological dimension is positively correlated with the cultural-educational dimension, and the social dimension is positively correlated with the educational cultural dimension of motivation for the teaching profession. This result it is in aligned with the previous studies (Steers, 2004).

The options selected by teachers with a longer seniority in the educational system and who can be considered to have a career in this field were mainly based, on intrinsic grounds, animated by the desire of working with the children, to contribute to the development of society and to practice a profession they can be proud of. Most of them claimed that they were encouraged to pursue this career by other teachers (family members or from schools where they learned) who, in their turn, practiced this job with dedication and pleasure, the social model and the autonomy becoming in this case possible predictors of teachers' professional motivation. Despite the complaints and difficulties faced by the teachers and the feeling that the profession they practice it is not valorized by the society, if they were given the chance to take it from the start at the professional level, 86.31% of the teachers would choose certainly this profession, while only 5.1% would definitely turn to another profession.

The majority of pre-service teacher, participants in this research, said that they can not be successful in this job without passion, without loving it and without loving the children, and the greatest responsibility is informing and training the pupils, the future adults. According to the previous researches, the present study identified teaching as a possible predictor for the teachers' professional motivation (Sheldon, K.M., Elliot, A.J., 1999; Stevenson, J., 2003). This result suggests that the future teachers who feel that their values are congruent with the values of their organization show higher levels of involvement in work, and the skills factors can predict the efficiency of the didactic activity. A less important role is getting material rewards and job security.

Although, I believe that these results bring their contribution to a better understanding of the mechanism of the motives behind electing the teaching profession, a number of limitations should be taken into consideration. First of all, this study sample was composed of a group representing a single region which limits the generalization of the research's results and conclusions. Therefore, in the future research, we could consider extending the sample to other regions as well. Another limitation is due to the transverse design of the study, making it difficult to deduce the motives and also their effects, in the same time. Future longitudinal or experimental studies could facilitate more causal assessments.

7. Conclusions

As it is well known, the professional motivation does not have unidimensional grounds and determinations in temporary and socializing terms. It also aims at a more remote perspective - the future individual, fulfilling from this point of view a dual functionality: trigger-energizing factor, and orientation and directing towards the future profession- the professional option. These higher reasons reflect the maturity and objectivity in choosing the profession, knowing the skills and the psycho-intellectual possibilities of each individual.

In conclusion, the present study is an empirical framework for the researchers, examining the motivation to become a teacher in terms of psychological, social and cultural-educational dimensions by relating to the individual's system of needs.

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MEASUREMENT OF LATENT VARIABLE "CREATIVE SELF-EFFICACY" OF STUDENTS OF CHAPTER OF KUBAN STATE UNIVERSITY AT SLAVYANSK-ON-KUBAN

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Abstract:*The purpose of this investigation is to establish a unidimensional interval scale for measuring students' creative self-efficacy. Latent variable "creative self-efficacy" is defined operationally – by means of a set of indicators. Each of the indicators characterizes one of the aspects of creative self-efficacy. The creative self-efficacy construct is measured in framework of the theory of latent variables based on Rasch model. The questionnaire as the measuring tool possesses high differentiating ability. The analysis of variance of results of measurements is used for comparison of creative self-efficacy of students depending on their gender and department. It is shown that based on this latent variable there is no statistically significant difference between females and males; however, there is a statistically significant difference between departments. The least value of creative self-efficacy belongs to students of faculty of physical training and biology, while the greatest value belongs to students of philology. There is a possibility to correct the set of the indicators characterizing the latent variable and thus to specify the content of the construct "creative self-efficacy".*

Keywords: *creative self-efficacy; measurement; latent variable; Rasch model;*

1. Introduction

The importance of this research stems from the rapid changes of life. Under the conditions of accelerated scientific and technological progress, a person is not capable of capturing the full spectrum of scientific knowledge. With the invention and popularization of computers and Internet, the necessity for it has disappeared. Now routine problems on which we needed a lot of time in the past can be carried out quickly and efficiently by computers and robots. Therefore, the necessity for human work in many professional fields has disappeared. There is a hard problem of preservation of competitiveness that most people face in the 21st century. One of the solutions for this problem is the development of personal creative abilities.

Development of creativity is a labor-intensive process demanding constant diagnostics, which allows to trace dynamics of the process and to select the most creative people. However, currently there are no reliable ways of measuring creativity. In many respects, it is caused by the absence of unequivocal understanding of the nature of creativity, its origin, and key characteristics.

Attempts to define creativity and to construct ways of its measurement and diagnostics were fulfilled by many famous scientists (Bandura, 2007; Beghetto, 2013; Guilford, 1967; Starko, 2014; Torrance, 2004).

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2. Problem statement

The purpose of this work consists in the formation and measurement of the latent variable "creative self-efficacy" on a linear scale. This latent variable is used for comparison of students of the Kuban State University depending on gender and department.

Many ways of constructing latent variables (the weighing method, expert estimations, indexes) are subjective due to experts and nonlinearity of a scale (Maslak, 2016). It complicates the application of statistical methods of the analysis assuming a linear scale of measurement. Therefore, the measurement of latent variables is carried out within the framework of the theory of latent variables based on the Rasch models (Maslak et al., 2005).

Creative self-efficacy is defined operationally – by means of a set of indicators (Abbot, 2010). Each indicator characterizes one of the aspects of creative self-efficacy (Maslak et al., 2015). The students were asked to rate the degree of agreement with each indicator. The rating criteria was a five-point Likert scale: 4 = strongly agree, 3 = agree, 2 = neutral, 1 = disagree, 0 = strongly disagree.

3. Data

Students of Chapter of Kuban State University at Slavyansk-on-Kuban (Russian Federation) took part in this survey. The respondents were 148 students of six departments of branch of Kuban State University at Slavyansk-on-Kuban, among them are 30 females, 104 males, and 14 students who did not indicate their gender.

4. Method

Measurement of creative self-efficacy was carried out within the framework of the theory of latent variables based on Rasch model (Rasch, 1960). The partial credit model (Masters, 1982; Wright & Master, 1995) was used for processing data available from the survey. The analysis was done by using the RUMM software (Sheridan, 1988).

One of the important problems arising in the process of measurement of latent variable is the analysis of quality of the measuring tool, namely a set of indicators. The estimation of adequacy of the collected data to model of measurement was carried out based on the Chi-square criterion. Chi-square statistics equals 69.34 with 56 degrees of freedom. The *p*-value equals .11, which testifies to the compatibility of the set of indicators and, therefore, suitability of data for measurement. The person separation index equals .88, which means that students substantially differ from each other.

5. Results

The location of estimations of students' creative self-efficacy and indicators characterizing creative self-efficacy is presented in Figure 1.

In the top part of Figure 1, the histogram shows distribution of estimations of students' creative self-efficacy. The bottom part shows the distribution of estimations of indicators on the same scale. Here persons correspond to students and items to indicators.

Results of measurement which are presented in Figure 1 contain the following information.

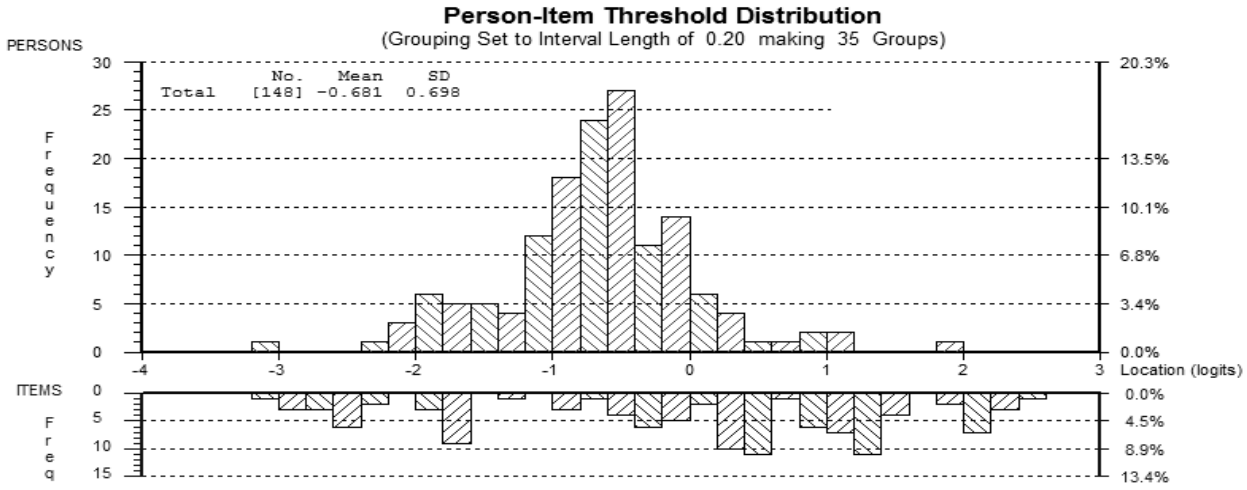

Figure 1. Location of estimations of students' creative self-efficacy and indicators on the scale "creative self-sufficiency"

– Range of a variation of estimations of students' creative self-efficacy is rather large and equals 5 logits (from –3.0 to 2.0 logits). It testifies that students considerably differ on the scale of creative self-efficacy. Moreover, as one would expect, distribution of estimations is close to the normal distribution.

– Estimations of indicators vary almost in the same range –5.5 logits (from –3.0 to 2.5 logits) and fully overlap the range of variation of students' estimations. It provides high accuracy of measurement on the complete range of a latent variable.

– Between two of these sets (estimations of students and indicators) there is a small displacement of –.681 logits. It means that the chosen set of indicators is informative for measurement of creative self-efficacy.

As investigated factors, gender of students and their departments, are qualitative, ANOVA was used for their processing (Maslak & Pozdniakov, 2018).

Results of the ANOVA of creative self-efficacy of students depending on their gender are presented in Table 1.

Table 1. ANOVA of students' creative self-efficacy depending on their gender

Sources of variation	Sum of squares	Degrees of freedom	Mean squares	F	p
Gender	.12	1	.12	.246	.621
Error	64.62	132	.49		
Total	64.74	133			

Results of the ANOVA (Table 1) testify that the factor "gender" is statistically insignificant (p = .621 > .05), i.e. there is no statistically significant distinction between females and males on the scale creative self-efficacy. Mean values of their creative self-efficacy are presented to Table 2.

Table 2: Mean values of creative students' self-efficacy depending on their gender

Gender	Mean (logits)	Volume of sample	Standard error (logits)
Females	–.734	30	.64
Males	–.699	104	.65

As it follows from Table 2, creative self-efficacy of males is slightly higher than that of females, but, as mentioned above, this distinction is statistically insignificant.

Results of the ANOVA of students' creative self-efficacy depending on their department are presented in Table 3.

Table 3: ANOVA of students' creative self-efficacy depending on their department

Sources of variation	Sum of squares	Degrees of freedom	Mean squares	F	p
Department	7.83	5	1.57	3.489	.005
Error	63.73	142	.45		
Total	71.56	147			

Results of the ANOVA (Table 3) show that the factor "department" is statistically significant (p = .005 < .05), i.e. there are statistically significant distinctions between departments.

Mean values of students' creative self-efficacy depending on their department are presented in Table 4.

Table 4: Mean values of students' creative self-efficacy depending on their department

Department	Mean (logits)	Volume of sample	Standard error (logits)
1. Physical training	–1.047	25	.51
2. Economics, history and law	–.640	12	.54
3. Graduation school	–1.015	15	.90
4. Mathematics, computer science and technology	–.550	12	.73
5. Philology	–.392	27	.70
6. Pedagogics and Psychology	–.604	57	.66

Table 4 shows that students of the philology department have the highest level of creative self-efficacy, and students of faculty of physical training and biology have the lowest level of creative self-efficacy.

6. Conclusions

This study appears to be the first attempt to construct a unidimensional scale for measuring latent variable "creative self-efficacy". The technique of measurement of a latent variable "creative self-efficacy" is presented.

Practice has shown that there is a danger in drawing too many conclusions from changes in a single indicator or from its relationship to other variables. The Rasch model approach to measuring creative self-efficacy has several important advantages. Firstly, a single measure of creative self-efficacy can be constructed from many different indicators. Secondly, the estimated Rasch measures are on a linear scale, so it is possible to quantitatively compare students on creative self-efficacy scale. Thirdly, more indicators lead to greater precision of students' measurement. Lastly, the estimated measures can be used to monitor the latent variable, find out statistical relationships between different variables, and provide information that would be useful for making decision in educational policy.

It is necessary to highlight that creative self-efficacy is defined operationally, i.e. through a set of indicators. The used set of indicators can be corrected, and thus, it is possible to specify the content of the concept creative self-efficacy.

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NOTHING IS LOST. THE TEACHERS' MULTIMODAL SKILL IN USING DIGITAL RESOURCES TOWARDS LEARNING DIFFICULTIES

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Abstract: *The effective teacher's mediation specifically take place in adapting learning content and learning environment, according to the students' learning needs. As the studies confirm, technologies do not directly effect on students' learnings if they are not used in multimodal way by the teacher. This leads to a rethinking the teacher's technological and digital skills and to deepen the teacher's multimodal ability to integrate teaching resources. Starting from the researches on teaching differentiation, the proposal describes an in-depth study on the multimodal strategies of an history teacher in case of a student with Autism in a Primary School class. The triangulation analysis of data highlighted emerging aspects concerning three levels of differentiation strategies: content, process and product. These findings, confirming the meta-analyses already known, offer insights on the teachers' multimodal skill and lead to deepen the studies on the relationship between digital resources and school inclusion.*

Keywords: *digital resources; case-study; multimodal teaching;*

Introduction - 'knowledge' and 'competences' for empower all learners:

Start typing the body of your paper here. Papers will outline the issue addressed and research questions, the literature and background to the topic, the analytical frame, the methodology and the research results. Teachers are asked to meet the needs of different types of students and prepare them to live in increasingly complex contexts, also mediated by technology (OECD, 2015). In this perspective, a new teacher's mediation (Damiano, 2013; Kelly et al., 2012) should be expressed in adapting learning content, 'personalizing' learning strategies and settings up learning environments, also thanks to technological resources, based on students' learning needs (Wood, 1992; Walters, 2010). From the theoretical point of view, the teachers' integration aspects (Chocran-Smith, 2001, p. 13):

what they know about teaching ('pedagogical' knowledge - generally linked also to 'technological' knowledge - Shulman, 1986; Mishra & Kohler, 2007)

what they know about what they teach ('subject matter'/content knowledge)

could be integrated with 'what they know about the students they teach ('personalization' knowledge - Tomlinson, 2011).

Among the models in literature (Hoechsmann & Dewaard, 2015), the European Framework for Digital Competence of Educators (DigCompEdu, Redecker, 2017) seems to describe this teacher's integration work as a multilevel 'macro-competence'.

The DigCompEdu's fifth area of 'Empowering Learners' (Redecker, 2017, p. 22) refers to 5.2 Differentiation and personalization, 'to use digital technologies to address learners' diverse learning needs, by allowing learners to advance at different levels and speeds, and to follow individual learning pathways and objectives'.

Within the 'inclusive' paradigm (Booth & Ainscow, 2002; UNESCO, 2015) - that overcomes the distinction between *mainstream* and *specialized* intervention - the macro-

competences of 'Empowering Learners' of DigCompEdu (5.) - specifically 'Differentiation and personalization' (5.2) - are required to all teachers.

From this perspective, how teacher uses digital resources to encourage the inclusion of students with learning difficulties? Or, from the perspective of 'teacher knowledge' (Shulman, 1986; Chocran-Smith, 2001; Damiano, 2013), how 'subject matter/content', 'technological' (Mishra & Khoeler, 2007) and 'personalization' knowledge of the teacher influence each other?

1. Differentiation, technology and multimodality

The relationship between learning difficulties and technologies is well researched (Kennedy & Deschler, 2010; Maccini et al., 2002; Smith & Okolo, 2010). The most recent studies confirm (Hattie, 2009, 2012; Pitler et al., 2013) that technology does not raise students' learning *per se* but, in cases of learning difficulties, if they are used within a 'differentiated' strategies (Mitchell et al., 2010; Giangreco, Cloninger, Iverson, 2011) that changes school programs, not just the teaching supports.

The teaching *differentiation* (Tomlinson & Murphy, 2015) is a methodological perspective that aims promoting learning processes for all the students by proposing the same activities carried out in different ways (Heacox, 2001; Grant & Basye, 2015). As stated by Tomlinson (2017), it is mainly based on 'taking multiple approaches to three curricular elements': *content* (input, what students learn), *process* (how students learn it), *product* (output, how students demonstrate what they have learned).

Over time, specific differential intervention guidelines have been developed. The author also recently (2017) outlined the *rhythmic phases* of preparation, revision and sharing of a differentiated class (Fig. 1).

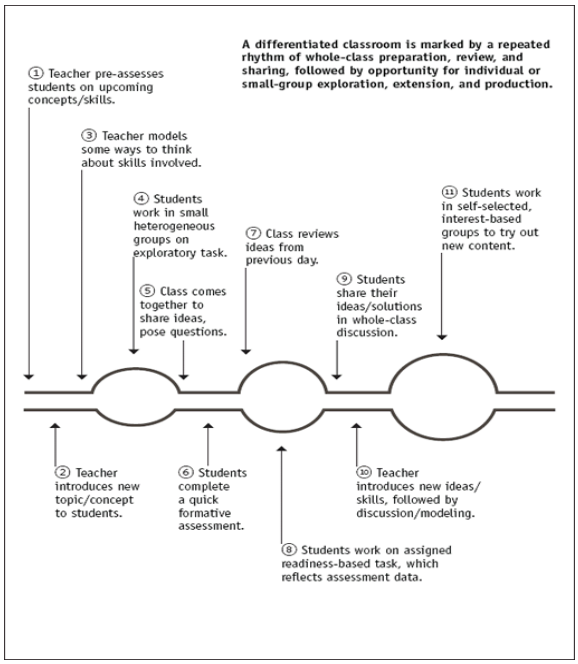

Fig. 1 - Tomlinson, 2017, p. 13

Over time, specific differential intervention guidelines have been developed. The author also recently (2017) outlined the *rhythmic phases* of preparation, revision and sharing of a differentiated class (Fig. 1). From the perspective of the teacher's knowledge (Shulman, 1986; Chocran-Smith, 2001; Damiano, 2013; Perla, 2010), some elements of previous phases are to be highlighted:

before introducing new concepts/skills the teacher must know the students' previous knowledge;

then, teacher modifies both the content to be taught (*content*) and the idea of how students learn the concept/skill (*process*) - ('some way to think about skills involved ')

after that, teacher chooses to have students carry out activities that highlight above all the learning processes ('explanatory tasks' – as *product*) and the knowledge they possess

The teaching differentiation allows to further deepen the relationship between learning difficulties and technologies (Pitler, Hubbell, Kuhn, & Malenoski, 2007; Kendal & Stacey, 2001) thanks to three directions:

content - a series of integrative contents to those traditionally are used by teachers (i.e., teaching cards, textbooks) – i.e., online databases;

processes - specific tools that favor the explication - for students and teachers - of learning processes (i.e., graphics, charts, tables, graphs, photos, sound clips);

product - supplementary tools for the realization of the final products by the students and the formative evaluation by the teacher (i.e., research, storytelling, etc.)

The link between *processes* and 'multimodal strategies' is explained by Kress & Van Leewen (2001; Walters, 2010; Kress, 2014). About school learnings (Marchetti & Cullen, 2016, p. 42), in case of learnings difficulties in school contexts (Efthymiou & Kington, 2017), the multimodal strategies offer a 'springboard' (Marchetti & Cullen, 2016) to meet all learning styles and cognitive differences in different areas (visual, motor, kinesthetic, etc.)[2].

The teaching strategies of differentiation starts with in-depth knowledge of students' learning needs (Tomlinson, 1999), goes on with the content *re-shaping* - thanks to the multimodal use of multiple communication levels (written, iconic, oral, non-verbal, computer mediation – v. Mayer's 'multimedia effect', 2005) – and get to the choice of processes and products adapted to the characteristics of the students (Tomlinson, 2001; 2017) and the reshaped content. This is the same path already described in the previous paragraph but strengthened.

2. In-depth study on history teacher's multimodal strategies

The in-depth study (Larsson, 2009; Mortensen, 2013; Coe et al., 2016; Cohen, Manion & Morrison, 2018) focalized on the multimodal strategies (Walters, 2010: Kress, 2010) of an history teacher with an Autism Spectrum Disorder (ASD) student in a Primary School class and aimed at describing the multimodal ability to integrate graphic and digital teaching resources. The multimodal strategies have been distinguished according to the three dimensions of didactic differentiation – *content, product, processes* (Tomlinson, 2017).

Object - The interaction 'ASD student' – 'history teacher' (Leaf et al., 2009; Leaf, 2012), mediated by graphic and digital resources (time-line, posters, videos - Jungwirth, 1993; Sorzio, 2014).

Context - The study has been conducted on pre-existing material, collected during a participant observation (Spradley, 1980) carried out during 2014-15 years in the training internship of a Master Degree at the University of Bari. The internship was conducted in a medium-size primary school near Bari (3 sections and 15 classes) which has already carried out in the past procedures for the inclusion of students with Autistic Spectrum Disorder (ASD); in a class of 18 students (10 females and 8 males) - one student with Autism Spectrum Diagnosis, supported by a specialized teacher.

[2]The close relationship between processes-differentiation and multimodality has been well highlighted by Watts-Taffe et al., 2012; Parris & Headley, 2015.

The student was included in an educational-rehabilitative program co-designed by the school and the rehabilitation center. The activities and graphic/technological supports were shared by teachers and expert educators of the center.

Data collection - The moderate-participant observation (Spradley, 1980) in the field (DeWalt & DeWalt, 1998) during two activities: *a.* a group lesson on the Sumerian civilization (*content*), held in the classroom by the history teacher; *b.* an individual activity on the time line (a graphic organizer explaining the same content), held out the classroom.

Data analysis - As suggested by Tomlinson, 'a differentiated classroom is marked by a repeated rhythm of whole-class preparation, review, and sharing, followed by opportunity for individual or small-group, extension, and production' (2017, p. 42).Recalling the Tomlinson's *rhythmic phases* (Fig. 1), the teaching strategies of differentiation during the activities are described in Tab. 3:

Tab. 3 – Phases of activities' differentiation – adapt: Tomlinson, 2017

Tomlinson's *rhythmic phases* (Fig. 1)	Observed phases	Description
1.Teacher pre-assesses students on upcoming concepts/skills	1.History teacher pre-assesses ASD student on upcoming concept of Sumerian civilization Warm-up individual activity	Before the group lesson the teacher carries out a warm-up individual activity with the ASD student, using the mind map (fig. 1) as 'advance organizer'
2.Teacher introduce new topic/concept to students	2.History teacher introduce every student the new topic of Sumerian civilization Group lesson	History teacher carries out a group lesson using two graphic supports: mind-map already used in the first individual activity (fig. 1) and the interactive timeline on the white board (fig. 3)
9.Students work on assigned readiness-based task, which reflects assessment data	3.ASD student works on the construction of the handmade time-line Assessing individual activity	In a peer-to-peer activity the ASD student build an handmade timeline (fig. 3) as a *product* of the content and the learning process.

The documentation procedures analyzed the mind-map (fig. 2), the interactive and handmade time-lines (fig. 3 - 4) on Sumerian culture, used in the warm-up individual and assessing individual activities.

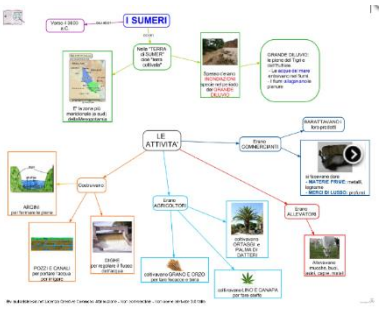

Fig. 2. Mind-map used in the warm-up activity

Fig. 3. Interactive timeline in the group lesson

Fig. 4. Handmade timeline in assessing individual activity

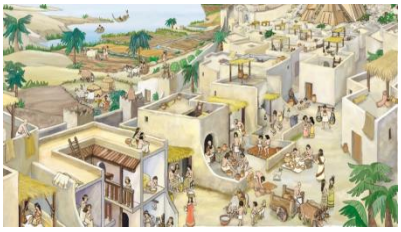

Fig. 5. Interactive video in the group lesson

3. Results

The results of the analysis are articulated based on the levels of differentiation: *content, process, product* (Tomlinson, 2017; see par. 1). The deepening will be elsewhere.

Content - The history teacher chose to warm-up the ASD student through an activity in which he provided the essential information on the Sumerian civilization synthesized in a mind-map (fig. 2), used as 'advance organizer' (Neisser, 1967; Zakas et al., 2013).

Before carrying out the group lesson, history teacher verified the student's knowledge on which, only later, he would be advised by setting the time line. The warm-up activity involved only the ASD student, not the whole class, able to capture/grasp the essential information and elaborate the structure of the time-line in the same activity - the group lesson.

Process - The history teacher, then, carried out the group lesson diversifying strategies and supports:

the interactive video (fig. 4), explaining civilization (*content*), had double function: recalling the knowledge already possessed by the ASD student and introducing new knowledge for the class;

the interactive timeline (fig. 3) has been used for everyone but as 'advancer organizer' for the ASD student, an exemplary model of the *product* that he would soon realize in the assessing activity.

Product - The history teacher then chose to diversify the assessing activities and final products: an online research in small group to the class; a handmade timeline (fig. 4) to the ASD student, in peer-to-peer.

This final product has been further analyzed, through the criteria of analysis of multimodal documents, identified by Bateman (2008). It is possible to note that in the handmade time-lines (fig. 4) the images (i.e., Ziqqurat, cuneiform writing, etc.) recall the same learnings of the warm-up activity and strengthen the basic learning *contents* and the graphic indicators referring exclusively to the Sumerian civilization, not to other contemporary fluvial civilization (i.e., Assyrians, Babylonians).

This graphic support - used both as a *product* and as a *tool* for assessing knowledge - has been designed in a simplified form, in order to facilitate the recall of information and the ordering along the time line.

Further aspects emerging from the analysis of multimodal documents (Bateman, 2008) will be integrated elsewhere. Here only the emerging aspects of three different aspects of *content*, *process* and *product* are highlighted (Tomlinson, 2017), regarding the differentiation strategies used by history teacher.

4. Implications

Researches on multimodal strategies have already offered evidence-based outcomes, concerning learnings in general (Bruce et al. 2013), and useful tips for intervention

(Tomlinson, 2017), regarding learning difficulties. The present in-depth study on multimodal strategies (Walters, 2010: Kress, 2010) of a history teacher with a ASD student has mainly highlighted:

reduction of the *rhythmic phases* indicated by Tomlinson (2017, fig. 1) - unlike the nine phases of Tomlinson (2017 – fig. 1), the observed activities (tab. 3) are three, focused on the dynamic teacher-student and not on the whole class, since the interactive work-groups are missing. The history teacher chose to diversify the numbers of activities - three for the ASD student (warm-up, instruction, assessing), two for the class (instruction, assessing) and, above all, their function – a peer-to-peer assessing activity and a small group research;

double function of the same resources used - the interactive video (fig. 4) has been used as *reminder* for the ASD student' knowledge and *presenter* of new knowledge, for the rest of the class, at the same time;

simplification of the graphic resources - the interactive time-line of the group lesson has been simplified - in elements and structure - in the assessing activity in order to favor the ASD student's strengthening of the knowledge and avoid distractors.

5. Conclusions

Regarding the already known meta-analyzes (Hattie, 2009; Pitler et al., 2013), these findings confirm that digital resources for learning difficulties should be used within didactic differentiation strategies (Tomlinson, 2017), appropriately adapted by the teacher.

Also regarding digital resources, the teacher's multimodal skill (Eilam, 2015) allows to grasp the implicit aspects of didactic differentiation – i.e., the content's adaptation, the diversification of processes and learning products. This leads us to extend investigations on the close relationship between digital resources and teacher's multimodal skill in order to better understand the effects of the differentiation and personalization (5.2 – Tab. 1, Redecker, 2017) strategies in the inclusion of all students.

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THE UTILISATION OF SHORT-TERM AND LONG-TERM MEMORY IN TEACHING PHYSICS

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Abstract:*In this paper we are going to present the notion of short-term memory and how it is used by college students in physics, in the geometrical optics and mechanics chapters. I examined the utilisation and the reproduction of geometrical figures that describe the physics phenomenon. The experimental observations were of an empirical type, in humanistic classes, for three cases, out of which two were made during the regular classes (teaching and feed-back lessons) and one during individual supplementary training for students who had to catch up with the others. The students had to represent the forces and acceleration in an abstract drawing in order to render what is going on from a physical point of view. It is a quite difficult process for the students who used the short-term memory; for instance, during the teaching lesson the students just rendered/copied the drawing on the projector, without paying attention to the stages of reasoning/the logics of drawing.While describing the facts we will point out the mistakes the students made when using just short-term memory. Besides, we will show also the incorrect drawings, explaining why we believe they used this type of memory instead of the long-term one.Eventually, we will suggest some solutions, e.g. a plan with the stages to be followed when making the respective drawing that the students have to follow when achieving their own demonstration, so that they should avoid making the same mistakes as at the beginning, determining them to use both short-term and long-term memory.*

Key Words: despartite cu punct si virgula

1. Introduction

The process of learning consists of several stages, and it much depends on the teaching style of the teacher as well as on the learning style of the high school students. Also, the students' manner of learning depends on the way in which they work and memorize the information received from the teacher. I have made these observations along my whole career as a physics teacher, but what attracted me most was to discover my students' mechanism of thinking as I was interested in adapting my teaching styles to their needs. Starting with the 1980s, the notions used to designate the learning and memorizing process continued to evolve. Such terms as visual, auditory, tactile and kinesthetic memory were used at the time. [2, 10, 11]

These types of memory are used more to characterize the students' learning styles, namely sensory senses used by them to capture new information and then to send them to the brain, to decode it. After that, the brain activates the senses and initiates the memorizing process. [3] But after the way in which the brain works could be studied better by means of MRI measurements for example (the acronym of *brain* magnetic resonance *imaging* is *MRI*) [1], other concepts started to be used in order to define the learning process, such as the short-term memory, working memory and long-term memory.[11] So, I started to make inquiries about how these memories work and to closely observe how my students learn, in order to adapt my teaching style to them. In Physics, to solve an exercise or a problem for example, we have often to make a drawing, a graph or a chart in order to visualize the phenomenon,

then to clarify the data that are given, and what the requirements are. Once the student has understood these two last phases, he can start solving the exercise. This solving process makes the brain pass through all three memories: short-term, working-term and long-term memory.

Therefore, in this paper, I will describe three cases that I have observed during the process of teaching-learning, regarding the carrying out of a drawing or a chart at physics class. Also, I will compare this phenomenon with that observed at English lessons by my English teacher colleague. These situations were randomly observed without the specific purpose of measuring some variables such as the time of reaction or the time of response to a requirement. These empirical observations were made at long intervals of time, noticing my and my students' mistakes with the purpose of not repeating them.

I called the first case "The case of accurate reproduction of charts/diagrams and abstract drawings", the second "The case of building a chart based on a known reasoning"and the third "The case of the inattentive beginner". After describing and interpreting them through the use of different types of memories, I had some discussions with my mate, teacher of English, in order to make some comparisons with the way in which the pictures in the English text-books help students understand and explain the texts. I found out that the process of understanding the information is more efficient during the English classes compared to the physics ones when the students have to learn and interpret a chart or a picture. Finally, I will give some solutions in order to make learning during the physics classes more efficient.

2. Clarification of the concepts of short-term memory, working memory and long-term memory

Reading different papers, I noticed that these three types of memory were studied more on people who are losing their memory.

They must re-learn to stimulate their memory in order to remember simple things. Scientists realized that the learning mechanisms and patterns we use, are formed in childhood, in order to learn easy or more difficult things that require a rational thinking process. Thus, the short-term memory which lasts for a very short time, about 10-15 seconds [3, 5, 6], helps us remember simple things such as phone numbers, names or short demonstrations grouped in short sequences.[10, 11] So, we use this memory to repeat and memorize short and simple things, while for a scientific reasoning such as in physics we use long-term memory.

Figure 1: The books in the library are not yet put in order and they call out "Arrange me" [4] This image shows us that the order in which the knowledges are put in memory resembles to the order in which the books are placed in a library.

In my opinion according with reference [3], this means that in a teaching situation, it is very important to know and take into account the characteristics of memory. The teacher can thus present and expose the information (or the knowledge) to the students in a manner that allows them understand, organize and develop it in an efficient way in order to acquire the knowledge.

Long-term memory stocks more complicated information and such,

when using it, it is like accessing a library from which we take only the necessary information [4] that we repeat, identify, analyze and compare with the new and unknown information and we process it in order to reach a conclusion or a result.

This process of thinking also uses the working-memory, which points out to the pre-existent information and knowledge that already exists in the long-term memory and gives to the new knowledge a new meaning.

In order to be able to retain more complex information in the long-term memory, we have to go through a longer and much complicated process, like for example, divide the information into short sequences and memorise them, decode and understand them (the comprehending process), and then assemble the sequences (linking and assembling), interpret them, and make comparisons (clarification and analyzing). Eventually, they have to extract the idea which best explains the new complex information which shows that the new information has been understood and apprehended. This means that the synthesizing process has been accomplished. Only after that, the new information will be stocked in the long-term memory. In my opinion as a physics teacher, the information is first used by the working-memory which works in two ways, connecting the two types of memory: the long-term and short-term ones.

The following definition back up my point:

> *"La mémoire à long terme est un lieu mental, où l'information est entreposée et préservée. L'information est entreposée dans la mémoire à long terme selon le ou les codes qu'on lui a donnés dans la mémoire de travail. C'est donc le lieu où sont emmagasinés, parfois pour très longtemps, les faits, les habiletés et les connaissances diverses – sociales, affectives, motrices, intellectuelles – que nous avons acquis depuis notre naissance pour un usage ultérieur.* [3].
>
> *C'est dans la mémoire de travail que se structurent les réponses aux défis (exposé du professeur, question d'examen, exercices, laboratoire à réaliser, techniques à accomplir, etc.) auxquels l'élève est confronté* [idem 3]."

Interpreting the text from French reference [3], long-term memory is a mental place, where information is stored and preserved. The information is stored in the long-term memory according to the code or codes given to it in the working memory by the student. It is therefore the place where the facts, the skills and the various knowledge - social, emotional, motor, intellectual - that we have acquired since our birth are stored, for a very long time and used later. Also, theanswers to a question or a teacher's presentation, to which the student is confronted, are structured in working memory.

Additionally, *"Because of the work of Baddeley et al. (1975), working memory is generally viewed"* also*, "as the combination of multiple components working together. Some even include in that bundle the heavy contribution of long-term memory, which reduces the working memory load by organizing and grouping information in working memory into a smaller number of units (Miller, 1956; Ericsson and Kintsch, 1995)". [7]*

So, in this paper I will give three examples in which I will explain both my and my students' failures due to the inadequate use of these memories, examples which I noticed during the physics classes. The purpose is to observe how the students understand, memorize, interpret and reproduce a type of very abstract chart encountered in the physics classes. Then we will compare these processes of memorizing, learning and interpreting a picture in the physics classes with the interpretation of pictures in the English classes.

3. The Description of the three observations and the explanation of the observed mistakes and reactions

Further on, I will analyze each case. First of all, I am going to describe the drawing which had to be reproduced and interpreted by the students and finally, I will present the mistakes they made, showing that these mistakes derive from the fact that the students use short-term memory more and very little of the long-term one.

3.1. "The case of accurate reproduction of diagrams and abstract drawings "

3.1.1. Initial condition

The first case is the one I named "The Case of Faithful Reproduction of Charts and Drawings". It was the one in which the reproduction of some drawings in the chapter of optics was observed during a physics class with a humanistic 9th grade. The task during was to "represent/draw the image of an object seen through a convex lens." These abstract drawings were already made and illustrated on the board, by means of a video projector. I chose the projection method, because the abstract drawing was very clear, without any ambiguities. This drawing was supposed to be reproduced by the students, without the teacher's help. The teacher did not have to give explanations about how to do it and in which order the lines should be drawn or which the elements of the drawing are (see figure 2).

3.1.2. Previously known knowledge

The theory on which the drawing technique is based (figure 2), was explained in a previous lesson. The students had to trace/draw the three rays of light which start at the top of the object, pass through the lens, suffering the refraction phenomenon and meet in the same point, to finally form the top of image.

3.1.3. Description of the abstract drawing

1)The first ray is the green one. It follows a straight line from the object, from point A to the center C of the lens.

2)The second ray, is the blue one. It starts from the object, also from point A, propa-gates parallel to the optical axis (the black horizontal line) and is refracted on the lens, passing through the second focal-point F2. The intersection of the two rays is point A' which is the image of A.

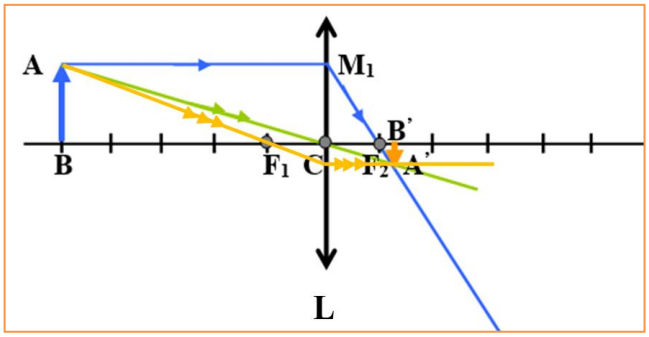

Fig. 2 An image formed through a convex lens when the object is situated at a long distance (5·f) Inspired by [8].

3)The third ray is the orange one. It goes from the object, from point A and passes through the first focal point F1; then it is refracted through the lens, and follows a line parallel to the main optical axis, meeting the other two rays also in point A'.

The students saw that drawing for the first time, but they had done similar drawings to obtain an image of an object in a mirror. If in the case of the mirror we speak about reflection, in the case of the lens it is about refraction, but the theoretical principles are similar.

3.1.4. Operations and steps that needed to be followed

1) Draw the lens;

2) Drawing the principal optical axis minding all the points: focal F1 and F2 and the center-C;

3) Mark the distances and values;
4) Sketch the object AB placing it at the required distance of 5u in front of the lens, to the left of the observer respectively; mark the points A and B that set the position of the object;
5)Trace the 3 rays, blue, green and orange which refract through the lens, according to the above rules. The students must trace the three rays from left to right because this is the direction in which the light propagates in the above drawing.
6) Get the intersection of the 3 rays and mark the intersection point with A'.
7) Construct the perpendicular line to the main optical axis which starts from A' and falls in B', thus obtaining the desired image.

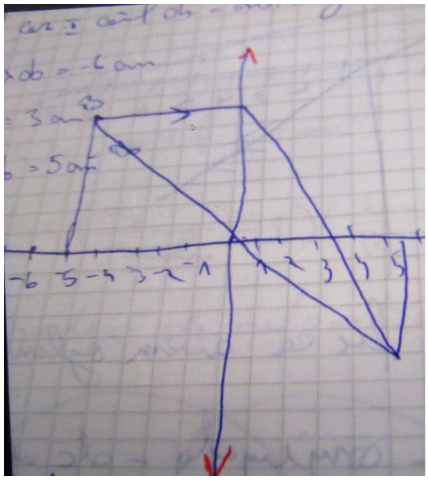

Figure3: The first student's drawing shows the formation of the image in a convex lens (distance between object and lens is 5u) – the drawing is made with more accuracy - photo captured by the physics teacher.

3.1.5. Observation of the phenomenon of tracing the drawing and the reactions of the students

The orderof the steps wasn't respected, and neither was the direction in which the rays were supposed to be drawn, which reveals that students did not appeal at all to the known rules stocked in the long-term memory and they didn't use even the working memory as they did not pay attention to the signs and colours on the drawing. They just put everything in the short-term memory, imitating what they saw, without considering the physics phenomenon.

This experience taught me that we cannot use ready-made drawings when teaching. The teacher must build the drawing and during the process he must speak and explain. This means that the teacher has to verbalize all his actions, explaining why he uses this order and direction of lines.

Here we have two drawings of two students from human class (figures 3 and 4). The pictures were captured by the physics teacher.

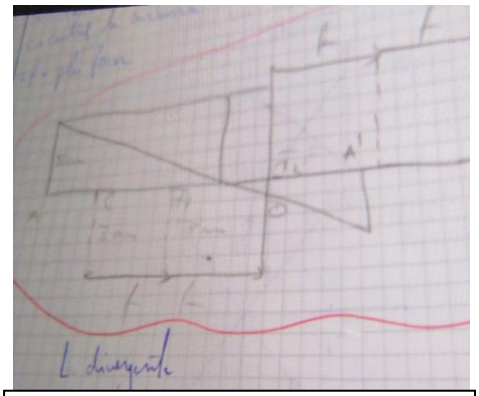

Figure 4: The second student's drawing shows the formation of the image in a convex lens – the drawing is done with much less accuracy than the first student – photo captured by the physics teacher

3.1.6. Comparison with the teaching of a foreign language such as English

We know very well that the English text-books are full of pictures. My English teacher colleague says that the photos are easier to interpret because they are closer to everyday life, they represent real situations and students can make correlations with what they live and know very well. In their minds, respectively in the long-term memory, they search for words that they already know and try to make sentences which describe the pictures. When the teacher talks about what is happening in the picture, or when students say what they think about the pictures (e.g. figure 5), the ones listening can not only understand, but also create analogies, and learn new words by just using active hearing, which means that they are using in the same time their working and long-term memory.

The only difference between English and physics is that students in English class have more ideas about life and moreover, these aspects represent their own experiences, while at physics class they cannot make similar analogies. So, what regards physics, in the 9th grade everything is still ambiguous, the students have little knowledge about physics and it is safer to say that the information in their long-term memory is still only partially structured (like the books in figure 1). Moreover, the students I observed are studying humanistic sciences, so they are not really inclined towards sciences. But, in the English class they have an inclination for humanistic sciences and they have all information stored in a much orderly manner in their long-term memory. Therefore, they have less inclination for mathematics and other sciences. Here we have a picture of Cirque du Soleil (figure 6) reproduced from an English book. (Who does not know what a show or circus is?)

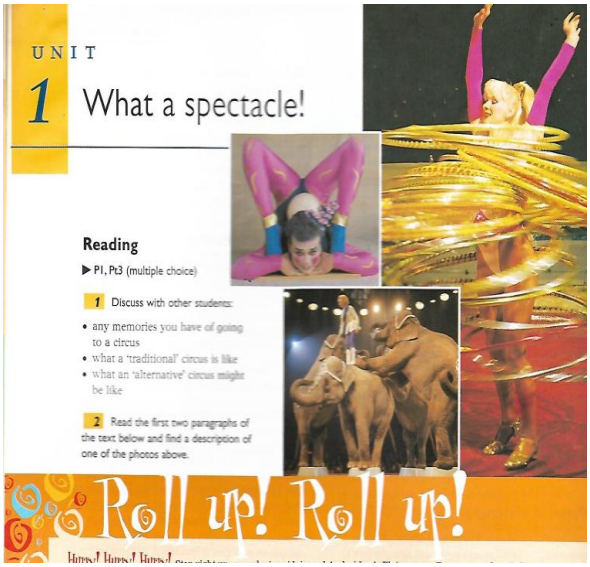

Figure 6: Cirque du Soleil [9]

3.2. Making a Scheme Based on a Previously Known Reasoning

3.2.1. Initial condition

The observation is made also at a 9th grade humanistic profile, during a feed-back lesson meant to verify the acquired knowledge. The theme was the same: "drawing the image on an object in a convex lens", like in figure 2 above. In this case the notions of drawing were clearer in the mind of the student because he already knew the theory and the reasoning/the logics of drawing. The students already had some landmarks. This is why I called it "The case of building a chart based on a known reasoning".

3.2.2. Previous knowledge

The students already knew how the drawing looked like, what rules they needed to follow in order to build it as well as the theoretical part. Some of the students had learned at home and already knew pretty well how it had to be drawn while others had not worked at home.

3.2.3. The observation of the phenomenon

The student that was asked to answer was one of those who hadn't practised at home. Before coming to the board, he briefly looked over his notes for a few seconds. This means that the student used only the short-term memory and very little of the long-term memory because, not practicing at home, he didn't have many notions stored in the long-term memory (Figures 3 and 4). In such a short time the student couldn't process all the details of the drawing and his drawing was not a correct one, demonstrating me that he used only the short-time memory. He kept in mind that the drawing was a parallelogram, which he knew from the Maths class, information that was in his long-term memory. And this was not the only case in the class, which demonstrated me that the 50-minute class is not time enough, so, the student must repeat and fulfill the tasks at home. The teacher has to come with supplementary hand-outs to determine the students use their working memory.

3.3. "The case of the inattentive beginner"

3.3.1. Initial condition and previous knowledge

The third case was noticed during a supplementary class with a student in the 9th grade from the sciences profile that had to work more in order to catch up with the others. The student comes from a coinhabiting nationality with special places at the entrance in high-school. Generally, this category has less knowledge compared to the others, so, their long-term memory is very week. They do not even master simple notions of math. The task consisted of two problems of mechanics. At first, the student solved everything by himself. Then I checked and corrected his answers. In the next stage, the student had to do the problem again, in the corrected way, for him to understand everything better.

3.3.2. The observation of the phenomenon

Because the last drawing we discussed together was the one in the second problem, he drew this one for the first problem. This shows that he did not process the information again, namely he did not read the request of the first problem again and because he kept in mind what he had done a few minutes before, he drew the last thing the teacher explained to him. So, he used just the short-time memory. Moreover, he closed his eyes and drew again with many details, but the drawing was not according to the requests of the problem. People would say that it was "lack of attention".

4. Solutions in order to avoid a wrong understanding and reproduction of drawings:

After observing all these, I divided the process of drawing into smaller and simpler stages and I devised a plan which I called "A plan for solving a problem of mechanics" which I asked the students to put down on their portfolio and use any time they have to solve a problem from this chapter. I did the same for the chapter of optics.

Making a comparison with the teaching of the English language, we reached the conclusion that the methodology of teaching this language is more advanced than the one of teaching physics because they have been long using this separation in small requests and the repetition in loops with different types of exercises. But, even in these circumstances there is the danger of forming some automatisms for certain grammar problems and, students with very good results in CAE can get weaker results during different internal competitions where the structure of the tasks is more diverse.

5. Conclusions

In conclusion we can say that practicing hard (using work-memory) or a quick look over a drawing (short-term memory) are not enough. If the student does not use long-term memory, he makes mistakes which at first sight might seem of minimum importance but which practically show that the student did not get to the level in which to use all three types of memory efficiently and simultaneously. This problem can be solved by the students by working harder and fulfilling the tasks given as a home-work and by the teacher by means of hand-outs meant to separate the working stages until the students are able to decode them correctly. But, unfortunately, during the classes, due to the lack of time, we do not have enough time to close this loop of learning and let students practice enough to become more independent and get more self-confident and this is what they complain about.

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CAREER MOTIVES, ITS CHANGE DURING TEACHER EDUCATION AND ITS IMPACT ON THE PERCEPTION OF PROFESSIONAL REQUIREMENTS OF STUDENT TEACHERS

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Abstract: *Teachers' career motives are investigated in several studies, comparing school types, countries and subjects, analyzing their effects on progress and satisfaction during teacher education. There are few longitudinal studies on possible changes of the motives and their impact on further professionalization. This paper investigates on changes of career motives and their effect on the perception of the relevance of professional requirements, the competence in coping with them and their challenge. Results show, that career motives change during teacher education; intrinsic motives increase, altruistic and biographic ones and the motive of work with children decrease. Career motives, differentiated by distinctive patterns, shape the perception of professional requirements. Student teachers with less favorable patterns of career motives change their motives towards a better fit to the professional requirements. Coping with challenging and realistic requirements during per-service periods supports changes towards a better fit with the requirements of the profession.*

Keywords: *career motives; development; pre-service teaching; professional requirements; teacher education;*

1. Introduction

Intrinsic motives as well as extrinsic and altruistic ones shape the career of student teachers and its maintenance during teacher education. Intrinsic motives enhance the effectiveness of teacher education and the satisfaction (Skaalvik & Skaalvik, 2017; Martin & Steffgen, 2002). Entering teacher education, student teachers face the requirements they have to cope during University courses and during preservice teaching at several schools. They get to know teachers' requirements and daily hassles (Hobson et al.,2004). Coping with requirements, student teachers calibrateexpectations with experiences (Thomson, Turner & Nietfield, 2012; Richardson & Watt, 2014), according the Eccles' expectancy-value-theory (1983).

Several studies focus on teachers' career motives. They compare countries, school-types or subjects (Drahmann et al., 2019; Keller-Schneider, Weiss & Kiel, 2018; Scharfenberg, 2019; Sinclair, 2008; Watt, Richardsn & Smith, 2017; Weiß et al., 2018;), investigate on career choice influences (Künsting & Lipowsky, 2011; Rothland, König & Drahmann, 2015), their relevance for the decision-taking for entering teacher education (Denzler & Wolter, 2009; Hobson et al., 2004; Pohlmann & Möller, 2010; Trojer, 2018) and for the progress during teacher education (Watt & Richardson, 2008) as well as the development of emotional exhaustion (Skaalvik & Skaalvik, 2017). Specially in periods of teacher shortage depending on the labour-market (Neugebauer, 2015), it is important to find motivated ones doing this job with high quality and satisfaction. Motives, such as *goals* to

reach through this profession and *reasons* for the choice or the maintenance of this decision, are relevant in different stages of a career.

1.1. Teachers' career motives

Following the most common categories, based on the early studies of Brookhardt and Freeman (1992), the most important motives for teachers' career are the *intrinsic* ones, related to the job, the activities and the requirements of this profession. *Extrinsic* motives, such as job-security and job-family-compatibility, with focus on the reward of the job, are crucial as well. In addition, *biographic* motives, based on experiences as student at school, and *altruistic* motives, such as shape the children's future, enhance social equity and contribute to society, are identified as supportive for the decision and the maintenance of the motivation. The *self-concept* of own teaching abilities, as a self-focused belief, influencing job motive (Blömeke & Kaiser, 2015), is relevant for self-confidence (Deci & Ryan, 2002) as a teacher, is identified as important as well (Wat & Richardson, 2007). These categories of motives, focusing the profession of teachers, are subsumed as *job-related motives*. There are *other reasons*, such as *recommendation* of others and *lack of motivation* or ideas for other professions, called fallback career motives (Watt & Richardson, 2007).

Figure 1 shows these categories of career motives, groups in *job-related motives* and *other reasons*, added with motives related to the choice of the education program (not relevant in this paper), influencing the different career stages.

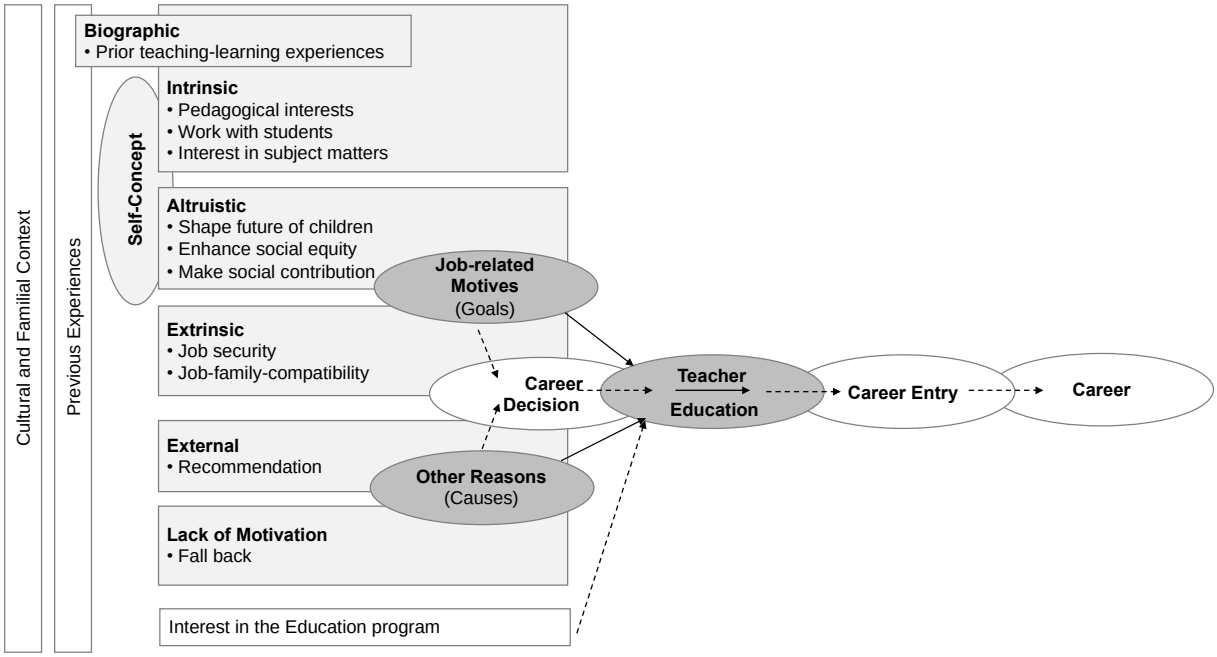

Fig 1: Motives for the career as a teacher, relevant in different stages of the career

1.2. Motives and their stability

Motives for the career as a teacher are not only significant for decision taking; they are relevant as well to maintain this decision during teacher education, for the decision to start the career as a teacher and to remain in this profession (Fig. 1). Experiences were balanced with expectations coping with requirements. If teacher education offers opportunities to act as a teacher during preservice-teaching, student teachers were challenged

to re-assess their decision, supported by their experience of teaching abilities and satisfaction doing this job.

Studies on career motives focus on the intensity of different motives of preservice teachers, categorized in several groups (see above); some focus as well motives of the education program (Pohlman & Möller, 2010), but few investigate the stability with a longitudinal design (Richardson & Watt, 2014). Results from a study on student teachers' motivation over the first two years of teacher education (König et al., 2016) in three countries identified changes, dependent on the model of teacher education and its focus on practical experiences. In Germany with a theory focused model of teacher education, intrinsic motives were stable; Swiss student teachers, attending a program with emphasizes on practical experiences (Arnold, 2014) show increasing intrinsic motives, decreasing altruistic motives and motive to work with children. Extrinsic motives didn't change. They identified an effect of learning opportunities and mentoring on these changes, shaped by the model of teacher education. Individual differences remain as an open question.

1.2. Perception of requirements and its effect on professional development

Following the transactional theory of stress and coping (Lazarus & Folkman, 1984), learning opportunities don't affect learning outputs in a mechanistic way. Individual's perception, based on the resources and the intensity of coping with them, is crucial for the achievement and the insights, emerging from challenging learning situations, based on the resource-focused opportunity-use-model (Keller-Schneider, 2014). Primary (*relevance* of requirement) and secondary appraisal (*manageability* with individual resources) shape the learning output as well (Fig. 2). *Motives*, as an element of the individuals' recourses, affect the appraisal of the relevance, the manageability of the requirements and the challenging coping with them. If the resources are too little or the requirements seem as unimportant, the individual will not get involved in working on this requirement. For professional development the perception of requirements as challenge is significant, based on a sufficient competence.

Coping with challenging requirements leads to new experiences. Emerging findings by reflecting the actions of teachers and students as well as the interactions and their effects, lead to a transformation of the individual resources to deal with subsequent requirements (Keller-Schneider, 2014). Not only knowledge grows during teacher education, but other individual resources, such as motives and beliefs, may change as well.

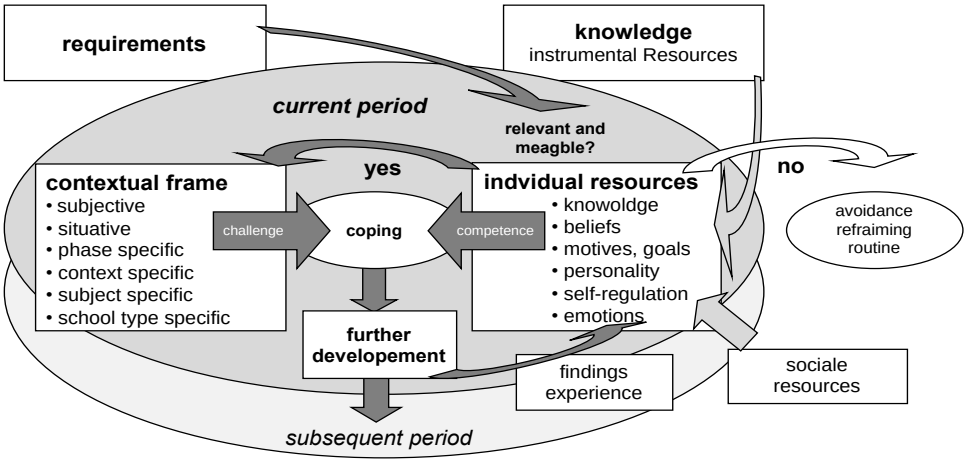

Fig. 2: Perception of professional requirements and its significance for professional development

During teacher education student teachers are challenged by different requirements. During courses at University they have to engage themselves in their learning and to build up knowledge, relevant for acting as teachers. During preservice teaching they deal with professional requirements, act as a teacher and reflect experiences to develop further competences. *Emerging insights* contribute to the professional growth, transform the structure of professional knowledge (Dreyfus & Dreyfus, 1986; Berliner, 2001; Neuweg 2014), but might change beliefs and motives as well.

1.3. Teacher education in Switzerland

Teacher education in Switzerland for kindergarden and primary school teachers (grade 1 to 6) close at bachelor-level, secondary teachers do a master's degree. Teacher education starts with a preservice teaching period, combined with seminars on professional knowledge and reflexions on activities as teachers and the effects on students, to learn about school through teachers' eyes. Additional goals are the re-assessment of the decision to get a teacher (Arnold et al., 2011) and the ability for this profession (Hanetseder & Keller-Schneider, 2006). Student teachers in Switzerland are involved in the school day; they have to take part as a teacher. During their education there are several preservice teaching periods, integrated in the curriculum (Keller-Schneider, 2016a), enhancing the learning effect (Allen & Wright, 2014). Combining theory and practice takes place not only during pre-service-teaching, several courses send the students in a school for observations and small units of teaching, to focus on a specific didactic approach or pedagogic-psychological phenome, that will be reflected in the course at University. Inductive didactic settings force teacher students to involve themselves in their education. Engagement and intensity of using learning opportunities effect their learning output (Keller-Schneider, 2014, 2016b).

According to the results of a comparative study on teacher education models (Arnold, 2014), the practical units in Switzerland and Austria are larger than the ones in Germany; Swiss student teachers' responsibility for their teaching in school is higher than the Austrian and German ones. Swiss student teachers are involved in the responsibility of their teaching during teacher education.

2. Research questions

Based on the transactional theory of stress and coping (Lazarus & Folkman, 1984) and on the findings, that motives for the career as a teacher changes (König et al., 2016), influenced by the teacher education system (Arnold, 2014), and that the use of learning opportunities by dealing with professional requirements affects the professional growth in individually different ways (Keller-Schneider, 2014), we assume, that also in this sample career motives change during teacher education individually different and that individual resources, such as career motives, shape the perception of requirements.

Based on these two assumptions, the following research questions were investigated:
(1) How do career motives change during teacher education?
(2) What types of different profiles can be identified?
(3) What differences can be identified and do these types develop differently?
(4) How do career motives shape the perception of professional requirements at the beginning of teacher education, two years later and their type-specific development?

3. Method

To investigate on these research questions, data from a longitudinal study at Zurich University of teacher education were used.[3]

Data collection: The data were collected by a paper-pencil-questionnaire, at the beginning of teacher education and two years later. Data were collected during a compulsory seminar.

Instruments: To collect data on career motive, the Fit Choice scales of Watt and Richardson (2007) were used, containing twelve motives for the career as a teacher (Fig. 1). The perception of professional requirements, measured by its relevance, the experienced competence and the challenge, were captured by the Professional Requirement scales of Keller-Schneider (2014), containing seven scales on professional requirements.[4]

Sample: The longitudinal sample contains 189 students, 83,4% are female, average age is 21,4 years (SD 2,9 years) at the beginning of teacher education.

Data processing: After descriptive analyzes of career motives, changes were provided by variance analyzes (GLM, repeated measurement). By cluster analyzes (k-Means, followed by a discriminant analyze for assignment security prove) of the career motive at the beginning of teacher education (t1), different profiles were identified. Differences between these types were investigated by multifactorial variance analyzes (ANOVA t1, t2, GLM repeated measurement).

4. Results

Results are presented corresponding to the research question. Fist we show the career motives extent (start, two years later) and their stability ore changes (4.1), results on types of career motives' profiles and their differences (4.2), followed by results on type-specific development (4.3) and type-specific results on the perception of professional requirements (4.4).

4.1 Motives for the career as a teacher and their development during teacher education

Figure 3 shows the extents of career motives at the beginning of teacher education (t1) and two year later (t2), after a period of pre-service-teaching combined with seminars of planning and reflection on the in-field activities.

[3]As a part of the EMW-study of König and Rothland (2013), with additional focus on beliefs on learning and teaching and the perception of professional requirements.

[4]The requirements were identified by qualitative content analyze of notes from facultative supervision sessions of beginning teachers during their first two year of teaching as fully responsible teachers. A model of the latent structure of these requirements was identified (Keller-Schneider, 2010),later a short version was developed, used in this study.

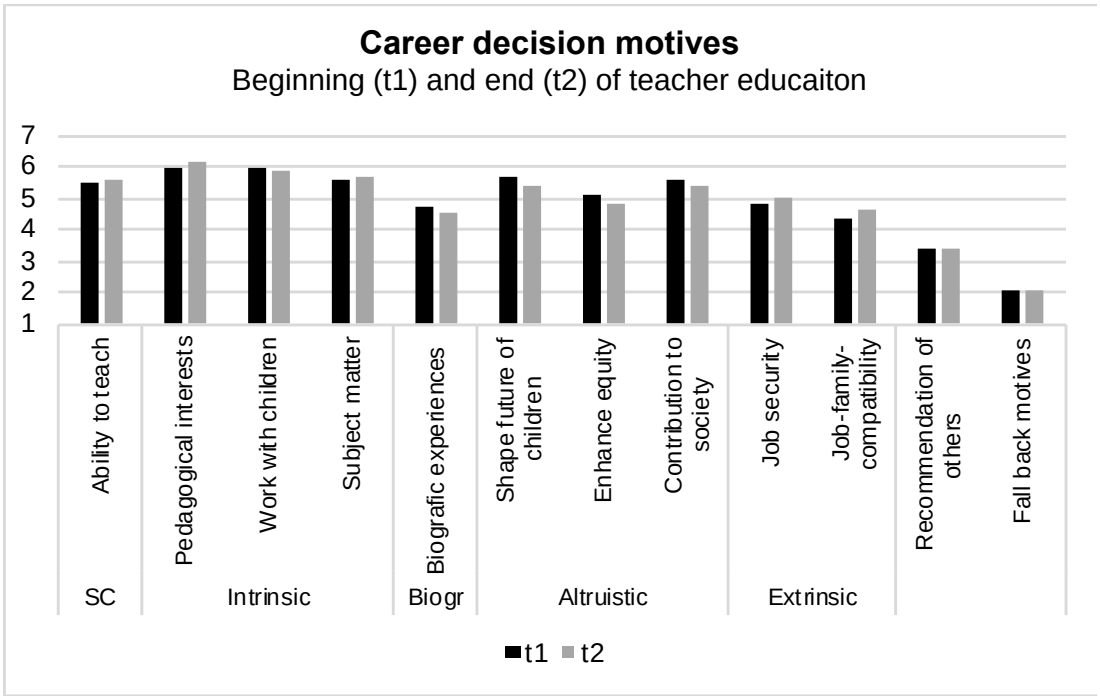

Figure 3: Motives for the career as a teacher

Intrinsic motives, such as pedagogical interests, the motive to work with children and subject matter, as well as the *self-concept* of teaching abilities show high levels, followed by *altruistic*, *extrinsic* and *biographic* ones. Other reasons, such as others' *recommendation* and especially the *lack of motives* for other professions (fall back) are less weighted (Fig. 3).

The results of descriptive analyzes show large standard deviations in *altruistic* and *biographic* motives as well in the motive of others' *recommendation* and the *lack of motive* for other professions, referring interindividual differences (Tab. 1).

Results on the significance of *changes over time* show that career motives change, but in different directions (Tab. 1). There is an *increase* of the teaching self-concept and the intrinsic motive of pedagogical interests. The intrinsic motive to work with children and altruistic motives, such as shape children's future and contribute to equity, *decrease*. The differences are of high significance and with quite strong effects. Biographic motives, based on prior experiences as students, decreases as well, but with low significance and a weak effect. The intrinsic motives of subject matter and the extrinsic motives of job security and job-family-compatibility as well as the motives of others' recommendation and the lack of motives are *stable*.

Table 1. Motives for teacher career (t1, t2, development)

Motives	t1 M/SD	t2 M/SD	GLM (t1-t2)
Self-concept	5.47/.73	5.637.87	t1<t2, p=.013, η^2=.032
Activity related motives	5.95/.82	6.13/.90	t1<t2, p=.016, η^2=.031
Work with children	6.13/.92	5.90/1.07	t1>t2, p<.001, η^2=.065
Subject matter	5.64/1.24	5.63/1.10	n.s.
Biographic motives	4.76/1.53	4.5/1.63	t1>t2, p<.02, η^2=.029
Shape future of children	5.71/.99	5.41/1.06	t1>t2, p<.001, η^2=.080
Enhance equity	5.13/1.27	4.82/1.31	t1>t2, p<.001, η^2=.058
Contribution to society	5.48/1.13	5.35/1.12	n.s.

Job security	4.93/1.19	5.02/1.25	n.s.
Job-family-compatibility	4.44/1.40	4.59/1.43	n.s.
Recommendation of others	3.35/1.57	3.41/1.65	n.s.
Lack of motives (fall back)	1.92/1.01	2.07/1.12	n.s.

Comments: t1= at the beginning of teacher education, t2= after two years of teacher education

4.2 Types with different patterns of career motives and their development

The investigated motives show large standard deviations (Tab. 1); different patterns can be assumed. By cluster analyses on motives at the beginning of teacher education (t1), four types with different profiles were identified (Fig. 4).[5]

Type 1 (n=33, 17.6%) shows a *fall back* profile with a lack of motives for other professions, paired with the extrinsic motive of job security; altruistic motives are below average. For *Type 2* (n=20, 10.7%), the smallest group, the *extrinsic motives* of job-family-compatibility and job security are characteristic, related with a lack of intrinsic and altruistic motives. Type 1 and type 2 show similarities, but with different characteristics; both types show, compared with others, a low self-concept of teaching abilities, low pedagogical interests and low interests to work with children. *Type 3* (n=86, 46%), the biggest group, entitled as *well motivated*, shows intrinsic motives as well as biographic, altruistic and extrinsic motives on over average levels, amended with others' recommendation. Lack of motive is low. In *Type 4* (n=48, 25.7%), the motive to *work with children* is characteristic, related with extrinsic motives, others' recommendation and lack of motives on a under average level.

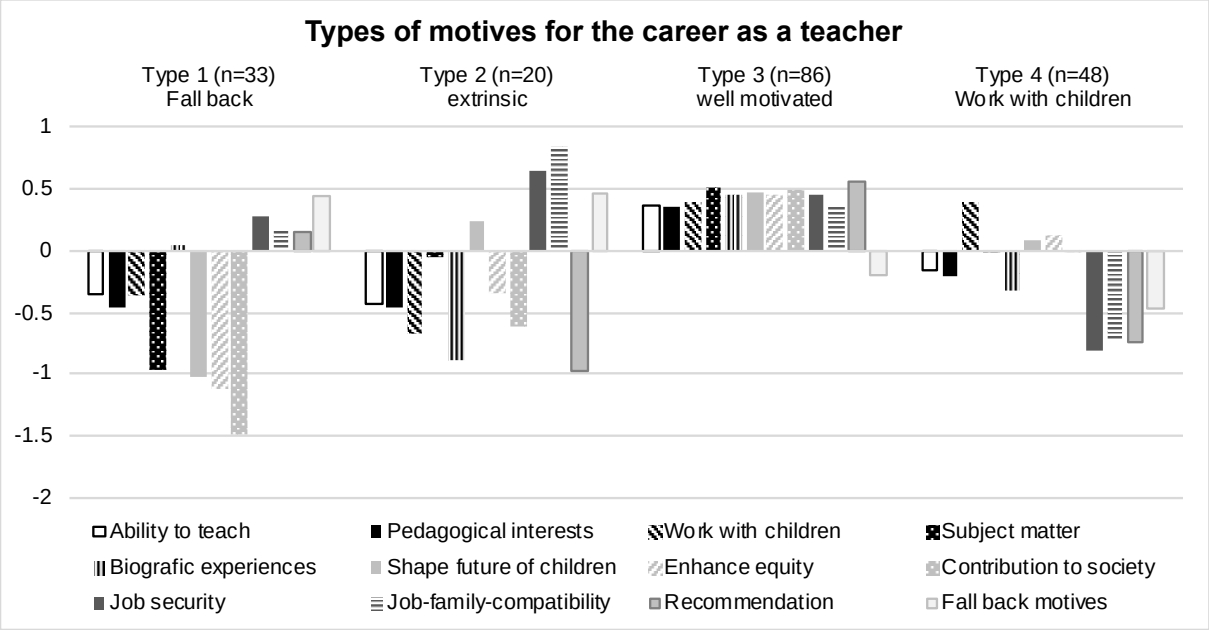

Fig. 4:Profiles of different types of motives for the career as a teacher(t1)

4.3. Differences between the types of motives and their development over the first two years of teacher education

Table 2 shows differences between the types at the beginning of teacher education[6], after two years and between their development.

[5] Results of discriminant analyze:Wilks Lamda = .10; accuracy 93%

Differences between the types: The identified types differ with high significance and strong effects. At the *beginning* of teacher education, the altruistic motive of contribution to society shows the strongest effect, followed by the recommendation of others, the extrinsic motive of job security and the altruistic motive of enhance equity. The smallest effect lays in the proximal motives of the self-concept of teaching abilities and the pedagogical interests. *Two years later* the significance of the differences and the effects are lower. There is no significant difference in the motive of work with children. Differences in altruistic and extrinsic motives, others' recommendation and the lack of motives (fall back) are still significant, but with lower effects. The differences between the types in job related motives and beliefs (self-concept) after two years are smaller than at the beginning, when the types were identified.

Differences between type-specific developments: Results on the development of the career motive types show *changes* in the motives of others' recommendation, in altruistic and biographic ones; *stability* is identified in the self-concept of teaching abilities, in the motives of pedagogical interests as well as in the lack of motives; based on the weak effect, the motive of job-family-compatibility can be judged as stable as well.

Table 2. Differences between the types of career motives in their motives

Motives	ANOVA t1	ANOVA t2	GLM t1-t2 p/eta
Self-concept	<.001/.133	.001/.082	n.s./.016
Pedagogical interests	<.001/.140	.019/.053	n.s./.028
Work with children	<.001/.188	n.s./.033	.010/.060
Subject matter	<.001/.276	.010/.060	.009/.062
Biographic motives	<.001/.196	.041/.044	.011/.059
Shape the future of children	<.001/.283	.003/.074	.019/.053
Enhance equity	<.001/.338	<.001/.160	.003/.074
Contribution to society	<.001/.459	<.001/.166	.001/.092
Job security	<.001/.369	<.001/.153	.049/.042
Job-family-compatibility	<.001/.298	<.001/.121	.016/.005
Others' recommendation	<.001/.385	.025/.050	<.001/.141
Fall back career	<.001/.153	<.001/.114	n.s./.010
Comments: t1= at the beginning of teacher education, t2= after two years			

The results on the *type-specific development* of career motives (Tab. 3) show type-specific characteristics.

Table 3. Type specific changes of motives for the career as a teacher

Motives	Type 1 (p□□^{2})	Type 2 (p□□^{2})	Type 3 (p□□^{2})	Type 4 (p/□^{2})
Self-concept	t1<t2**/.218	n.s.	n.s.	n.s.
Pedagogical interests	t1<t2*/ .174	n.s.	n.s.	t<t2**/.148
Work with children	n.s.	n.s.	t1>t2***/.201	t1>t2**/.132
Subject matter	t1<t2*/.115	n.s.	t1>t2**/.081	n.s.

[6] The identification of types is based on.

Biographic motives	n.s.	n.s.	t1>t2***/.198	n.s.
Shape future	n.s.	n.s.	t1>2***/.247	n.s.
Enhance equity	n.s.	n.s.	t1>t2***/.176	t1>t2*/.120
Contribution to society	t1<t2*/.133	n.s.	t1>t2**/.115	n.s.
Job security	n.s.	n.s.	n.s.	t1<t2*/.119
Job-family-compatibility	n.s.	n.s.	n.s.	t1<t2**/.149
Others' recommendation	n.s.	t1<t2**/.347	t1>t2**/.076	t1<t2***/.211
Fall back career	n.s.	n.s.	n.s.	n.s.
*Comments: p= l*evel of significance *<.05, **<.01, ***<.001, □²=etasquare				

Type 1, standing out by a lack of motives for other professions, shows changes in the proximal motives of teaching activities: the self-concept of teaching abilities grows significant (strong effect), as well as pedagogical interests, subject matter and, of lower significance, contribution to society. These changes lead to a profile of a better fit to motives of the teaching profession. *Type 2* with significant extrinsic motives don't change during the first years of teacher education; only the motive of others' recommendation increases. *Type 3,* motivated by all categories except the lack of motive, show a decrease in work with children, subject matter, biographic and altruistic motives. The self-concept of teaching abilities, pedagogical interests, extrinsic motives and the lack of motives don't change. It seems, that type 3 experience a realistic turn in the altruistic motives. *Type 4,* with below average motives, except the motive to work with children, show an increase of intrinsic and extrinsic motives and others' recommendation; the motive to work with children and the altruistic motive of enhance equity decrease during teacher education.

4.3. Differences between the types in their perception of professional requirement

Motives for a teaching career shape the perception of professional requirements (Tab. 4). At the *beginning* of teacher education, the types differ significant in most of the components of the *competences* to deal with professional requirements. They differ as well in the perception of requirements *relevance* and *challenge*. *After two years* of teacher education, most of the differences disappear. Regarding the differences in their *development*, the types differ mainly in the development of the *relevance* of professional requirements, except the relevance of the individual fit of teaching, classroom management and the balance of own resources. They differ in the development of *challenge* by the requirements of preparation and classroom-management and in the development of the *competence* in preparation. The types seem to converge in their perception of relevance, competence and challenge by professional requirements, but there are type-specific differences in their development.

Table 4. Differences between the types in their perception of professional requirements

	ANOVA t1 (p/□²)	ANOVA t2 (p/□²)	GLM t1-t2 (p/□²)
Competence in			
Preparation	.004/.087	n.s.	.016/.058
Individual fit	.003/.089	n.s.	n.s.
Classroom management	n.s.	n.s.	n.s.
Work with parents	n.s.	n.s.	n.s.
Cooperation with staff	.011/.072	n.s.	n.s.
Resource balance	n.s.	.018/.066	n.s.
Role-taking	.01/.073	n.s.	n.s.

Relevance of			
Preparation	.001/.109	n.s.	.007/.068
Individual fit	.0001/.120	n.s.	n.s.
Classroom management	.013/.070	n.s.	n.s.
Work with parents	.019/.065	n.s.	.021/.056
Cooperation with staff	.001/.109	n.s.	.008/.067
Balance own resources	n.s.	n.s.	n.s.
Role-taking	.0001/.142	n.s.	.002/.089
Challenged by			
Preparation	n.s.	.05/.051	.05/.044
Fit to individuals' needs	.013/.07	.05/.052	n.s.
Classroom management	n.s.	n.s.	n.s.
Work with parents	n.s.	n.s.	n.s.
Cooperation with staff	.011/.073	n.s.	.006/.072
Balance own resources	.008/.077	n.s.	n.s.
Role-taking	.055/.050	n.s.	n.s.
Comments: t1= beginning of teacher education, t2= after two years			

Discussion

Confirming results from prior studies as mentioned in the introduction, proximal motives, related close to teachers' activities, such as pedagogical interests, the motive to work with children and the self-concept of teaching abilities are highly distinctive. They don't spread widely at the beginning of teacher education and two years later. The wide standard deviations of the other motives indicate diversity in the motives of student teachers for the career as a teacher. Based on this, different profiles of motives can be expected.

The results show, that motives for the career as a teacher change during the first two years of teacher education. Most of the proximal motives increase during teacher education, the intrinsic motive of work with children and altruistic motives decrease. Career motives shape the maintenance and the change of motives for the career as a teacher during teacher education with pre-service teaching periods integrated, as the one in Switzerland (Keller-Schneider, 2016a). Challenged by professional requirements, student teachers reframe their motives and abilities for the job as a teacher. Based on this finding, comparing results from different studies on career motive of student teachers, it is essential to take in account the period, in which the student teachers were asked about their motives for the career as a teacher.

The identification of types distinguishes different patterns of career motives with type-specific characteristics. *Type 3* with a favorable profile for the career as a teacher, with motives on a high level, seems to experience a realistic turn through coping with professional requirements, experiencing the requirements of a teacher and the responsibility for their acting during of pre-service teaching. The less favorable fall back *type 1* and the extrinsic motivated *type 4* show a development towards a profile with a better fit to teachers' requirements. The extrinsic motivated *type 2* doesn't change in its motives; the experience of challenge by professional requirements has no effect. Results on motives of student teachers with no differentiation do not take in to account the variety of interindividual differences.

Following the changes of motives for the career as a teacher over the first two years of teacher education, the types converge. Experiences with requirement during teacher education seem to equalize the different profiles of motives. But the development of career motives is type-specific. Type 1 with lack of motives increases its self-concept, intrinsic and subject matter motives. Type 2 with significant distal motives don't change. Type 3, over

average motivated, shows a decrease especially in the altruistic motives. Type 4, characterized by the motive of work with children, increase in pedagogical and extrinsic motives, paired with a decrease of the motive to work with children and the altruistic motive to enhance equity. Even the pattern of motives was not favorable at the entrance in teacher education, coping with professional requirements lead to a change towards a better motive fit, except of the pattern with dominant extrinsic motives (type 2), resistant towards a change of career motives.

Types of different patterns of career motives at the beginning of teacher education differ in their perception of professional requirements. Career motives shape the relevance of these requirements, the competence in coping with them and the challenge. Not only learning opportunities are shaped by career motives (König et al., 2016), but their perception as well, as assumed. These effects change during the first years, the effect of career motives at the beginning of teacher education diminish. Types seem to converge in their perceptions as well as in their motives. But in their development of the relevance of professional requirements they differ.

Conclusions

If motives for the career as a teacher change during teacher education and differences converge, reflections on motives for the career and their re-assessment is of high importance. The fact, that beginning teachers with a lack of motives for professions by entering teacher education can increase their motivation by coping with requirements, embedded in realistic learning situations and challenging pre-service teaching periods with high responsibility for their acting. But high motivated student teachers change their motives; dealing with requirements in the field leads to a realistic turn in their altruistic motives. Intrinsic motives, a favorable self-concept of teaching abilities and not to high altruistic motives are helpful to master the increasing complexity of professional requirements in the career entry phase. To be aware of own motives and their changes is helpful, because career motives matter for the professional development.

So far, we know about career decision motives, differences between countries, school-types, and subjects as well, and we know about influences on them, as reported in the introduction. We know about their development during teacher education, their effects on the perception of professional requirements and type-specific differences, as worked out in this paper. But we don't know about their changes entering the career as a beginning teacher and about their influences on coping with professional requirements during career entry phase. Further research has to be done.

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CONTRIBUTIONS OF LITERATURE ABOUT MENTORING TO ENLIGHTEN TEACHERS' PROFESSIONAL DEVELOPMENT IN BRAZIL

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Abstract: *Initiatives and experiences from different countries and cultures are an important research issue. This article focuses on mentoring in teachers' professional development in Brazil, but it is part of a larger project that seeks an approximation in the area of teacher professional development among BRICS countries - Brazil, Russia, India, China, and South Africa. In Brazil, mentoring in teachers' professional development is proposing interactions between University and schools. Besides this, some initiatives shed lights on this matter. We intend in this work a discussion about such a significant advance. Collaboration between institutions seems to bring new ideas in developing countries trying to overcome difficulties in teachers' working conditions. The study collects a state of the art in the main Brazilian publications in the last five years about mentoring, both experiences related and theoretical studies. The results call attention to challenges and opportunities in teacher education regarding theory-practice integration and point out the need for further research.*

Keywords: *BRICS; Mentoring; Teachers' professional development;*

1. Introduction

According to Itamaraty, a Brazilian diplomatic agency[7], countries involved in the so-called BRICS (Brazil, Russia, India, China, South Africa) have expanded its activities in fields as economics, financial and multisectoral cooperation, since its first Summit, in 2009. The BRICS members are deepening their dialogue on the central issues of the international agenda, without confrontation with other countries. A priority in the country stays in areas such as health, science, technology & innovation and energy, to improve quality of life for the Brazilian population. Cooperation in science, technology, and innovation is essential to bridge the scientific and technological gap between Brazil and developed countries; in that sense, it includes relevant initiatives, with great potential for knowledge sharing and availability of resources for research projects.

There are not many similarities between the BRICS countries, and in the economic area, this is seen as a factor that makes BRICS' members gain economic advantages in different and often opposite ways (Stuenkel, 2015). However, its creation symbolized the increasing willingness of emerging powers to explore what they had in common with each other, as well as their areas of cooperation. The BRICs, in addition to making up 43.3% of the global population and a quarter of the land of our planet, in the first decade of the century, accounted for 27.8% of world GDP growth (Stuenkel, 2015).

7 http://www.itamaraty.gov.br/en/politica-externa/mecanismos-inter-regionais/7505-brics-brazil-russia-india-china-south-africa

2. Theoretical framework – context of the study

Although Brazil had a rapid expansion of Higher Education institutions, and here we include courses to form teachers, the country is only beginning to address the low quality of its basic education system, which produces students ill-prepared for higher education and also the low quality of most institutions of the higher education system, which is private and despite having legal influence, the state does little to press for changes. (Carnoy et al, 2013).

In 2004, UNESCO developed nationwide research investigating the state of the art regarding elementary and high school teachers' profiles, both in public and private schools. The study showed a heavy workload, between 21 and 40 hours a week in classrooms, long hours correcting tasks, difficulties with discipline and a high level of professional dissatisfaction, reasons to worry about the future of teachers we help to form. Also observed that the extent to which BRICS succeed in educating their "citizens and raising skill levels is crucial not only for reaching international education goals but also for world development" (p. 14).

Comparing Brazilian higher education with the other countries from the BRICS, we noticed that in Brazil there are some marked differences. According to Carnoy et al. (2013), Brazil is the only one that offers public higher education totally free and the only with religious universities. Brazilian private institutions are powerful and, like India, provide low-quality public primary education. However, only India and Brazil adopt affirmative action policies. From the comparative point of view, while Russia and China are prioritizing the creation of a small number of world-class universities that are at the top of international rankings, Brazil and India adopt more democratic positions, trying to ensure a minimum quality that applies to all its institutions. (Verhine, 2017). While India guarantees the prestige of its universities through the selection of its students, in Brazil the institutions that stand out in the international academic community are due to the influence of its graduate programs (Verhine, 2017).

Within this context, we point out that Brazil is a big country in extension and in challenges to overcome. We are more than 200 million inhabitants located in 26 states and the Federal district. In some regions a high rate of poverty, in others a high economic level. This diversity influences educational issues.

Veiga (2010), Masetto & Gaeta (2015), Orland-Barak (2015), Flores (2017) have stated that there are still difficulties in uniting practice and theory in the teacher education and education in general showing that not only our country is concerned about that. In addition, reports in different countries show teachers' dissatisfaction with their working conditions, especially with material conditions such as salary and school infrastructure (Marcelo Garcia, 1992, 1999, 2010). We also perceive a low interest in the teaching profession by students who enter university education. Research results show that, although the positive image of teacher´s social role contributes to adding attention in or admiration for the profession, this single aspect seems insufficient to motivate the permanence of students in such career (Brandão & Pardo, 2016). The authors point out the need for changes in the working conditions and the context of the social devaluation of the teaching profession, aspects perceived as negative by these students.

Fundação Carlos Chagas (Carlos Chagas Foundation] (2009) investigated around 1500 Brazilian students graduate from senior high schools about their perspectives to enter teaching education. The results showed that even though most participants spoke highly about teaching as a profession, relevant and fundamental for society, at the same time pointed out low wages and excessive workload combined with little recognition in the community as a reason for not choose to teach as a career. The study showed that only 2% had some inclination for a teaching major as the first option, especially for elementary education that had the weakest level of attraction.

A School Census conducted by the Ministry of Education (MEC/INEP), in 2009, according to Barreto (2015) unveil "a small percentage of teachers still lack a degree and accreditation and that there are teachers responsible for disciplines that do not correspond to their academic training.

Research developed in 2013 identified approximately 430 thousand professionals in primary education were also higher education students. From these, about 48% study Education and 10% Language and Literature (Brasil, 2015). A large number of teachers work in elementary and high schools without having studied the specific subject area they teach. In Portuguese classes, only 54% of the teachers had specifically studied for the job; in Mathematics, only 38%, and in Physics, only 16.9% (Gatti et al. , 2014).

In this context, mentoring acquires great importance, for it is an effective means of helping with teachers' professional development (Day, 2004). There is also a lack of contextualization of teacher education in schools, and a large number of teachers have low wages, poor working conditions, and lack of self-esteem in their careers (Marcondes, Leite & Ramos, 2017).

The objectives of this study are to identify productions that bring mentoring as a theme in Education and evaluate the presence of mentoring in studies developed and published by Brazilian researchers in a major database.

The main research question was: how Brazilian publications see mentoring regarding teachers education being Brazil, a developing country member of BRICS? The hypothesis, considering high attention and research production around the world, was that Brazil would have considerable production following the world trend.

3. Methodology.

The methodology chosen was the literature review present in two major databases in Education. So, the current study reviews publications in the last five years about mentoring, both experiences related and theoretical studies.

4. Results.

The focus of this paper is to search in main Brazilian publications articles related to mentoring for the last five years, to shed light about what is written on the subject, concepts that sustain research in the issue. When accessing Google Scholar (https://scholar.google.com.br/scholar?hl=pt-BR&lr=lang_pt&as_sdt=0%2C5&q=mentoring+2015+2019&btnG=) with the word mentoring, giving a period between 2015 and 2019, we found 16.300 results in all languages.

Refining the search for articles in Portuguese, we found 149 results. Fifty-five entries in the area of Administration, 27 entries in the field of Health, 17 in Hard Sciences, 14 in Information, 13 in the specific area of Education, 10 in Psychology, 4 in Anthropology, 2 in Arts, and 17 under others, as we found blogs, courses outlines, job offers, as examples of the ones classified as others.

This first round showed the need for a more specific choice of a database. For this work, we chose to examine the 20 entries found in Scielo Brasil and Educ@Scielo regarding the main area, abstract, methodology, and keywords. A search in Scielo Brasil (www.scielo.br/cgi-bin/wxis.exe/iah/) with the keywords mentoring or mentoring program or mentors or mentorship or mentorship program between 2014 and April 2019 found 14 entries. From those, five were in the specific area of Education, five were interfacing Education and Health, 3 were in the field of Health, and 1 was interfacing Administration and Education. Searching on Educ@Scielo database (educa.fcc.org.br/cgi-bin/wxis.exe/iah/), with the keywords mentoring or mentoring program or mentors or mentorship or mentorship program between 2014 and April 2019, only six articles were found. One was specific within

the area of Health, one dealt with orientation in Graduate Programs, and the other 4 brought contributions related to Education. After a thorough examination, we found nine articles mentioning mentoring having Education as the area of concern.

5. Implications/Discussion.

As is possible to observe, the publications about mentoring on teacher education found in this study are incipient, far from attending the needs of the Brazilian educational system. In the UNESCO publication cited before (2014, p. 23), teacher education is not mentioned. In fact, in dealing with investment in the quality of teaching to improve quality of learning, is cited that "Brazil's Federal Government has introduced a national exam (Exame Nacional de Ingresso na Carreira Docente), which all teachers candidates must pass."

On the other hand, there are recent experiences of mentoring nationwide as The mentoring program of scholarship in teaching initiation: PIBID, conducted by CAPES, and in small scale, such as Improvement Teaching Program, at Sorocaba University, and Pedagogical Residence, at State University of Rio de Janeiro. These experiences were presented in a Symposia at 2019 AERA Annual Meeting, with the title: The Role of Mentoring In Brazilian Context: Experiences In Dialogue, and will be available at AERA repository 2019.

6. Conclusions.

Research verified that, contrary to the hypothesis, there is an absence in publications regarding Brazilian public policies designed to stimulate the creation and follow-up of induction processes, such as mentoring. In 2011, Gatti, Sá, and André mentioned that there were only two Brazilian initiatives aimed at the follow-up of beginning teachers approved in public examinations, in programs that were similar to mentoring and this reality has not changed much. Despite the relevance of investigation focusing on teacher mentoring and the importance of mentoring programs, our study has shown that in Brazil, the subject is still incipient and poorly researched.

The investigation emphasizes the need for developing programs for the specific needs of initial teachers as they can ensure some understanding of the impacts on the ones beginning their career. If we are to retain promising teachers, there is an urgent need to align local and national political agendas to improve teachers' working conditions, with a constant presence of mentors. As a BRICS member, it is essential that public policies in Brazil deal with retaining promising teachers in schools to improve the quality of Education in a developing country.

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BUSINESS EDUCATORS' KNOWLEDGE AND COMPETENCE LEVEL IN PEDAGOGICAL STRATEGIES FOR IMPLEMENTING INCLUSIVE BUSINESS EDUCATION PROGRAMS IN NIGERIA

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Abstract: *The study assessed business educators' knowledge and competence level in pedagogical strategies for implementing inclusivity in the programs in Nigeria. Two research questions and six null hypotheses were used. Mixed research design with quantitative and qualitative approaches was adopted. The sample was 24 subjects from colleges of education in two states. A four-point rating scale questionnaire containing 11 pedagogical strategies, validated by three experts and an interview schedule were used for data collection. Reliability coefficient value of the questionnaire was 0.83. Research questions were answered with mean while hypotheses were tested with t-test and ANOVA at 0,05 level of significance. Qualitative data were analyzed thematically under ignorance and incompetence. The subjects' knowledge and competence level in the pedagogical strategies was very low, gender influence was not significant but that of location was. It was concluded that business educators are not yet ready for inclusivity and should be retrained by government.*

Keywords: *Business educators; knowledge and competence; pedagogical strategies;inclusive business education;*

Introduction

Many academic programs Many academic programs including business education are offered across different faculties in tertiary institutions in Nigeria. Business education is one of the occupational areas in vocational education which equips students with skills for accounting, marketing, office technology and management (secretarial) services and entrepreneurship (Ajisafe, Bolarinwa & Edeh 2015). Nwazor and Onokpaunu (2016) posited that businesseducation is designed to create awareness among students of the necessary skills with whichto cope with the intricacies and dynamics of the unpredictable challenges of the current businessenvironment. Consequently, Edokpolor and Egbri (2017) summarized the goals of business education as (1) To prepare students for specific career in office occupations (2) To equip students with the requisite skills for job creation and entrepreneurship and (3) To enrich students with knowledge about happenings in the current business environment, information and communication technology and other resources that facilitate business growth and success.

The above components and goals of business education give it an inclusive outlook as the graduates not only become responsible producers and prudent consumers but also fit into different career placements and advancement in the world of work. This justifies the increasing enrolment of students with disabilities in the program across all levels of tertiary education in Nigeria. Therefore, for the program to serve the needs of different student types and remain relevant among other contemporary educational programmes globally, there is need for business educators to integrate the principles of inclusivity in instructional delivery.

Inclusive education refers to the practice of accommodating and embracing learners' diversity in normal educational settings for the purpose of eliminating the thoughts of impaired, handicapped or gifted among students in the classroom.The essence of inclusivity is that all students, irrespective of physical, psychological and mental circumstances, have equal opportunity to learn together with the same learning experiences in a normal school environment.Kusuma and Ramadevi (2013) stated that inclusive education means full inclusion of children with diverse abilities in all aspects of schooling that other children are able to access and enjoy. This implies that business educators should adopt pedagogical strategies and consider qualitative attributes of their students in order to make each and every student enjoy and benefit maximally in the teaching and learning process for inclusivity to have its course. Pedagogical strategies refer to the instructional acumen, classroom behaviour or management practices and teacher-student interpersonal principles applied by teachers to enable students understand the objectives of a subject matter.

In the conventional teaching methods widely used in Nigerian schools, the teacher stands by the chalkboard and delivers lesson through verbal instructions while students remain passive listeners with little or no active participation. These methods cannot satisfy the learning needs of students in an inclusive setting as it does not appreciate each student's peculiarity. Therefore, business educators need adequate knowledge and competence to adopt collaborative and individualized instructional strategies since they cannot practice what they do not know. Although there are numerous research works on inclusive education in developed countries of the world, there seems to be paucity of empirical studies on business educators' knowledge and competence level in pedagogical strategies for implementing inclusivity in the programs in Nigeria, hence this study.

The theoretical framework of the study was hinged on the constructivist theory of learning propounded by Piaget in 1972. The theory holds that learners construct knowledge and meaning from interactions between their experiences and ideas and maintains that through accommodation and assimilation, learners construct new knowledge from their experiences. Piaget holds that a classroom must provide a variety of activities to accommodate individual differences among students, challenge them, increase their readiness to learn, discover new ideas and construct their own knowledge through many channels such as reading, listening, exploring and experiencing the environment. This theory is relevant to this study in the sense that it supports the need for business educators to use pedagogical strategies that promote collaboration and active participation to allow students learn together, think and draw knowledge from each other without any form of competition and/or intimidation. In addition, pedagogical strategies like self-regulated learning, cooperative learning, activity-based and assistive instructional technologies among others are the key drivers of inclusive education.

Research Questions

The following research questions guided the study:

What is the level of business educators' knowledge of pedagogical strategies for implementing inclusive business education programs in Nigeria?

What is the level of business educators' competence of pedagogical strategies for implementing inclusive business education programs in Nigeria?

Hypotheses

The following hypotheses were tested at 0.05 level of significance:

Respondents do not differ significantly in their mean ratings on knowledge of pedagogical strategies for implementing inclusive business education programs in Nigeria based on gender, location (urban and rural) and experience (0-5 years, 6-10 years and above 10 years).

There is no significant difference in respondents' mean ratings on their competence in pedagogical strategies for implementing inclusive business education programs in Nigeria based on gender, location (urban and rural)and experience (0-5 years, 6-10 years and above 10 years).

Method

Mixed research design with quantitative and qualitative approaches was used for the study. The sample was 24 business educators purposively drawn from two colleges of education in Anambra and Delta States. A 4-point rating scale questionnaire containing 11 pedagogical strategies in two clusters (sections) for knowledge and competence respectively and an interview schedule on what the subjects know about them and if they think they can use them with ignorance and incompetence as themes were used to collect quantitative and qualitative data for the study. The instruments were validated by three experts from universities. Internal consistency method was used to establish the reliability of the questionnaire with a pilot study involving 10 business educators drawn from Edo State and application of Cronbach alpha yielded reliability coefficient values of 0.80 and 0.86 for the two clusters (sections) with an overall value of 0.83. Quantitative data were analysed with mean and standard deviation to answer the research questions and determine the homogeneity of the respondents' views. Decision was based on the mean of each section (cluster mean) relative to the real limits of numbers on a 4-point scale. Qualitative data were analysed under two themes – ignorance and incompetence. Inferential statistics of t-test and ANOVA were used to test the null hypotheses at 0.05 level of significance.

Table 1

Respondents' mean ratings on level of knowledge of pedagogical strategies for implementing inclusive business education programs in Nigeria

S/N	Pedagogical strategies for inclusive education	Mean	SD	Remarks
1.	Self-regulated learning strategy	1.36	0.88	VLL
2.	Meta-cognitive instructional strategy	1.10	0.54	VLL
3.	Cooperative learning strategy	2.17	0.62	LL
4.	Parallel teaching strategy	1.04	0.81	VLL
5.	Social-skills instructional strategy	1.09	0.73	VLL
6.	Co-teaching strategy	1.11	0.59	VLL
7.	Individualized learning strategy	1.28	0.50	VLL
8.	Feedback and consultation learning strategy	1.31	0.66	VLL
9.	Multi-level instructional strategy	0.99	0.80	VLL
10.	Activity-based learning strategy	1.22	0.51	VLL
11.	Assistive instructional technologies	2.34	0.77	LL
	Cluster mean	1.36		VLL

Table 1 shows that the cluster mean of 1.36 indicates that respondents' level of knowledge of pedagogical strategies for implementing inclusive business education programs in Nigeria is very low. Standard deviation for all the strategies are within the same range showing that the respondents were homogeneous in their views.

Table 2

Respondents' mean ratings on level of competence in pedagogical strategies for implementing inclusive business education programs in Nigeria

S/N	Pedagogical strategies for inclusive education	Mean	SD	Remarks
	Ability to			

1.	Implement self-regulated learning strategy	1.06	0.58	VLL
2.	Apply met-cognitive instructional strategy	0.76	0.61	VLL
3.	Utilize cooperative learning strategy	1.22	0.31	VLL
4.	Apply parallel teaching strategy	0.64	0.42	VLL
5.	Use social-skills instructional strategy	0.89	0.67	VLL
6.	Implement co-teaching strategy	1.01	0.76	VLL
7.	Apply individualized learning strategy	0.58	0.39	VLL
8.	Use feedback and consultation learning strategy	0.54	0.48	VLL
9.	Implement multi-level instructional strategy	0.52	0.55	VLL
10.	Apply activity-based learning strategy	1.11	0.30	VLL
11.	Utilize assistive instructional technologies	1.27	0.64	VLL
	Cluster mean	0.87		VLL

Table 2 shows that the cluster mean of 0.87 indicates that the business educators' competence level in pedagogical strategies for implementing inclusive business education programs in Nigeria is very low. Standard deviation for all the items are within the same range showing that the respondents were not wide apart in their views.

Table 3
t-Test summary of male and female respondents' mean ratings on knowledge level in pedagogical strategies for implementing inclusive business education programs in Nigeria**.**

Gender	N	$Mean$SD	α	df	P-value	Decision__
Male	10	1.27	0.63			
				0.05	23 0.21	NS
Female	14	1.39	0.44			

Table 3 shows that the p-value of 0.21 is greater than the alpha level of 0.05 (p-value<α)which means that the respondents did not differ significantly in their mean ratings on level of knowledge in pedagogical strategies for implementing inclusive business education programs in Nigeria as a result of gender. The hypothesis was accepted.

Table 4
t-Test summary of urban and rural-based respondents' mean ratings on knowledge level in pedagogical strategies for implementing inclusive business education programs in Nigeria.

Location	N	$Mean$SD	α	df	P-value	Decision___
Urban	16	2.24	0.93			
				0.05	23 0.03	S
Rural	8	1.76	0.74			

Table 4 shows that the p-value of 0.03 is less than the alpha level of 0.05 (p-value>α)which means that urban and rural -based respondents differed significantly in their mean ratings on level of knowledge in pedagogical strategies for implementing inclusive business education programs in Nigeria. The hypothesis was rejected.

Table 5
ANOVA summary of respondents' mean ratings on knowledge level of pedagogical strategies for inclusive business education programs in Nigeria based on experience (0-5 years, 6-10 years, above 10 years)

Source of Variance	Sum of Squares	Df	Mean Square	Alpha level	p-value	Inference
Between Groups	19.94	2	4.22			
Within Groups	122.47	22	11.43	0.05	0.00	S
Total	142.41	24				

Table 5 shows that the p-value of 0.00 is less than the alpha level of 0.05 (p-value>α)which means that respondents differed significantly in their mean ratings on level of knowledge in pedagogical strategies for implementing inclusive business education programs in Nigeria based on their experience. The hypothesis was rejected.

Table 6

t-Test summary of male and female respondents' mean ratings on competence level in pedagogical strategies for implementing inclusive business education programs in Nigeria.

Gender	N	$Mean$SD	α	df	P-value	Decision___
Male	10	1.06	0.53			
				0.05	23	0.36 NS
Female	14	1.10	0.37			

Table 6 shows that the p-value of 0.36 is greater than the alpha level of 0.05 (p-value<α)which shows that gender did not significantly influence the respondents' mean ratings on their competence level in pedagogical strategies for implementing inclusive business education programs in Nigeria. The hypothesis accepted.

Table 7

t-Test summary of urban and rural-based respondents' mean ratings on competence level in pedagogical strategies for implementing inclusive business education programs in Nigeria.

Location	N	$Mean$SD	α	df	P-value	Decision_
Urban	16	2.04	0.62			
				0.05	23	0.01 S
Rural	8	1.22	0.79			

Table 7 shows that the p-value of 0.01 is less than the alpha level of 0.05 (p-value>α) which means that location had a significant influence in the respondents' mean ratings on their competence level in pedagogical strategies for implementing inclusive business education programs in Nigeria. The hypothesis was rejected.

Table 8

ANOVA summary of respondents' mean ratings on competence level in pedagogical strategies for implementing inclusive business education programs in Nigeria based on experience (0-5 years, 6-10 years, above 10 years)

Source of Variance	Sum of Squares	Df	Mean Square	Alpha level	p-value	Inference
Between Groups	11.77	2	3.57			
Within Groups	73.24	22	8.82	0.05	0.01	S
Total	85.01	24				

Table 8 shows that the p-value of 0.01 is less than the alpha level of 0.05 (p-value>α) which means that experience significantly influenced the respondents' mean ratings on their competence level in pedagogical strategies for implementing inclusive business education programs in Nigeria. The hypothesis was rejected.

Qualitative analysis was done under two themes with excerpts from interview transcripts as follows:

Ignorance

Generally, the participants expressed lack of knowledge of the pedagogical strategies used in the study with majority asking whether they were specified for inclusive education. They were ignorant of whether they can be used for teaching business education courses in an inclusive classroom. Few participants stated that they knew about cooperative and activity-based learning strategies but did not know they are for inclusive teaching. Shockingly, one participant stated "This is the first time I am hearing of self-regulated learning, parallel teaching, meta-cognitive, multi-level and social-skills instructional strategies" while another stated "I wasn't exposed to the pedagogical strategies mentioned in this study in my teacher training days as they were not embedded in the curriculum so I doubt if any of my colleagues will know anything about them".

Incompetence

Most participants admitted that they lack the competence to use the pedagogical strategies in the study to teach or cope with the complexities of teaching students with special needs. One stated "I understand cooperative learning strategies but which of them will I use to teach in an inclusive setting because it has different versions" while some stated that they lack the competence to prepare lesson notes and plan for the pedagogical strategies. One admitted lack of knowledge of which of the strategies would be suitable for learners with disabilities or special needs because she has two of such offering her course. One exclaimed "Using these strategies will be very, very tasking, in fact, I can't see myself and colleagues being able to use them".

In summary, findings of the study show that the business educators' knowledge and competency level in pedagogical strategies for inclusive business education programs in Nigeria is very low. This shows that despite the overwhelming waves of inclusive education around the world, business educators in Nigeria are not yet equipped to apply suitable pedagogies to make it work.

Implication, Conclusion and Recommendations

The major implication of the findings of this study is that business educators in Nigeria are not adequately exposed to the pedagogical strategies for inclusive education during their teacher training days. This suggests that (1) special needs students in the program are not adequately catered for and (2) business educators are not able to adapt their instructional delivery for inclusivity. Based on the findings, it was concluded that the needs of all learner types in the programs are not being met and this will negatively affect the interest of large number of students with learning challenges to enrol in the program. Consequently, it was recommended among others that curriculum developers should integrate knowledge and competencies in pedagogical strategies for inclusive education in the program to equip the professionals to achieve the need for inclusivity for greater benefits to individuals and the nation.

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STUDYING THE LEARNING PARTICULARITIES OF NEW STUDENTS GENERATIONS - GUIDANCE FOR DEVELOPING FUTURE E-LEARNING SYSTEMS FOR HIGHER EDUCATION

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Abstract: *The key to developing a successful product, regardless of the domain for which it is considered, consists in understanding the needs of the final recipients and, consequently, in meeting those needs. While discussing the e-learning phenomenon, a learner-centered approach becomes essential, this representing the consumer or the direct beneficiaries. Students' expectations, habits and learning styles are constantly changing as a result of interferences made by the environment they grow and develop in. The current generation of learners grows surrounded by technology, smart devices and Social Media applications, which became an integral part of their life from the very early ages. Given the above, the challenge arises while identifying the functions and particularities that future e-learning systems must meet in order to create a familiar learning environment, serving the needs of contemporary learners.The purpose of this research is to identify the behavioral learning characteristics congruent to the current students' generation. In the first stage, the work in question aims to review the specialized literature on student-centered training and the characteristics of new generations of learners. To address the goal of the subsequent phase, we chose a quantitative analysis method based on a specific questionnaire designed for the research in question. The target group consists of students from all study programs, the sample being formed taking into account the number of students enrolled, as of 1st of October 2017, in all universities with economic profile from Romania. The results will show us particularities such as the learning style, goal orientation, learning approach and so on, being aimed to guide the development of future e-learning systems that should be used in higher education, shaped in accordance to the identified particularities of learners.*

Keywords: *Future e-Learning Perspectives; Web-Based Education; Virtual Learning Environment; Learner-Centered Approach; Students Behavioral Characteristics;*

Introduction

With an undeniable positive impact on all the areas in which it is used, information and communication technology is increasingly exerting its beneficial role on the educational environment. Although traditional learning cannot be fully replaced, teaching, learning and evaluation processes can be continuously diversified and refined benefiting of the opportunities offered by modern technologies.

Regarding the influence of technology on educational processes, we can say that these have been gradually adapted, giving rise to interdependence between technology and learning, teaching and evaluating processes. While a common view is that technology represents a modern addition to educational processes, it has in fact been part of education from centuries. However, if we strictly refer to the concept of "educational technology", the idea that technology has recently become part of education can be caused by a conceptualization of the word in popular consciousness. This conceptualization focuses on

information and telecommunication tools, emphasizing the initial use of physical ICT devices, followed by a growing use of online devices.

Changing the vision in terms of technology usage in education was primarily due to the strong impact the Web had over the last decade on the development of educational technologies. This fruitful evolution of the Web services has given rise to what today, in a general and common sense, represents the collective synonym of educational technology, namely e-Learning.

The progress in the field of information and communication technology, and in particular the unceasing development of online media, currently represents probably the fastest-growing sphere. Thus, the need to adapt, improve and evolve future e-Learning systems following the trends imposed by technology advance, becomes compulsory.

However, as a product or service reaches its maximum point of effectiveness, it must serve and meet the needs of the final beneficiary. Therefore, the social side must certainly be given special attention when it comes to developing and implementing next-generation educational technologies.

In a socio-technical educational context, the social system is closely linked to human characteristics, such as abilities, attitudes, values and relationships between individuals, structure authority and reward systems (Upadhyaya & Mallik, 2013). Thus, the behavioral attitudes and learning characteristics of the final beneficiaries, in this instance of the learners, have a special importance in the efficiency of the educational systems.

These characteristics differ from individual to individual, people reacting differently to similar circumstances and contexts. However, the existence of generalized similarities from one generation to the next has been established over time. Thus, the research in question aims to analyze and identify the preferences, needs and learning peculiarities of the new generations of learners. The results of the study are intended to serve as a guide for the development of future e-learning systems for higher education, but leave open opportunities for applying the model to other areas.

1. The Learner-Centered Approach and Its Importance

Long before being scientifically treated as a branch of various fields of research such as psychology or social sciences, the learning process existed, representing the bridge and force that underpinned the mankind evolution. Learning represents the way a person acquires and develops new knowledge, skills, abilities, behaviors and attitudes. According to Honey and Mumford (Honey & Mumford, 1996): "Learning occurs when people can prove they know something they did not know before (understandings, achievements, and facts) and when they can do something they could not do before (abilities)."

With a simplistic approach, starting from the words of Ambrose et al. (Ambrose, Bridges, DiPietro, Lovett, & Norman, 2010), the notion of learning can be defined as a process that leads to change, emerging as a result of experience and increasing the potential for improving performance and learning. However, the complexity of the process has given rise over time to various currents, paradigms, visions and attempts to define the notion itself.

Initially, learning was regarded as predominantly focused on the creation and distribution of educational content and information from someone who knows to unaware learners. Practically, it was considered to be a product of training or learning of an individual, the status of the student being actually reduced to the beneficiary of the information transfer.

However, the new learning theories, consecutively emerging, have been increasingly directed towards the application of learning in which the learner plays a primordial role and this is no longer a mere receiver of information. Concerning this new vision, with a wide and

intense applicability nowadays, many benefits that support the need for continuity of this type of learning approach have been identified and highlighted.

1.1 Learning Theories over Time

Over time, visions on educational and formative processes have benefited from important changes, aiming to streamline their outcomes. Thus, around the notion of learning, also linked to teaching and evaluation, several trends, well known as theories of learning, have developed. Their main result consists in the historical change of the paradigm from teacher and content-centered approaches to what we call a learner-centered approach today.

Referring to the theory of behaviorism or behavioral theory, we can mention that, in the beginning, learning was characterized by the view that human behavior can be explained by external factors. Hence, behavioral conditioning could be used as a universal learning process. In behavior theory, positive and negative consolidation ideas, as well as punishment and reward systems, were effective tools for learning and changing behavior. However, behaviorism was considered to be limited, not taking into account the characteristics differentiating between learners and being predominantly focused on the teacher.

In response to behaviourism criticism, a distinction was made among the following four modern theories of learning in the chronological order of their emergence: cognitivism, constructivism, experimentalism and connectivism. The latter modern theories of learning have gradually made the transition to visions where learning is focused on the individual:

The Cognitive Theory: the considerations were closely related to the fact that learning represents an internal process that depends on the learner's ability, motivation and determination (Piaget, 1962; Bruner, 1966).

The Constructivism Theory: supported the idea that people are responsible for developing their own understanding by using what they already know from previous experiences and linking new information to these experiences (Vygotsky, 1978).

The Experimental Theory: in the experimental vision of learning, it is believed that people learn from experience, being marked with four main stages cyclically related: concrete experience, observation and reflection, abstract conceptualization and testing of knowledge acquired in new situations (Kolb, 1984).

The Connectivism Theory: was developed based on the idea that people process information by forming connections; this new trend suggests that the learning process is perpetual, with individuals continuing to learn beyond formal education by obtaining information from multiple and predominantly external sources such as social networks, websites, blogs and other tools provided of technology; in addition, connectivism integrates the principles explored by chaos, network, complexity, and self-organization theories (Siemens, Connectivism: A learning theory for the digital age, 2005).

Each theory of learning has in fact, emerged as a result of the limitations and criticism of the previous one, the new learning paradigms being designed to incorporate visions that favor learner-centered approach. Therefore, a gradual transition to a vision in which learning is directed towards the individual can be easily observed, the considerations on educational processes being increasingly focused on individual learning needs, capacities and abilities.

1.2 The Benefits of Learner-Centered Education

Taking into consideration the issues discussed above, a natural question arises: why it is important for an education approach to be centered on the individual? The necessity of this type of education can be argued in many ways and through various evidences so far exhibited by specialized researches. However, the main answer to this question is very simple and easy to offer: for streamlining educational processes and, more importantly, their outputs.

Weimer stated in his paper, based on the theories of radical and feminist pedagogy, and theories and researches related to self-regulated learners, that student motivation, trust and enthusiasm are adversely affected when teachers control the learning processes (Weimer, 2002). These issues are extremely important when it comes to increasing learners' potential and also represent key points that need to be positively addressed through learning, teaching and evaluation processes. The author has, in fact, marked the limitation and predominantly negative influence of the education focused on teachers and content distribution in favor of the student-centered education.

In order to identify elements of the importance of learner-centered training, Cornelius-White and Harbaugh (Cornelius-White & Harbaugh, 2009) examined the effects of this approach on individuals in training and on educational processes as a whole. The authors have indicated that this approach promotes student involvement, emphasized by increasing their presence, basic respect for others, motivation, participation, intrinsic satisfaction, social connections and self-regulation. Again, we notice findings that underline the basic elements of a successful educational process.

More recent research conducted by Reigeluth et al. (Reigeluth, Beatty, & Myers, 2017) outlines a general but comprehensive vision, mentioning two main spheres that highlight the particular importance of this type of learning where the learner is the main actor: the personal sphere and the societal sphere.

The personal plan refers to the capacities of individuals to acquire knowledge, their learning pace, the skills and talents of learners as individuals. Since people are different, there is a need for different services, contents and contexts tailored to the needs of the beneficiaries. According to Reigeluth et al. (Reigeluth, Beatty, & Myers, 2017), learner-centered education represents the only way to maximize students' learning by helping them to achieve their potential.

At the societal level, the authors refer to the requirements imposed currently by the current society, which puts pressure on the high-level training and education of future employees in the workplace. They pointed out that only learner-centered education can meet the needs of today's society, bringing benefits to the economic competitiveness and the political system (through better informed voters and leaders), but also to individual citizens' ability to thrive in an increasingly complex digital world (Reigeluth, Beatty, & Myers, 2017).

The above mentioned are just few of the positive effects that the student-centered approach can have on education. Surely, the subject can be deepened, but the ability of this type of learning to improve educational processes is obvious.

1.3 Opportunities of E-Learning Systems for a Learner-Centered Education

In the recent vision of Reigeluth et al.(Reigeluth, Beatty, & Myers, 2017), we noticed that an extremely important aspect was mentioned, namely the increasingly complex digital world. The process of digitization, now globally, influences not only the way of organizing the activities of society as a whole, but also people at the individual, cognitive level. An individual who was born and grew up surrounded by technology definitely needs it in its further development. Technology is, in fact, the familiar environment of progress and development of current and future generations of learners. Therefore, it is essential to understand the importance of student-centered learning not only in terms of education as a whole, but also from the perspective of using e-Learning systems.

Most studies conducted in this regard have mentioned that the main advantage of using eLearning systems in education as its ability to focus on the needs and requirements of individual students, promoting personalized learning. Among the main research findings on this topic, we mention the following with reference to the use of e-Learning systems:

allows each student to learn at their own pace, which increases motivation and reduces the stress of not being like others (Klein & Ware, 2003);

provides increased flexibility in terms of time and place related to educational processes, which means that each learner can choose the temporal and dwelling circumstances appropriate to his or her needs (Smedley, 2010);

encourages the transition of learners from passive students to active learners who are keen to deepen new educational subjects, given that instructors are no longer the only source of knowledge (Alsalem, 2004);

involves prior assessments and ongoing evaluations regarding the interests, objectives, backgrounds and needs of students in order to adapt practices to each individual (Mccombs & Vakili, 2005);

supports and encourages learner involvement in co-creating learning and instruction experiences with their "teachers" and others in their learning communities (Mccombs & Vakili, 2005);

offers a flexible and dynamic curriculum with a minimum organized structure based on student needs and/or development considerations (Mccombs & Vakili, 2005).

The above mentioned are just a few of the aspects that highlight the learner-centered orientation offered by the use of e-Learning systems. In addition, we can mention other aspects such as: promoting equality between individuals; excluding barriers related to ethnicity, region, etc.; promoting equality of opportunity by providing a learning environment that is almost unlimited in terms of accessibility and whose costs are extremely low; the ability to quickly get feedback, which can trigger immediate action to help the learner to meet the needs of the moment.

All this, but also many others, highlight the undeniable advantages of learner-centered training both on the individual's development and on the efficiency of education. At the same time, the capacities to provide online learning environments that promote and support students' individual needs cannot be challenged.

2. Understanding New Generations' Learning Characteristics

Identifying and understanding the characteristics and needs of individuals has always been an important and deeply debated branch of the academic world. The need to address this research theme has emerged as a need driven by the changes that have occured in the behaviors of new generations over time.

The delimitation of these generations was initially made taking into account intervals of 15-20 years. However, with the rapid progress in the field of information and communication technology, the timeframe has been diminished, in some respects being merely 10 years for the latter generations. A strict delimitation of the corresponding period of each generation is less relevant. However, the roughly timed interval attributed for the formation of a new generation of learners characteristics was directly related to the evolution of the computer domain. This was due to the awareness of the strong influences that these technologies have on the formation of individuals.

Currently, according to the information provided by Seemiller and Grace (Seemiller & Grace, 2016), four generations of learners were identified as follows: Baby Boomers (1946-1964), Generation X/Gen X-ers (1954 - 1980), Generation Y/Millenials (1980s - early 1990s) and Generation Z/Net Generation/iGeneration (1995-2010). However, previous research by Griffiths (Griffiths, 2012), quoted by Duse and Duse (Duse & Duse, 2016), marked the existence of a first generation, GI Generation/The Silents/Veterans/Traditionalists (1925-1945).

Baby Boomers

The name of Baby Boomers was given to the generation born after the end of the World War II when, with the return of war soldiers, birth rates grew amazingly. Experienced freedom after the war gave rise to a desire to change with which the Baby Boomers were endowed. They valued the work, considering it to be the main success driver, but they were the followers of the desire to change. As per Duse and Duse (Duse & Duse, 2016), Baby Boomers gave importance to values such as peace, freedom, great welfare, while believing that their generation will change the world.

Generation X/Gen X-ers

Generation X, whose development was marked by the post-World Wide II era, has proven to be a generation with an increased degree of independence and ability to act on the basis of its own visions and desires. Being the period when it was common for both parents to work, the youngsters of this generation were often left home on their own, hence the name often attributed to them of "latchkey kids".

As for the formation of the second generation, technology tools have begun to exert their influence, as they were born in the predominant era of cable television but witnessed the emergence of the first computers at Apple and IBM (Seemiller & Grace, 2016). Thus, adults in the X Generation have become the first tech savvy professionals capable of using it to personalize and humanize everything by technology.

Generation Y/Millenials

Also known as "Millennials", Generation Y represent the direct followers of Baby Boomers who, as parents, have provided them with a high degree of material and emotional support. As the main features of the Millennials, it has been found that their preferences are directed towards teamwork, technology, structure, entertainment, enthusiasm and experimental activities (Raines, 2003).

Generation Y accepts the change, but it is characterized by curiosity and deepening of subjects. They do not accept answers without checking on their own. This control of information mainly derives from the unlimited access to the information that Generation Y had since birth. Technology has been part of the training environment for those which have clearly supported and motivated their desire to be informed, to seek real answers.

Generation Z/Net Generation/iGeneration

The most recent generation on which intensive specialty studies have been made is the Z Generation. Being born between 1995 and 2010, young people of this generation are actually current and future learners, some of whom are already active in the workforce. Their behavioral and learning characteristics are noticeably different from those of previous generations.

Generation Z was born, grew and developed in an environment where technology has gradually guided almost all aspects of life, being present in all areas where society, as a whole, operates. In addition, the time attributed to the occurence of this generation has overlapped with the development of the second Web generation, known as Web 2.0 or Read-Write Web, being considered a dynamic network. At this stage of the Web's progress, online Social Media has revolutionized the way people communicate, create and share content, online social environments becoming the main form of interaction.

Being guided by technology, the dependence of the Net Generation of smart devices, Internet, socialization and other tools and services offered by the ICT domain, is obvious. Generation Z benefit from more opportunities, such as reading, writing and collaborating through new technology tools. Therefore, characteristics such as willingness to engage, innovation, creativity, preference for acting in participatory environments by others, increasing the artistic side, and so on, can be attributed to them.

Online media distribution opportunities are extremely varied in the social context, including images, video, music, video streaming and more. Extremely familiar with such

means of communication, the Z generation has an extraordinary ability to transmit and understand the information in visual and auditory forms, where meaning may often be less obvious.

With multiple online opportunities to find information about contexts, situations, peoples, events and others in real time, Generation Z can be considered more anchored or aware of the surrounding reality. If previous generations had the limited opportunity to witness events only by hearing or reading news about them, Net Generation benefits from the opportunity to surf the Internet through different paths in order to deepen the subject. Thus, they are considered a value-based cohort, with the desire to identify causes, not just to witness the effects.

Additionally, the awareness to which they were exposed since their birth through online media has significantly reduced the degree of racism of the Z generation. According to Adweek, studies have shown that Gen Z is interested in equality between race, sex and income, as well as environmental issues (Perlstein, 2017). These values that new generation harness are supported in online environments where they succeed in creating communities of volunteering, help, or simply sharing common interests.

Moreover, online-distributed environments favored the development of team-gaming activities, a context that attracted many adherents of the new generation. They have switched from simple games available on desktop devices to complex games developed in accordance with current technological capabilities, gradually including elements of augmented reality, artificial intelligence, and beyond.

All of these elements have influenced not only the behavioral characteristics of the Z generation, not just their values and beliefs, but also their learning needs and requirements. In this regard, Rothman (Rothman, 2016) mentioned the main issues that engage young people in the learning process, some of which are synthesized as follows:

Prefer fast delivery of complex graphics content.

Prefer access to chance, graphics in the first place and connected activities.

They are interested in interactive multimedia such as Second Life or World of Warcraft.

They need integration of continuous classification, instant feedback, clear goals, rewards, positive challenges and reinforcements.

Prefer learning delivered in smaller "bites".

Learn more effectively if they are left to solve problems and find solutions through experimentation, trials and errors.

They have an increased ability to express their views in group discussions and questions and answers sessions.

They do not allow enough time to determine the reliability of their information.

Prefer to work in teams/small groups.

Creativity and collaboration are natural to them, even if it is a spontaneous or structured activity.

They need increased flexibility in learning, choices, so that learning process can be personalized.

With an increased dependence on technology, Generation Z tends to adopt social learning environments, where they can be directly involved in the educational process (Kozinsky, 2017). A study by Barnes and Noble College (Barnes and Noble College, 2016) had as a main result the observation that students in Generation Z refuse to be passive students. In fact, they tend to thrive when they are given the opportunity to be part of the educational experience and even enjoy the challenges they have to face.

Addressing the same theme, in 2018, LinkedIn conducted a research through two surveys, the first being distributed among 400 learning and human resources professionals,

and the second among more than 2,000 of individuals from Generation Z (Poague, 2018). This study aimed, on the one hand, to identify how companies plan development for learners of new generations and, on the other hand, on identifying the main learning characteristics of Generation Z. Thus, two main features of Generation Z were mentioned with respect to the training processes:

the preference to short-term learning based on micro-content: native Internet users, Generation Z are accustomed to fast moving technology and immediate gratification so they feel that time is limited;

the need of independence in learning: Generation Z need an increased degree of independence in training, which means that knowledge accumulation processes should be predominantly self-directed.

The main findings mentioned above not only emphasize the dependence of the current generation of technology learners, but clearly indicate the course in which educational processes must be directed to serve students' needs. This direction is closely related to the use of high-performance Social e-Learning systems. In a context of online e-Learning, performance will result on one hand with the capabilities of these systems to combine modern technology and, on the other hand, with the capabilities to meet the learning needs of the Z-generation.

3. Conclusion

While Generation X or Milennials currently represent the vast majority of the labor and consumer markets, Generation Z represents the future first and foremost as trainees and later as professionals and consumers. Thus, their proper development is perhaps the most important prerequisite of the succesfull future of society.

The awareness of the main learning features is imminent in the development of next generation e-Learning systems. Thus, the work in question intended to solve the first purpose of research, providing a review of the literature on student-centered training and on the characteristics of new learners generations. This preliminary analysis represents the basis for solving the purpose of the second stage of research, namely identifying the learning characteristics of new generations of students by conducting a survey.

In order to address the purpose of the subsequent step of the research, a quantitative analysis method was chosen based on a specific questionnaire for the research in question. The target group consists of students from all study programs, the sample being based on the number of students enrolled on 1st of October 2017 in all universities with economic profile from Romania. The study is currently underway, with the results intending to highlight peculiarities such as learning style, goal orientation, learning approach, and so on. The data obtained from the completion of the research is intended to serve as a guide for the development of future e-Learning systems that should be used in higher education, shaped according to the learners' particularities.

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AIMING AT EDUCATION: NO ORDER, NO PROGRESS

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Abstract:*The essay analyses policies for Brazilian education with the purpose of reconfigurations underwent by labor, in the current neoliberal phase of capitalism; particularly, due to having always attributed to labor an opposite character to that of this ideology.The State offers guarantees for the production and reproduction of capital in situations of deepened crisis and transforms social rights, such as education and health, into marketable services. In this perspective, professors experience at universities a highly competitive and threatening atmosphere of loss of rights, which deploys control, threatens autonomy, and limits freedom of professorship, which is founded upon freedom of thought and of expression. The conflict they experience while working, now under surveillance and possibly criminalization, produces a state of insecurity and fear which may result in emotional disorders or depression. How to resist to this rationale and to the resulting processes of subjectivation is what we seek to point out.*

Keywords: *Neoliberal Policies and Education; Education and Alienation; Rationality and Subjectivation;*

1. Introduction

At the moment we find ourselves, discussions about the totality-subjectivity relation are of paramount relevance, and we will seek to expand on it. Especially when this relation, historically and dialectically conceived, is transformed into the primordial target of capitalism in its neoliberal logic, which seeks to impose a view of reality that surgically extricates consciousness and content, preventing or severely limiting subjects' knowledge of totality.

Since economic transformations imposed by the crisis of capital, which affect us in the most diverse areas, are now turning to the appropriation of public funds and threatening the removal of guarantees provided by the State to ensure basic rights as a counterpart for the maintenance of capital, it becomes necessary to overcome this situation, as implementation of such measures directly affects the working class, at the same time this class is called on to collaborate. To demonstrate such a contradiction is a latent condition in education, as Marx (2008) states, that "all science would be superfluous if the form of manifestation and the essence of things coincided immediately" (p. 1080) . This is what renders such a discussion imperative.

Dardot and Laval (2016) had already identified that capitalism and its cyclical crisis impose changes that lead the State to intervene in order to preserve its profits (p.310). Thusly, education becomes a target of transformations aligned to the model of neoliberal restructuring which involves the State itself. Such transformations will demand new forms of adaptation to be deployed in previously absent sociability processes.

The analysis carried out in this essay looks to present the methods of reproduction of capital, in its neoliberal phase, deployed in the educational process to which us, professors, are subjected in the present. In discussing how professors' subjectivity is built in and through work relationships established within the routine of actions related to teaching, research, and extension, through the interactions between subjects involved in this relationship – professor, student and knowledge – situated in contexts of fierce competition, where disputes establish a high level of complexity and impose increasing personal and professional demands, it is also

revealed the attempt to render innocuous the very educational action which should permeate the relationship between university and society, immersed as they are in the world of pseudoconcreticity and of the alienated everyday life, as defined by Kosic (1976).

When analyzing policies, projects, and guidelines created in the field of legal regulatory framework that seeks to discipline the education and the professional conduct of professors, we see an evident attack in the guise of interference that will occur in actions of moral order with the purpose of aligning them – education and teaching action – to the model of society that restricts rights and aims to subject individuals to adaptation, conforming them to this reality.

Omnipresent alienation is the "subjective counterpart" engendered. It is what needs, therefore, to be the target of "critical self-reflection" as a possibility for rescuing a culture that allows "men to educate one another", as stated by Adorno (1996) and Paulo Freire (2005). Start typing the body of your paper here. Papers will outline the issue addressed and research questions, the literature and background to the topic, the analytical frame, the methodology and the research results.

2. Hammered discourse.

Incessant repetition of discourse without the necessary substantiation has been the method used to inculcate ideas devoid of internal logical coherence and whose objective is to gain the adhesion of subjects in adopting attitudes that are often placed in opposition to the subjects' own interests, in a process leading to alienation from themselves and from reality.

Such a mechanism – alienation – is well known. It has presented itself in our context, however, with such an exacerbation that it borders on irrationality, being comparable to what was previously experienced during Nazi Germany.

Man has literally changed the face of the earth, and wherever we look, it might be said, we can no longer fail to see the human mark. But, at the same time, along with this moving enchantment in the face of the human capacity to "transform the world and transform itself," Marx also found its terrible shadow: the realization that this same man – at this point, in his analysis, multiplied by the infinity of individuals – was also lost in history, "dehumanized" and "denaturalized"; in a word, "alienated" (from nature, from himself and from his own creations). "Alienation" (which has in Marx the double meaning of "estrangement" and loss of consciousness)... (Barros, 2011, p. 239).

I now take Bill 7180/14, titled "School Without Political Party" – from Congressman Erivelton Santana (PSC-BA), archived in 12/11/18 and reintroduced on 02/19/19 upon request from Congressman Alan Rick (DEM-AC), after incorporating recommendations presented to its previously archived version – as a document to be analyzed, serving as evidence of an attack in the field of legal regulatory framework that seeks to discipline the professional conduct of teachers and professors whose interference will occur in actions of the moral sphere, in order to align them with a model of society that restricts rights and subjects individuals to an adaptation conformed to that reality.

School Without Political Party uses a "language close to common sense, resorting to simplistic dichotomies that reduce complex issues to false alternatives" and dissipate through *memes*, "images accompanied by brief sayings", by four main elements: first, a conception of schooling; second, a disqualification of the teacher; third, fascist discursive strategies; and, lastly, defense of the total power of parents over their children. It contains fascist discursive strategies through "teacher-oriented analogies that dehumanize the teacher," treating him as "a monster, a parasite, a vampire," in the form of offensive *memes* picturing Gramsci and Paulo Freire. They install a "climate of denunciation" and "hate speech" (Ciavata, 2017, p.9).

It is necessary to emphasize that Bill *School without Political Party* is characterized by its creators as being nonpartisan in character, without ideological or religious ties. Its destination, however, is specific: public schools, since it states:

Article 3º, Paragraph 1. Confessional and private schools whose educational practices are based on moral, religious, or ideological conceptions, principles, and values shall obtain from the parents or guardians of students, at the time of enrollment, express authorization for the transmission of contents identified with said principles, values, and conceptions. (Santa Barbara, Cunha, Bicalho, 2017, p.108)

It is impossible not to observe, beyond its destination, the motivation behind this. The capital, in its ferocity, now advances to denying the right to an education which enables the working class to benefit from such a right in some way other than to submit to and be subject to domination. This will, further, render the working class liable for its own failure, even if the only knowledge it has access to is that which allows for no social insertion other than subalternity.

3. Governmentality and Subjectivity.

Dardot and Laval (2016) state: "The neoliberal man is the *competitive* man, wholly immersed in world competition" (p. 322). Hence the norm being above everything; it must be faithfully observed, for obedience or disobedience will serve as parameters for normality or abnormality. As governmentality, neoliberalism aims at control of the individual becoming his own desire. "He must work for his own efficacy, for intensification of his effort as if this conduct were his own, as if it were commanded from within by an imperious order of his own desire, to which he cannot resist" (Dardot & Laval, 2016, p. 327).

For that purpose, internally prompted controls are as strongly installed as external ones, which transform each individual into a control agent of other people's behavior, capable of understanding this action as a benefit to the effective functioning of society. This is what this project installed: control over the action of teachers and professors, now coming from the exterior, by parents and students who oversee content ministered and positions adopted in their educational activities.

The Bill is entirely synchronized with the model of rationality to which neoliberalism conforms. Individuals come to govern themselves and others, as institutions that maintain the machinery that governs them.

Far from being "neutral," the managerial reform of public action directly attempts against *the democratic logic of social citizenship*, reinforcing social inequalities in the distribution of aid and in the access to resources in matters of employment, health, and education, it reinforces social logics of exclusion which engender an increasing number of "sub-citizens" and "non-citizens." (Dardot & Laval, 2016, p.380).

According to the authors, this is possible if we understand that "the challenge on social rights is closely related to the challenge on cultural and moral foundations, not just political ones, of liberal democracies" (p. 382). Thus education would be fertile ground for cultivating the corporate subjectivity in which, beyond individualism and competition, there would be no more space for the existence of solidarity values once present in liberal democracy.

What is underway with this process is the survival of a system in the face of its crisis, even though sustained by unreason. Subjects in this condition experience situations of success and failure in which the proportion of satisfaction does not allow for balance, since resulting sociability also promotes the weakening of solidarity and citizenship. But if "death" is what is presented to those who are reluctant to create an identity with power, the same can also be experienced by those subjected to it, as this power is nourished by those who sustain

it. Such an existence does not combine power with freedom and undermines the autonomy of individuals.

What is seen in the case of Bill *School Without Political Party* is its contribution in the sense of seeking identification with a model of schooling which removes from education the knowledge that allows for development of critical instruction and that respects historically constituted segments and social processes as phenomena to be analyzed. The imposition of absolute truths and homogenous standards of conduct are in themselves the negation of what they claim to be their nature, contrary to the indoctrination of ideological, political, partisan, and religious principles. Combating over-alienation and naturalization therein is the challenge we face.

Separation from the ideologically created discourse that distorts reality has been the practice adopted to win adherence from those who will be affected by the changes in reality.

3.1.Neoliberal (i)morality produces accounting subjectivity.

The rationale which accompanies a historical moment, as explanation and justification of a dominant reason, can serve both for its naturalization and for its overcoming. Reason, this human faculty, is what allows knowledge of the universal, the necessary, the values, the ideas and the ideals, which guide the existence of different rationales in face of different interests. Thus, we can comprehend the need and/or interest of arrangements that articulate them as to favor groups and organizations around particular cultures and societies. This also makes it possible to understand that such rationales compete with each other, looking to guide different forms of intervention in reality.

In 2017, the World Bank Group released a report prepared by request from the Brazilian federal government, titled "Um ajuste justo: análise da eficiência e equidade do gasto público no Brasil" [A fair adjustment: analysis of efficiency and equity of public spending in Brazil] (WB, 2017). In view of the limits set for this essay, the report will be analyzed only with regard to the considerations made on education and the resulting recommendations. The objective of the WB study was "to carry out an in-depth analysis of government spending, identify alternatives to reduce fiscal deficit to a sustainable level and, at the same time, consolidate social gains achieved in previous decades" (p. 1). The need for this would be justified by the search for solutions to address the roots of Brazil's fiscal problems, which are due to increasing public spending over the last two decades and to the constitutional constraint on spending established by Constitutional Amendment 95 (2016), which limits the use of resources in the public sector over the next 20 years (p. 7).

The document readily displays in its first lines a statement that announces the diagnosis: "The Brazilian Government spends more than it can, and it spends badly" (p. 7); then, the report presents its recommendations to solve identified problems. In making such an assertion, it is assumed that data were analyzed after handling based on technical-scientific criteria, thus proving the reliability of results. As such, these results, when compared with other data of universal representation, would corroborate ideas and ideals, and serve as basis for the perspective (political, social, cultural) to be adopted in the form of intervention in reality.

What is seen, in the document, is the use of obvious findings, such as that "the federal government's expenditures mostly go to higher education", and that this is due to primary and secondary education being under the responsibility of municipalities and states, respectively. Nonetheless, it recognizes that the federal government also allocates resources to subnational systems by means of budgetary transfers, in addition to financing. "…public universities and technical and vocational education and training programs. [...] A growing share of federal expenditure on education is linked to financial assistance offered to students attending private higher education institutions" (p.123).

An analysis of higher education funding by Castro and Corbucci (2004), published in *Boletim de Políticas Sociais* [Social Policies Bulletin] from the Institute of Applied Economic Research (IPEA), justifies this condition as financing being a key element in the formulation and implementation of public policies – thus determining the limits of coverage levels and the quality of the supply of goods and services provided. According to the authors, such is the complexity surrounding this issue that it requires legal-institutional regulation for determining principles, establishing regulatory frameworks between federative entities and their competencies for establishing the limits of public-private relationships, among others (p. 148).

They further argue that the Union's responsibility towards higher education institutions takes into account the greater complexity inherent to this level – which has a higher cost compared to basic education – and that, in the case of Brazil, such attribution is determined by the Federal Constitution (*idem*).

The authors (idem) are incisive in stating that *per capita* spending, in any country in the world, is always greater with higher education. Therefore, this is how the expenditure is configured and, in relation to Brazil, the difference is accentuated by a particular situation: "Reinforcing the understanding that the problem of Brazilian education financing does not lie in the fact that expenditure with higher education is excessive, but that investments in basic education are insufficient." (p. 149)

The World Bank (2017) presents a sequence of facts such as: spending on higher education is increasing; the average expenditure per student is high in federal universities and institutes; the majority of enrollments is in private universities, not is public ones; and the average cost per student in public universities is two or three times that of private universities (131-38).

It states that spending on higher education is deeply retrograde, because it benefits "mostly students from the wealthier families" (p. 136). It finds that such inequality is aggravated by the fact that admission into public universities occurs by means of a highly competitive examination, for which the students of wealthier families are better prepared and, therefore, stand a better chance at being successful when compared to those from low-income families.

Next, the WB (2017) maintains that the income of students who have graduated from public universities is high, even considering the decrease observed in recent years, and thus, because the members of wealthier families are those who benefit from public higher education – and who, consequently, will increase their future income – it concludes that gratuity in higher education is responsible for perpetuating inequality in the country (136).

3.2. Progress or regress?

Solutions for this situation point in two directions according to World Bank (2017): 1) to limit spending per student down to the levels of the most efficient universities, making these institutions reconsider their cost structure and/or seek resources elsewhere (p. 137); and 2) to introduce school fees, facilitating financing for students who cannot afford tuition, by combining the use of FIES and PROUNI, the latter as an alternative for the poorest 40% of the population. According to the report, the combination of such measures would generate an economy for the federal budget in the order of 0.5% of the GDP (p. 138).

Arguments are sequenced in the document so to reach the conclusion that a profound inefficiency marks the way in which actions are carried out in the Brazilian educational system, including budget distribution. Consequently, such inefficiency generates results that only confirm its ineffectiveness. Or even more seriously, this inefficiency would be the main factor responsible for perpetuating one of the gravest structural problems in our country: social inequality.

Correlations presented throughout the document are disassembled by Amaral (2017), who demonstrates the absence of criteria adopted to substantiate such claims, rendering them unsustainable and thus highlighting the "irresponsibility" with which they were handled. In contrast to the argument, Amaral presents data extracted from official sources that support his harsh criticism capable of dismantling the fallacy.

Leher (2017) authored a paper – "Em defesa da universidade pública e do direito constitucional de gratuidade" [In defense of the public university and the constitutional right to gratuity] – in which, upon observing some of the studies carried out by the World Bank to indicate social policy reforms necessary for several nations, he observes:

Is it possible that the WB was wrong in its forecasts, having an expressive staff, many of which with relevant academic background? The question is disconcerting, for, in fact, there are countless "cases of failure." Many studies (3) allow us to conclude, simply, that the Bank recommends what is of interest to the world power bloc. Probably, therefore, it does not even rigorously base its recommendations, neither in technical-scientific nor in ethical grounds (p. 1).

In which logic, then, is the World Bank's document founded? Whom does it serve?

Brief Considerations.

It is inevitable to observe the production of a neoliberal rationale and subjectivity. The competitiveness that turns into the very *raison d'être* of the market is also the *raison d'être* of the subject – annulled as a being, but reconstructed as a company that dictates how to be. Existence is possible only in this condition, by allowing the idea of participating in the process of organizing life in such terms.

The current trend of appropriation of public funds by the capital, which marks the neoliberal phase and its crisis, increases the severity of attacks launched in two directions: social rights and nature. The State, to which the capital always resorts in order to ensure the guarantees of its survival, is now called upon to quit providing the working class with its basic rights, which are then marketed with its incentive.

In order for such a change to take place, with the expropriation of rights conquered by the working class, a series of mechanisms is triggered, in order not only to prevent the expected reactions, but fundamentally to gain the adhesion of those who will be affected by such measures, which is not an easy task.

It is necessary to co-opt those who will be affected by such a loss, a situation that can be characterized as a regression to stages already overcome in the development of the struggle between capital and labor. Thus, one can understand what the World Bank's proposal for the adoption of Economic Adjustment represents, with respect to the use of public resources for Brazilian education and the Bill *School Without Political Party*, which again threaten educational action in the public sphere.

Such measures seek to render this action innocuous, to prevent knowledge from being built to develop a critical understanding of reality by subjects. In the same sense, it can be considered that the Bill *School Without Political Party* aims to impose alienation, based on absolute truths imposed unidirectionally aiming to accomplish what it set out to deny: indoctrination.

At the same time it reinforces individualism and the patrolling posture among subjects involved in the educational process, it promotes its own annulment of the educational process and the resulting construction of subjects.

Such a contradiction may serve to affirm what it claims to deny. The condition that power, placed from the outside into the subject, to be assumed by him as his own, holds within itself the possibility of denying the falsehood of this identification between subject and entrepreneurial market. It also creates a condition of rupture with its isolation caused by

exacerbated competition to affirm the need for constituting collective subjects directed towards reaffirmation and defense of the existence of public assets that can be shared by them.

This seems to be the greatest challenge in counteracting such a decline in the process of human sociability. The possibility of humanization that can only be achieved in truly human exchanges, among men who lapidate their essence in the daily construction of relationships – where he finds that the existence of the other is what allows himself to exist.

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TEACHER-DIRECTED VIOLENCE – A LITERATURE REVIEW

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Abstract: *Despite recognition that teacher-directed violence is a common phenomenon that is considered a "salient and concerning" (Wilson et al., 2011, p. 2354); it remains widely overlooked and understudied. Teacher-directed violence garners very limited attention internationally (Galand, Lecocq, & Philippot, 2007; Dzuka & Dalbert, 2007; Chen & Astor, 2008; Wilson, et al., 2011; Ozkilic & Kartal, 2012; Kauppi & Pörhölä, 2012) despite its broad impacts like those on stakeholder well-being, schools and school climate, teacher recruitment/retentions, and student academic and behavioural outcomes (Espelage, et al. 2013). This article reviews literature concerned with teacher-directed violence from 1983 through 2019. The literature derives publications from international contexts (North America, Europe, the Middle East, and Asia) exploring and comparing experiences of teacher-directed violence. The analysis of the studies examines teacher-directed violence from a socio-ecological model developed by McMahon et al. (2017), and results explore the implications of teacher-directed violence, perspectives on why teacher-directed violence occurs, preventative measures, as well as the identification of common types of violence teachers experience: (1) verbal behaviour, (2) non-verbal behaviours, (3) physical behaviour, (4) damage to personal property, and (5) technology related behaviours. This research has implications for researchers, teacher pre-service, professional development training, school administrators, community leaders, and policymakers.*

Keywords: *teacher-directed violence; bullying; school climate; school violence;*

1. Methods

The following electronic databases were searched: Google Scholar, Proquest, Education Resources Information Center, JSTOR, and Scopus. The search was limited to articles with abstracts in English published in the last 40 years (from 1980 to April 2019). In addition to the search, the references in the articles were screened for missed research articles, and an initial total of 616 articles, reports, dissertations, and papers was identified. Publications were first analyzed for content according to the research questions. These were then coded by citation analysis, and 273 documents were identified as highly cited or having one or more authors commonly cited when examining teacher-directed violence. The following publications were excluded: (1) publications reporting on research in the field of workplace hazards and occupational health and safety (e.g., focus on many workplaces not specifically education); (2) publications in which results were not clearly linked to a formal educational setting (e.g., homeschooling) (3) publications in which the research results did not specifically address violence directed at educational staff (e.g., school-climate, school-violence) (4) publications in which the research results were redundant (e.g., the same author publishing for different journals, or updating work). Following the application of the exclusion criteria, 51 publications remained. These were then critically appraised on their research quality using criteria recommended by Lincoln and Guba (1985). Results relating to teacher-directed violence were categorically explored: a) methodology and study designs; b) the description of violent behaviour(s); c) the incidence and forms of teacher-directed violence; d) implications of violence at the individual level; e) implications of violence at the interpersonal level; f) implications of violence at the organizational level and g) violence prevention/training.

2. Results

2.1 Description of Violent Behaviour

Of the fifty-one publications included, a variety of terms were used to describe teacher-directed violence; however, all incidences could be classified and broadly defined as "actual, attempted, or threatened harm to a person or persons against grade school teachers and the self-reported consequences of this violence." (Wilson et al., 2011, p. 2354). These behaviours, whether verbal, emotional or mixed forms of bullying (Ozkilic & Kartal, 2012) were intended to harm the teacher and are perpetrated repeatedly and intentionally over a certain amount of time (Dzuka & Dalbert, 2007). Teacher-directed violence may include physical and psychological harm (Harber, 2002); as well as verbal, emotional, or mixed forms of bullying (Ozkilic & Kartal, 2012). However, it only pertains to forms of actual harm and does not include, nor to be confused with Bourdieu's concept of "symbolic violence" which attributes schools imposing dominant knowledge; a form of violence by omission, (e.g., ignoring injustices like racism or bullying) (Harber, 2002). Seven publications identified specific examples of behaviours experienced by teachers that could be identified as teacher-directed violence. Though not exhaustive (e.g., hair pulling, grabbing, choking, scratching is not explicitly mentioned in the literature), the examples in table 1 identified the types of the harmful behaviours included thus far in literature when considering teacher-directed violence. These behaviours were examined and categorized into five areas: *(1) verbal behaviour, (2) non-verbal behaviours, (3) physical behaviour, (4) damage to personal property, and (5) technology related behaviours.*

Table 1: Teacher-Directed Violence - Descriptions of Behaviours Identified

Behaviour Category	Examples of Behaviour
Verbal behaviour	Opposition, deliberate insolence, or refusal to cooperate Obscene, offensive remarks, or cursing. Insulting, belittling, devaluation, teasing, or mocking Playing harmful tricks Humiliating Slandering, gossiping, spreading rumours, or backbiting Intimidation or social coercion Name calling Shouting Threatening or blackmailing Lying
Non-verbal behaviour	Ignoring teachers Insulting gestures Laughing at teachers Mimicking characteristic/features Hiding from the teacher Repeatedly coming late to class Withholding information Physical or socially isolating teachers Sabotaging/preventing work

Physical behaviour	Beating or punching Kicking, Using Instruments or weapons cause injury or bodily harm Pushing or shoving Biting Cutting Attempt/touch in a sexual manner or sexual harassment Non-defined physical attacks
Damage to personal property	Destruction or damage of belongings or property Theft Vandalism
Technology related behaviours	Internet victimization or other inappropriate usages of technologically mediated communication (e.g., email, telephone calls, text messages, and cyberbullying via texts or images)

Table 1: Teacher-Directed Violence - Descriptions of Behaviours Identified in Current Literature compiledfrom Bounds & Jenkins, 2018; Chen & Astor, 2009; Dzuka & Dalbert, 2007; Kauppi & Pörhölä, 2012; Kõiv, 2015; Ozkilic & Kartal, 2012; Zeira et al., 2004.

2.2 Incidence and Forms of Teacher-Directed Violence

Throughout the investigated period 1983-2019, there have been sporadic studies of teacher-directed violence; however, it can be observed that since 2007, there has been a notable increase from less than one study per year 1983-2006 to three or more studies per year from 2007 onward. This increase is indicative of growing concern and interest in the subject over the past few decades. Furthermore, incidences of teacher-directed violence seem to be increasing in reporting frequency, particularly in the Canadian context. For instance, most notably, current reviews of existing publications, media reports, and survey findings from five Canadian Teachers Federation member organizations which included over 40,000 teacher respondents and identified that "more than 70% of teachers across Canada are seeing an increase in both the rate and severity of violence in schools". Results suggested that "between 41% and 90% of teachers (depending on their province) report having experienced violence at some point in their careers" (People for Education, 2018, p. 1), and it has been similar for nearly a decade. For instance, in related research from 2011 exploring the Canadian teacher landscape, 80% of the 585 out of 731 respondents had experienced violence and over a quarter of them (27.6%), physical violence. Teachers continue to face frequent and severe violence in the workforce, like "verbal aggression, property damage, threats, and physical assault. Non-physical (verbal/emotional) violence is most commonly experienced by educators, followed by physical violence" (People for Education, 2018, p. 1). Though the specific rates of violence and types of violence vary from setting to setting; violence occurs at high proportions internationally (typically 50% of teachers or more report violence). Furthermore, the influences of age, gender, school type on teacher-directed violence tends to be similar across cultures (Chen & Astor, 2009).

2.3 Implications of Violence at the Individual Level

Studies conducted have demonstrated that violence against teachers may have effects on the personal lives of teachers, the learning-teaching process in the classroom and the relations of teachers with other individuals in society (Ozkilic & Kartal, 2012). Teacher victimization is likely to impact a teacher's feelings of safety negatively, their ability to fulfill

their role (Wilson et al., 2011; Zeira, Astor, & Benbenishty, 2004) and may contribute to job dissatisfaction (Galand et al., 2007). Furthermore, events of victimization are salient and concerning since they are likely to contribute to overall lower levels of life-satisfaction (Dzuka & Dalbert, 2007) and have also been documented to have physiological implications. For instance, bullied teachers may experience impaired health and well-being (Kauppi & Pörhölä, 2012; Galand et al., 2007). They may experience emotional exhaustion or post-traumatic stress disorder (Wilson et al., 2011; Galand et al., 2007). These emotional experiences can be examined as part of the "individual level" of the socio-ecological theory, which focuses on how victimization makes teachers feel (McMahon et al., 2017).

2.4 Implications of Violence at the Interpersonal Level

The teaching and school milieu are markedly different from any other working environment because while there are multiple individuals (e.g., adults) who contribute to victimization and bullying against teachers, victimization comes most prevalently from the students (Kõiv, 2015). This embedded relational aspect of teacher victimization is at the heart of the second level of the socio-ecological model, the interpersonal level, which is characterized by relationships between teachers and others (McMahon et al., 2017). For example, there is an interesting power dynamic to examine between teacher and students. From the teacher perspective, "teachers represented institutional authority in the school; due to their position, they had to guide, instruct, and reprimand students, and they were bullied, they thought, because of these characteristics of their working duties…some of them presumed that they were bullied because of the special characteristics of their professional duties, such as working with students who needed special attention, or because they were not yet familiar with the student they worked with" (Kauppi & Pörhölä, 2012, p. 1065). Students share that perpetration of violence occurs due to perceived imbalances of power and powerlessness. For instance, to students, violence is justified on the basis of a teacher's unreasonable requirements, teacher's unfair treatment, and disagreements with the teacher, being punished by a teacher, being provoked by teachers, fighting for friends, being upset or merely because the teacher was an easy target (Chen & Astor, 2009). While the precise power dynamic is unclear (e.g., job position, role, student-teacher relationships, or power struggles), a closer examination of the teacher-student relationship when considering teacher-directed violence may be necessary.

Also, teacher-directed violence in the school context can be conceptualized as a relational dynamic between teachers and students; whereby identity plays a central role when considering victimization and the perpetration of victimization. For instance, Bounds and Jenkins (2018), found that teachers who are white, female, homosexual, religious or older tended to be more victimized than those of other demographics; furthermore, they noticed that teachers were more likely victimized in urban schools, rural school and then suburban schools. Likewise, teachers were more likely victimized by male students between the ages of 5-15 (Chen & Astor, 2009). High school teachers were more often victimized than grade school colleagues (Bounds & Jenkins, 2018; Zeira et al., 2004). Though, elementary teachers were more likely to be physically attacked; whereas, high school teachers were more likely to receive threats (Chen & Astor, 2009). While the results of these studies are not generalizable, though they arguably demonstrate trends, they may demonstrate the importance of exploring areas of identity and intersectionality is as one lens to consider when exploring victimization of teachers and the perpetuation of victimization.

Also, in the teaching profession, gender is currently unequally distributed, and women are predominant. The Canadian Teacher's Federation identified that in 2008, 72.6% of teachers across Canada were women. Further studies suggest that the number of women teachers is steadily increasing (e.g., 59 percent women in 1989, to 65 percent in 1999 and 69

percent in 2005) (Canadian Teachers' Federation, 2019). Thus, when considering violence against teachers, gender identity may be another lens to consider. This anecdote highlights a consideration: as women primarily make up the teaching workforce, it is women who are victimized; violence against teachers is also, in some ways, violence against women. Moreover, though controversial, Wilson (2011), highlights research that suggests that there are gender differences in response to trauma. As such, it may be essential to consider aspects of identity intersectionality, like the role of gender, in the experience of violence against teachers.

2.5 Implications of Violence at the Organizational Level

Also, not only does teacher-directed violence impact the teacher as an individual and interpersonal relationships, but it may also contribute to organizational and system challenges. For instance, events of teacher bullying, violence, and fear of victimization are documented to increase teacher attrition (Wilson et al., 2011; Chen, & Astor, 2008; Zeira et al., 2004) and the likelihood of turnover (Galand et al., 2007). Likewise, it negatively impacts the quality of teacher work performance, motivation, and commitment to the job (Wilson et al., 2011; Ozkilic & Kartal, 2012; Zeira et al., 2004; Kauppi & Pörhölä, 2012); as well, it has been attributed to an increase in teacher absenteeism (Dzuka & Dalbert, 2007). Also, these factors "could result in classroom instability, a lack of community for the students, and have severe negative consequences for the quality of education" (Wilson et al., 2011, p. 2366) while also impacting "teachers and their ability to appropriately educate students in their classroom" (Bounds & Jenkins, 2018, p. 4).

Victimization can be inversely related to the organization, structure, and system that it is embedded within. A school's location, for example, is identified as a contributing factor to the prevalence of teacher victimization (e.g. country or urbanization) (Dzuka & Dalbert, 2007; Chen & Astor, 2009). Congruently, there is evidence that suggests that different school types and school structures influence the prevalence of student violence against teachers (Chen & Astor, 2009) and that the organizational structure and system of education causes students to experience frustration to a level where they externalize it; student frustration may be expressed as violence towards inanimate objects or towards teachers (Harber, 2002). Expressions of violence may be in part due to the impersonal nature of large-sized schools or schools with large numbers of students, which contributes to a break-down in interpersonal relations and the feelings of self-esteem of the students; or what Fullan and Steigelbauer (1991) identify as 'the alienation theme.' Here, students demonstrate little sense of identity or belonging; as well as, scarcity in communication, dialogue, participation and engagement in the learning. Organizational challenges like lacking access to supports and services or larger class sizes are attributed to exacerbating the potential for violence (Ore et al., 2019).

2.6 Violence Prevention and Training

Furthermore, teachers across the country tend not to report the victimization and cite numerous reasons for underreporting the violence they experience at work (e.g., apathy, embarrassment, fear, or concern) (Ore et al., 2019; Ramsankar et al., 2018; Smol, 2017; McMahon et al., 2017). In Ontario, for example, over one-fifth of Elementary Teacher's Federation members surveyed expressed that they would report classroom violence and less than a quarter felt that reports did not garner preventative actions like increased supports or services do decrease victimization (Ore et al., 2019). Teachers from the British Columbia Teachers Federation expressed that "those who teach violent young students are embarrassed to admit that five and six-year-olds have hurt them" (Smol, 2017). Teachers have also expressed that they "underreport violent incidents out of concern for their students and also

because they fear it may reflect poorly on their worth as an educator" (Ramsankar et al., 2018). They demonstrate their reluctance for "fear of repercussions," (Ore et al., 2019), or do "not ask for help because they feel their administrators expect teachers to solve these problems on their own" (McMahon et al., 2017 p. 503). However, whatever the mitigating circumstances may be or what the justification is for underreporting, the organizational structure of the school and supports available to teachers is indicative of the prevention of violence. For instance, "school settings in which teachers report high levels of mutual support among colleagues, collaborative students, and strong leadership were also more effective in preventing violence through the implementation of a psychosocial intervention. School environments in which teachers report feeling supported are associated with greater well-being, less professional disengagement, and less exposure to school violence. Without additional support, many teachers too often find themselves too busy to cope with increasing demands (Round, Subban, & Sharma, 2016). Nevertheless, there is profound importance in sharing and reporting victimization because "social support has a central role in an individual's coping processes" (Kauppi & Pörhölä, 2012, p. 1060). In a recent article, Kauppi and Pörhölä cited Einarsen (2000), established that teachers are presumed to feel less vulnerable when experiencing workplace bullying if they had higher social support and that support minimizes the negative impact of victimization (2012).

In tandem with a limited supports or resources, lack of training (for teachers and other school personnel) and the need for the development of anti-bullying prevention programs surrounding teacher-directed violence are other salient organizational or systemic challenges that require further exploration (Zeira et al., 2004; Chen & Astor, 2009; Ozkilic & Kartal, 2012; Kõiv, 2015). Teachers report a lack of understanding and training in dealing with violence (Zeira et al., 2004) and school personnel, similarly, need to learn more about anti-bullying measures (particularly addressing violence directed towards teachers) through programs like in-service training sessions to inform teachers and develop intervention skills which may reduce victimization (Ozkilic & Kartal, 2012). Furthermore, there are only few violence intervention programs "designed to educate or protect teachers from violence" (Chen & Astor, 2009, p. 4); as such, prevention through training ought to be an area for further research and consideration.

When considering violence against teachers, Kõiv (2015) emphasized that victimization "seems to be universally prevalent and also increasing social phenomenon in schools; thus, strategies to address and prevent victimization of teachers should be included as a critical element of comprehensive multi-component bullying prevention programs in schools (p. 132). In 2018, Bounds and Jenkins made a case necessitating teacher protection for the sustenance of a functional education system; meanwhile echoing that, "more research should be done to fully understand how to impact teachers positively through programs and trainings for those in the school setting" (p. 8).

2.7 Methodology and Study Designs

Like many educational issues, there are many stakeholders and perspectives to consider. For instance, school staff are highly involved as "victims and observers – in various facets of school violence" (Zeira et al., 2004, p.150); however, methodologically, studies on issues of teacher-directed violence have primarily explored this perspective, and only a few have examined possible perpetrators or students' perspectives (Chen & Astor, 2009). Many of the studies applied a survey or questionnaire with Likert scale or closed-ended questions (some did include limited open-ended questions for verification purposes); and typically, studies limited utilization of other qualitative methods (e.g., ethnographies or observational data) (Chen & Astor, 2009; Zeira et al., 2004; Dzuka & Dalbert, 2007). Most of the research employed and focused on perceptual data and self-reporting (Dzuka & Dalbert, 2007; Zeira et

al. 2004). Self-report surveys seemed to facilitate teacher response rate and participation, and allowed researchers better access (e.g., the principal distributes or provides a survey, or conducts a survey at in-service). Some surveys were mass-distributed without discrimination of teacher role or knowing how many surveys were distributed in total, but primarily looked to gather a more comprehensive sample size (Kauppi & Pörhölä, 2012). Many did not have a timeframe/timeline for accepting responses (no deadline) to support participation (Bounds & Jenkins, 2018).

Because of the sensitive nature of this subject (e.g., job implications, personal emotional feelings, working with children, and privacy), and to help support participants expressing experiences freely, many studies maintained anonymity for participants (Zeira et al., 2004, p. 153), or opted to provide some form of reduced discloser/redaction of specific data to ensure privacy (e.g. no collection of age or sex, providing a sealed envelope, and having an impartial person to distribute the survey like a psychologist) (Dzuka & Dalbert, 2007, p. 254). Participants sometimes had a secret identity or pseudonyms, and demographic data were not collected (Ozkilic & Kartal, 2012, p. 3436).

There have been successful studies exploring teacher-directed violence that have utilized both random (Dzuka & Dalbert, 2007) or convenience sampling (Zeira et al., 2004); the sample size varies from small groups of educators (Bounds & Jenkins, 2018) to extensive wide-scale studies (Wilson et al., 2011). Likewise, many researchers measured response and return rate (Dzuka & Dalbert, 2007; Chen & Astor, 2009; Zeira et al., 2004; Wilson et al., 2011; and Galand et al., 2007) which might be beneficial for extrapolating further understanding about under-reporting, generalizability, and validity towards wider populations. On the same vein, many studies have explored a cross-sectional rather than longitudinal approach (Kõiv, 2015). It must be recognized, however, that as such, convenience from the collection of cross-sectional data only compromises generalizability of studies and that no causal conclusions can be drawn. Longitudinal data is further required for more precise information about the assumed causal direction of any associations which may be observed (Dzuka & Dalbert, 2007). Existing measures, like the Teachers Reaction to Violence Scale (Wilson et al., 2011, p. 2355), were implemented. Likewise, ad hoc constructed self-report measures in tandem with statistical analysis (e.g., correlational data, regression analysis using Chronbach 1952 and X2 statistics) were employed to identify trends (Dzuka & Dalbert, 2007, p. 258).

In some studies, researchers utilized digital tools to facilitate their work. For instance, qualitative work was sometimes analyzed using programs like SPSS and MPlus for confirmatory factor analysis (Wilson et al., 2011, p. 2359). Similarly, the use of internet surveys was engaged in supporting participant access and limited the requirement of the number of distributors or the workload of distribution (Kauppi & Pörhölä, 2012). In some cases, data was collected through professional programs like Qualtrics, a web-based survey program (Qualtrics, Provo, UT) and emailed through a listserv, which limited the accuracy of the overall response rate (Bounds & Jenkins, 2018, p. 4). These methods of distribution, while increasing convenience and limiting workload; also diminished the possibility for observational data and potentially distanced the researcher from the subjects.

3. Limitations of the Study

This literature review investigating teacher-directed violence in 51 publications has several limitations. First, many studies demonstrated methodological heterogeneity; for instance, studies employed similar approaches (e.g., teacher recollection and self-report), perspectives (e.g., examining teachers as the research population), and methods or tools of research (e.g., surveys or questionnaires). Next, researchers often emphasized the limitations of generalizability due to contexts (e.g., cultural contexts) (Bounds & Jenkins, 2018);

moreover, each study also revealed only a narrow perspective of a broader and interconnected complex phenomenon.Similarly, the studies investigated employed different terminology, including definitions of teacher-directed violence and what constituted violent acts.

Another aspect of educational research is that it is very challenging to control variables (e.g., neuroticism, unpredictability or oversensitivity) particularly in self-reports (Dzuka & Dalbert, 2007).Likewise, the validity of study results is impinging on increased triangulation or additional research (e.g., observational data in addition to statistical data) (Dzuka & Dalbert, 2007). Along the same line, recall bias and participant selective memory must be considered since research results often acquired through self-reporting questionnaires or surveys that invited teachers to reminisce and explain past experiences. Additionally, there was inconsistent use of the research variables of victimization, bullying and violence. The term violence was used loosely to describe a range of behaviours. Descriptions were categorized as either psychological or physical violence; however, the level of violence was not always precise (e.g., assertiveness, aggression, or actual harm).

4. Discussion and Conclusions

Teacher-directed violence continues to be an understudied phenomenon, where members of the research community continue to pioneer studies to develop understanding and encourage dialogue. As such, there is limited consistency in the methodology and validation of tools for comparison in different contexts. However, current research has identified that teacher-directed violence occurs broadly in many cultural contexts internationally and has identified that many contributing social-ecological factors which must be considered in tandem. Victimization and the perpetration of victimization demonstrate trends which suggest identity as an impacting factor (e.g., gender, culture, race, sexual orientation, religious beliefs, age) as well as positionality (e.g., region, geography, grade).

As well, while teacher-directed violence is a prominent professional risk for educators internationally, the type of violence may vary (e.g., grade school and high school). Furthermore, studies most often discriminate between psychological and physical violence. Similarly, teacher-directed violence often manifests predominately in the form of psychological violence (e.g., verbal, non-verbal, technological harm); physical violence (e.g., physical harm, injury or destruction of property) is also experienced widely by teachers. Most recently, in Canadian contexts, teachers have noticed an increase in the rate and severity of violence in schools which may be interconnected with or impacted by individual, interpersonal or relational and organizational challenges.

Furthermore, teacher-directed violence can negatively impact the personal lives of teachers, and it impacts the learning-teaching process in the classroom and the relations of teachers with other individuals in society. Negative impacts can also be examined within the interpersonal relational dynamic between teachers and students as well as contributing to organizational and system challenges. The results of this review demonstrate the complex interplay between the various factors that contribute to teacher-directed violence. Thus, teacher-directed violence and its prevalence can be considered one aspect of many challenges into the broader school-climate. Thus, it is essential to consider all aspects of the social ecology of a school and other contextual factors (e.g., teacher, organizational and workplace characteristics as well as student-teacher interactions) that can impact the incidence of teacher-directed violence.

Finally, Teacher-directed violence may be better conceptualized as a symptom of wider challenges within the interconnected complexities of school climate (e.g., student-teacher relationships or organizational deficits that impact the capacity of educators or resources impacting learners). For instance, some organizational procedures, such as a teacher's represented institutional authority, students requiring special attention, or power

unbalances between student-teacher relationships have been attributed to increasing the likelihood of teacher-directed violence. Adequate management strategies and capacity building are required to remedy this situation.

5. Future Research

Since teacher-directed violence is still widely understudied, ongoing research and broader studies of investigating this complex process in schools are necessary. Future research should be aimed at developing a complex model that encompasses a wide range of socio-ecological factors. Additionally, to better comprehend and ultimately prevent teacher-directed violence, future research should aim to explore the systemic challenges of underreporting. Equally, it is prudent to consider multiple perspectives when examining teacher-directed violence.

Further studies should also aim for collaboration within the research community to support clarity, consistency and comprehensiveness of the definition of violence and the development of an explicit model or framework for examining teacher-directed violence. Given the wide range of methodology and instruments used to investigate teacher-directed violence, it is further recommended that researchers validate instruments and approaches so that comparisons can be expertly made. Also, since there is limited professional learning, training, programs and interventions to support teachers in developing peaceful schools and classroom climates; it is necessary to further examine school community prevention processes (e.g. restorative practices and peacebuilding). Comparative research that considers other wide-spread school disciplinary policies, procedures, and programs (e.g., Crisis Prevention Institute training) ought to also be researched further.

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TENSIONS AND CONTRADICTIONS OF THE PRACTICE OF TEACHERS OF PHYSICAL EDUCATION IN URUGUAY IN THE NARRATIVES OF TEACHERS FROM THE PERSPECTIVE OF LATE MODERNITY

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Abstract: *Although sports and healthy physical activities seem to gain an increasing relevance as massive world-wide spectacles or as a daily basis self-construction of the individual body, Physical Education is losing weight in the curricula all around the world. This paradox affects Physical Education teachers who seem to share the devaluation of their own discipline in the benefit of the intellectual ones, such as Mathematics or Sciences, with obvious consequences on the future of modern populations in living a good and long life. The research addresses the question of how this phenomenon happens, through the record and a hermeneutical analysis of interviews with 23 physical education teachers about their own lives and careers, paying attention at the main milestones that marked their labour biographies. The analysis shows personal discomfort and anguish, not only as a result of functional overload and instrumental abuse (Weis) but due to the tensions that result of the anchoring of the professional field to three contradictory logics: the rational that governs work, the expressivity of ludic activities, and the value-oriented teaching profession (Weber, Habermas). At the long run, teachers resolve those tensions through a valuative hierarchy that orientate their professional elections, situating corporal activities in the very bottom of relevance, to the point of not teaching them, reproducing the structural devaluation of the discipline (Giddens, Archer). Theoretically, the research is framed into sociological theory of late modernity (Habermas, Giddens, Archer), and some classic theories of Sociology of Sports and Physical Education (Huizinga, Callois, Weis, Turner, Brinkhoff)*

Keywords: *Physical Education; Late Modernity; Teaching; Narratives; Uruguay;*

1. Introduction

According to Weber's classic statement (1944), Western modernity is the result of a vast process of rationalization that slowly, but relentlessly, infiltrates all the tissues of the social fabric. The spaces of rational decision are extended and reach more and more social areas, displacing religion and tradition as sources of interpretation and regulation of people's relationships with the world, with others and with themselves. The truth, morality and beauty, once eroded its only religious foundation, conform spheres of validity subject to different logics and rationalities: scientific, normative and aesthetic-expressive. The late modernity frames these logics in reflexive processes of agency and structuring mediated by the internal conversation of the subjects, at the service of projects of the self (Giddens,1995; Archer, 2003). This work aims to show that, as a profession, physical education is simultaneously linked both to the world of instrumental rationality -of technical rules, calculation and strategy- typical of work[8]; and on the other, the expressiveness -proper of the leisure and of

[8] « Bywork or rational action with respect to ends, I understand either instrumental action or rational choice, or a combination of both.The instrumental action is guided by technical rules that rest on empirical knowledge.) The

the ludic-. The teaching component of the profession -which tends to be associated with vocation- subjects the profession to value-based rationality, governed by moral values and non-tradable principles[9]. The instrumentality, the expressiveness, and the subjection to values, form the guiding and contradictory vertices of the teaching of Physical Education. The tensions generated by these contradictions are narrated by 23 professors retrospectively, through open interviews, showing the criteria that have guided their actions in the service of their own life projects.

2. Anchors and tensions of Physical Education

If these different logics actually work as the vertices of a field of forces that create tensions and dilemmas in teachers of Physical Education, we should find footprints of characteristic ways of reflexion, preferences or resignations, into their discourses. In this chapter the three logics are depicted and showed using some examples of textual sayings of the teachers.

2.1. Vocation

The vocational aspects have a huge weight. They emerge as soon as the conversation begins and gravitate in the story, giving meaning to the different milestones of the subjects´ trajectory, illuminating not only their professional career, but their whole life. For some, there is a true *call*, a *revelation* that evokes the primitive meaning of the word, the vocation as a divine call. The subject feels that he has a *mission*, a *destiny* that he must and wants to fulfill, and any obstacle can be removed by the vocation and the disinterested service.

The vocation is also awakened in stages. From childhood until the beginning of the university, it is directed towards sports and movement. On admission to the university, he moves to the teaching, favoured by the low curricular weight of physical exercise: “I had many disappointments, (...) you arrive at the entrance, after months of physical preparation, and in the Institute, they quieten you. For a long time, there is no physical activity(E1).” The entrance to the school seems to act as a catalyst: students enter motivated by physical and sports activities, and they graduate devaluing them: “When you start the career, as you really like sports you see everything there. Then you discover education (...) physical activities as a means to educate, I do not understand them as an education of the body”; “the career, it is life itself, to awaken everything that the human being has inside (...) Life is pure didactic”; “The vocation of service I was born to serve (...) I feel like a born educator (...) it helps me to survive, to find the sun”.

More than valuing the vocation, the false opposition between it and the specific technical contents of the profession is interesting: “the first thing is the human being and then the technical part”. It is important (...) the affective, emotional. (...) The feeling is important. Transmit strong experiences, (...) beyond the technical.” The vocational load conspires against the economic aspirations of paid work. When the logic of teacher delivery comes into tension with the work, the privilege of the vocational is perceived: “it gives me pleasure, I love it, economically it is not good, I live with my family without being able to become independent”; “I give a lot, I do activities that do not even demand me, I work more than what they pay me, (...) in both jobs this happens to me”

behavior of rational choice is oriented according to strategies based on analytical knowledge. » Habermas, 1989 :68

[9] « the normative rationality of an action is measured by the systematizing and unifying force and by the penetration capacity of the value patterns and the principles that underlie action preferences. » Habermas, 1987, I, 233

2.2 Game

In the classic definition of Huizinga, (1984:44) "... the game is a free action or occupation, which develops within certain temporal and spatial limits, according to absolutely obligatory rules, although freely accepted, action that has its end in itself and is accompanied by a feeling of tension and joy and the awareness of *being otherwise* than in ordinary life." Here are gathered some of the most typical features of the ludic activity: freedom, temporal and spatial delimitation, regulation, tension and emotionality, and the fact of being an end in itself, where the emphasis, for our purposes, should be placed on freedom and in the fact of being a finality itself. "You cannot force a player to participate without the game ceasing immediately what it is," says Caillois (1979:37) and Huizinga emphasizes that "Every game is, first of all, a free activity. A game by mandate is not a game, at most a replica, (…) of a game (...) it is free, it is freedom" (1984:19-20).

In fact, the game never lacks in the speeches, but it does as the pedagogical means par excellence. When it is perceived as a means, when it is instrumentalized, the game is degraded and routinized. As Baudrillard says (1993:150): "We have already known the degradation of the game to the rank of function - the functional degradation of the game: the game-therapy, the game-learning, the game-catharsis, the game-creativity. (…) the old dominant pedagogy (...) is to give a meaning to the game, to assign an end, and consequently to purge it of its own seductive force (...) Exactly the reverse of that passion of the illusion that it characterized it." The arduous work of face (Goffman, 1970) that demands the functionalized game and the erosion of the limits between work and play, is well expressed by Riesman (1964:255): "our cultural definitions, introduce a lot of "game" endeavoured in the work (...) and a lot of "work" of adaptation to the group in the game."

Instrumented, functionalized, routinized -and perhaps with features of the super-seriousness that Huizinga diagnosed- the game becomes part of the discourse that more and more social actors construct about themselves and their activity. This is very noticeable in the case of Physical Education teachers. The game appears strongly instrumentalized in favour of other purposes, that can only help to take away its typical disinterest, its freedom and its full capacity for fun. "We have a tool of power, in the game, the recreational, rationalize it, constrain it" says a professor. To the extent that it is framed in a teaching setting and becomes a pedagogical technique for the transmission of knowledge or values, the game becomes inescapable for the student, who has no chance of choosing or deciding with freedom if you want to participate in the game or not, or if you want to play in this game, but not in the next one. And these, above all, when the promoter of the activity is a teacher or simply, for the children, an adult to obey.

If the boundaries between work and play are erased, there is no more play. The work can be creative, at times fun, stimulating and enriching. To connote it in this way is not necessary to call it a game, simply because it is work. We can say that a certain type of work is so pleasing that it seems like a game; but it is not a game. It is not disinterested, it is not free, and it is, for teachers and students, more than anything else, everyday life.

2.3 Work.

Although the professors had not been questioned about the place that the game and the vocation occupy in the context of their professional performance, -which also made their mention in a highly significant fact- the professors were asked in an express way about the labour aspects of their profession. Teachers were asked to make a biographical narrative of their work trajectory, of their beginning as students, of their graduation, of the work they had achieved and abandoned, pondering the reasons that led them to make such decisions up to the present time, and that they evaluate their work situation according to the satisfaction

achieved. If they were relevant to the actors, the mention of vocation and play would emerge, on their own, in their narration.

The game, the playful, which was a subject so frequented in the discourses on the conception of physical education and on the teaching activity, does not appear mentioned even once when it comes to talking about one's work. It seems that one thing is to talk in general about the objectives of physical education and about teaching practice, and quite another to talk about their own work, their working conditions and their pay. Here there is no place for the game, although there is a lot -and much- for the vocation and class delivery. The game is play and work is work. In the last case, if there is a game, those who play are the others: the students, the associates, the children and the young people, although, as it was seen, rarely as freely and voluntarily as the playful activity would require.

On the strictly labour situation, it was possible to detect the recurrence of four thematic nuclei: economic rewards, material working conditions -in general unsatisfactory in public schools-, the normative framework -which ranges from anomie to more routine rigidity, and the degree and sources of satisfaction-dissatisfaction. All these aspects will not be developed here; just one of them will be addressed.

Economic rewards, usually seen as salary, constitute, for most teachers, the darkest aspect of their activity, which, however, can be compensated by brighter aspects: The inherent satisfaction of the task and the realization of the vocation, they are enough to ignore the relative material deprivation to which the teaching work obliges. But high salaries are also "the dark side of the profession" for those satisfied. The connection between teaching vocation and economic hardship leads to the conviction that a good salary can impede the option in favour of more rewarding and meaningful activities. The glass will always be half empty: If the vocation is carried out, good remunerations are renounced; If you access these, you lose your freedom and taste for what you do. For one of the teachers, the activity for which he does not charge, is the closest to the profession, while being a director of a sports institution, which is also part of his profession and is very well paid, did not satisfy him.

3. The relief of tension: hierarchy and self-devaluation

It has been seen that the three opposing logics -the rational value of the vocational approach to teaching, the expressive linked to play and recreation, and the instrumental linked to the world of work- coexist in narratives almost always in a contradictory way. This tension must be resolved in some way and the resolution occurs by hierarchy: In the face of a contradiction, the most valuable redeems and justifies the least valued. This order, which gives meaning to the narratives of the subjects, constitutes a collective phenomenon, of a sociocultural nature, which defines the perceptive and evaluative horizon of those who practice the profession. The gradation is not named, but it exists; and we can say that it exists, because it is used.

The first place of importance, ordering and giving meaning to the professional practice and to life itself, is the vocation for teaching and secondarily for the physical or sporting. Being a teacher and being vocational go hand in hand, as the expressions *service vocation*, *destiny*, *transcendence* clearly show. This ends up diluting the specificity of the discipline, since physical education defines for itself the same objectives as general education: transmit moral values or even disciplines like Geography or Mathematics.

Immediately below, the vocational-teacher is situated, on the one hand, the ludic, on the other, the work. Both constitute *means* for more valuable purposes: the game is a pedagogical instrument for teaching; Work is a means of life at the service of vocational fulfilment. Thus, each of them is related to one of the elements that made up the pair teaching-vocation: work, with the vocational; the game, with the pedagogical and didactic. However, tensions become more than evident here. The relationship between the playful and

the pedagogical -which is for the teachers a middle-end relationship- runs parallel to another relationship, but this time of opposition between the spontaneity of the game and the discipline of learning. Teaching a discipline, whether sporting or not, is, first of all, teaching discipline. Within the curriculum, the game becomes an obligation, because as every child knows, the "invitation" of a teacher can rarely be rejected, has a start and end time, and is subject to evaluation and school qualification, that is, it is routinized. With this, it ceases to be a game. Perhaps, the devaluation of the ludic is, in the eyes of teachers, the only way to legitimize it within the school environment, because the game is not "serious". The pleasure and the game, although legitimized by the new hedonism (Lash, Lipovetsky), require redemption, either by a previous workday and then fun is allowed; or by pedagogical purposes, and then it is distorted. The game and the vocation, are both expressions of the *extra daily* and function as legitimators of the superiority of a Physical Education far from the corporal, competitive sports, performance, and fitness.

Within this hierarchy, the labour can be placed in the same rank as the game. Unlike the latter, work is usually a factor of dissatisfaction. Its value is that of being a "means" -means of life- and of realization of the vocation. Another polarization, also opposed and parallel to the relationship work-vocation was found, between the everyday and the extra-daily, where the second justifies and redeems the first: At the service of vocation, work is valued, even if it does not serve as half of life and possibly because of it. If the income is good, the vocation losses importance. The game is also antinomic with work, although there is no transaction here: a job that is played is not real work.

Finally, the lower step is occupied by the specifically physical-sports, which is never mentioned positively by teachers. When talking about body work, it is always done in derogatory terms: only, merely. It is like if being a Physical Education Teacher was a simple credential requirement to aspire to different and higher objectives, where the corporal and motor achievements were by-products of a professional practice that aspires to the same level of social recognition that teachers themselves put in other disciplines.

4. Conclusions

The functional overload and the tensions that characterizes the professional field of Physical Education show an unfavourable panorama for the teachers: they oblige to perceive their own daily practice as a simple means for purposes that are not their own which generate insecurities and frustrations due to the inability to reach such high goals: "I feel as if I have taken a pastry course and only take advantage of it to make fried cakes (...) I need another level; I am in personal crisis with the activity", a teacher says. Above all, these goals and tensions lead to forget or neglect their specific physical education teaching obligations, when in fact, socializing children in the correct way of displaying physical activity and the joy of it, would be more ambitious and fulfilling goals for most of the population. In Brinkhoff words: "The adoption of an active lifestyle is one of the major long-term aims of Physical Education. Active lifestyle (…) [sport], fitness activities and other behaviours related to body concept can all be seen as important elements (…) of lifestyles" (Brinkhoff, 1998:78-80), and a privileged way in reflexive construction of the self.

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TEACHERS KNOWLEDGE: PRACTICAL FOUNDATIONS IN TECHNICAL TEACHING

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Abstract:*This research was developed at the Amazonas Federal Institute, with agricultural science teachers in technical courses. Our objective was to gather the knowledge that guide the teaching practice, identifying what are the fundamentals knowledge's that were build trough experience, aiming to verify the existence of a pattern in the teaching practice of these teachers. From these findings we propose teaching principles in technical education. We used grounded theory methodology, with semi-structured interviews and participant observation as instruments for collecting data. Through the data analysis emerged the theory entitled: "technical education teachers: a product of experience" which has the following categories: Technical foundations, technique as practice, teacher's professionalism, financial dependency and specificities of technical teaching. We conclude that to be a teacher in technical education is to develop your teaching trough experience.*

Keywords: *teachers' knowledge; technical education teaching; grounded theory;*

1. Introduction

The effort to understand the process by which teachers develop their teaching knowledge has become the research object of many researches in Brazil, especially since the 90s, when authors like Tardif (2014) became known to the Brazilian public through translations. The(se) researches focus is mainly on teachers: their opinions, representations, knowledge and practice. The "teachers' knowledge: practical foundation in technical teaching" research objective was to gather the knowledge that guide teaching practice in the technical course of agricultural sciences in the Amazonas Federal Institute, in the east area of Manaus. This institution has 78 years of experience in agricultural teaching. It was necessary to identify the practical knowledge and verify the existence of a teaching pattern that conducts the technical teaching.

The professional teaching in Brazil can occur simultaneously with High School, so the students graduate high school with a professional qualification. The teachers of the common high school curriculum, mandatorily, have had teachers training. They study to be teachers. However, in the technical courses teachers have bachelor's degree and weren't trained to become teachers.

This research focus in the development of the professional activity of the bachelors teaching. We aim to contribute so these teachers' knowledge can be translated into an organized and sharable content. We agree with Tardif (2014) when he states that teachers are the subjects of knowledge, that they should dispose themselves to name, objectify and share their teaching practice.

2. Theoretical framework

We have invested in the appropriation of the teaching knowledge, in the definition of an assumed concept for Pedagogy and Didactics, in the pedagogy of Professional and Technological Education (EPT) and in the teaching of technical education, recognizing that

the latter two do not represent consolidated research areas, however, we have noticed that the literature already points to possible referrals.

We understand that teachers teaching knowledge comes from the work experience of teachers and it only makes sense if put into practice. That is, the teacher, its practice and its knowledge are inseparable, and they change trough time. The teachers are producers of knowledge in a broad sense, of knowledge, skills, abilities and attitudes (TARDIF, 2014).

Besides, Libaneo (1994) defines didactic as the theory of teaching, one of the pedagogical disciplines that, as such, covers the discussions on objectives, content, means and conditions of the teaching process. On the other hand, general discussions form the theoretical *corpus* of pedagogy.

When discussing a possible pedagogy of professional and technological education we find the work of many Brazilians researchers, like Ramos (2008) and Ramos, Ciavatta and Frigotto (2010), among many others that point as a founding conception a proposal of a training that is polytechnic, unrestricted and unifying the human and technical dimensions of man. In this sense, the work is seen as an educative principle and the research as a pedagogical principle, aiming an integrative formation of the dimensions of work, science and culture.

On this perspective, Ramos (2002) argues that a professional education based on this model depoliticizes the workers by focusing on individual and technical elements at the expense of the public and political ones. And, especially it lowers the development of knowledge into learning activities and behaviors.

Barato (2002) presents a concept of the specificity of technical knowledge, rejecting that the technical knowledge represents an application of scientific knowledge. On the contrary, according to him, the technical knowledge represents a distinctive way of knowing reality. Supported by Merrill (1994) studies, Barato argues for the necessity of a didactical treatment appropriated to the technical knowledge.

According to Merrill (1994), depending on the operations used to process reality, distinctive knowledges are generated: factual, categorical, of principles and processual.

So, according to Barato (2002) the processual knowledge would be the object of the technical understanding, because it develops through a process that leads to a desired ending. That is exactly why, because it is processed differently, that the technical understanding requires an appropriated teaching treatment. The traditional teaching serves the teaching of categories, facts and principles, but it doesn't handle the knowledge related to processes.

3. Methodology

Facing the objectives and the theoretical framework we presented, we have used in this research the qualitative research, which turned up to be adequate, because, as Flick (2009) puts it, one of its main characteristics is the acceptation of the interaction between researcher and research.

In this sense, in an effort of identifying the teachers' knowledge it seemed to us methodologically adequate to use Grounded theory, because we needed to look for evidences in the teaching practice in technical education that could be systematized in a theorized discourse on reality.

According to Strauss and Corbin (2008), grounded theory is conducted by the use of analytical tools that make the theory emerge from the interaction and confluence between the data collection, the analysis and the wording of the collected data. This way, the processes the researcher uses to make the research advance from

an initial describing level which happens in the open codification of the collected data in the interviews, to a more conceptual level in the axial codification. Later, it reaches an analytical level in the selective codification.

This way of describing grounded theory is didactic, because the different processes of codification aren't consecutive. They happen simultaneously in many moments throughout the research. In the data collection we have used the semi-structured interview, that according to Flick (2009) aims to explicit the "complex supply of knowledge on a subject" that the interviewers have. We also used participant observation in order to complement and validate the data. Tardif (2014) affirms that we shouldn't trust what is said by the subjects on their knowledge, because usually they are unaware of how much they know.

Under Flicks suggestions we didn't make a rigid sample on Grounded Theory, but we defined that the subjects would be teachers with a bachelor's degree, in the agricultural sciences area in technical education. And they should have approximately 5 years of experience in teaching technical courses. Six teachers participated, ranging from 5-29 years of experience. All the teachers teach in courses related to agricultural sciences in the Federal Institute of Amazonas, in the east zone campus in Manaus.

The analysis was conducted through the codification line by line in order to find raw codes. We have also used physical diagrams to compare the properties and code dimensions found and the emerge of sub-categories, through the hierarchization of sub-categories, the reordering of hierarchies, the codes and sub-categories formulation, digital diagrams, that allowed the visualization of many analytical categories and its ramifications in order to find the central category. This kind of research is ideal in investigative contexts in which theories aren't available to explain or understand the process. Beyond that, the main characteristic of this kind of study is building a research result that contains: a main phenomenon, causal condition, strategies, condition, context and consequences. (CRESWELL, 2014). But the conclusions that this method gets don't refer to theoretical schemes of broad application, that are highly abstract, called formal theories, they are:

A group of well-developed categories, such as themes and concepts that are systematically inter related through declaration of relation in order to form a theoretical structure that explains some social relevant phenomena, psychological, educational, health-related and others. The declarations of relation explain who, what, when, where, how and with who the circumstances of a fact occur. [...] A theory is usually more than a sum of results; it offers an explanation on the phenomena. (CORBIN; STRAUSS, 2008)

Grounded theory is restricted to specific areas and ordinary phenomenon. However, this doesn't invalidate the importance of the results that can be found to explain, for instance, an educative phenomenon. We also have noticed that, in areas of knowledge that lack explanatory schemes, grounded theory is fruitful. The knowledge of teaching practice in technical education is an under explored theme, and so we ascertain the importance of this method in professional education.

4. Discussion

The need of mastering the knowledge of professional action is comprehended by teachers as necessary, so students don't learn mechanically the techniques, but this way they comprehend the scientific fundamentals behind the technique. In this research it became evident that the condition for scientific justification of the technique influences directly the educational actions. The educational actions, in this case, present themselves strongly connected to the idea of technique as practice. Technique as practice represents how the

teacher organizes the teaching situations of the technique. They are organized under four approaches: the discursive domains of the technique, the executive domain of the technique, the executive teaching strategies and the planning criteria. In order to develop the discursive domain of the technique teachers appeal to the organization of technical execution in stages, they use guidelines and mentor students on learning the stages of the technique. They recognize that talking about the technique doesn't mean mastering its execution. They teach technique rigor in using data and the technical language, they teach students to systemize their observations on technique through reports.

Using grounded theory, we were able to verify that trough continuous learning and teaching experience, as well as the challenges faced, teachers develop the sense of being teachers and see themselves as teachers.

A crucial factor in technical education is the financial dependency on educational practices, the technical knowledge is only fully achieved through the opportunities of practical activities in which the techniques are applied. These activities require financial resources, mainly to the acquisition of raw materials. The unavailability of resources drastically reduces the students' practical experiences.

The conditions, actions, context and troubles have consequences that indicated the specificities of teaching in technical education: the intense interaction caused by the practical classes dynamics requires a leader position from the teacher. The unpredictability and vulnerability are experienced daily in practical classes, plus, technical visits happen in environments in which the teacher doesn't have much control. Besides, the teaching experience leads teachers to have opinions on the necessity of a teaching formation focused on technical teaching based on experiences.

5. Results

The scientific justification of technic acts as an assumed condition in teaching technical education. The technique as practice represents the teaching action of technical knowledge education. The professionalized teacher is characterized in the context in which the teacher without teacher training deals in developing its own teacher's identity. The financial dependency is a problem in developing technical education. The specifications of teaching technical courses are the contributions that come as a result of assumed conceptions and off the teaching experience in technical education, which differs from the academic education and from the professional education.

6. Conclusions

The strength of the experiences developed in teaching works as a triggering element of all its conception and teaching practice in technical education. This way, we can affirm that to be a teacher in technical education is to develop your teaching based on experience. This sentence is not exclusive of technical education teachers, but it is common to all teachers. However, the experience becomes almost an exclusive element for these teachers, because the lack of theoretical teaching references, the lack of operational models and training resources directed at them forces them to develop their teaching skills from nearly nothing.

We have found 46 occurrences of explicit affirmations, examples or advices that point out to the idea of experience. Also, implicitly, the narrative style adopted by the subjects always indicated the experience. Finally, the subjects demonstrated to give a lot of importance to experience as a formative element in technical education teaching.

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INNOVATIVE PEDAGOGIES: UNPACKING THE AWARENESS LEVEL AND EXTENT OF UTILISATION AMONG ACADEMIC STAFF OF UNIVERSITIES IN SOUTH-EASTERN NIGERIA

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Abstract: *Innovative teaching pedagogies are useful tools for effective teaching and learning which can positively enhance students' learning experiences. The application of innovative pedagogies in teaching has, therefore, yielded positive results in many countries especially in the Global North. However, little is known about the awareness and application of these innovative pedagogies in countries in the Global South such as Nigeria. This research addressed this problem using a mixed method research approach comprising five focus group interviews and survey data from 460 respondents across four federal universities in south-eastern Nigeria. Findings in this research revealed that there is a significant low level of awareness and poor utilisation of innovative teaching methods. Inadequate facilities and equipment, inappropriate skills and classroom structure are some of the basic factors that limit the utilisation of innovative teaching methods by academics in these universities.*

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Keywords:*University Teachers; Innovative teaching pedagogies; Awareness and Utilisation;*

1. Introduction

Innovative pedagogy is one way of enhancing teaching and learning performance and primarily entails the use of suitable innovative teaching techniques (Khairnar 2015).Given the importance of education in social change and transformation, innovative teaching methods are imperative in higher education institutions (HEIs) as they improve the value of educational system (Nicolaides 2012) and help balance the quality of graduates and the expected level of standard in industries (Thomson 2015). Students are thus empowered to tackle global challenges that need 21stcentury skills (Kivunja, 2014) as the purpose of education is not only to train students to become literate but also to encourage deeper knowledge and self-confidence, critical thinking enhanced through engaged questioning, and focused listening (Sachou, 2013; Bowman, 2018). As these cannot be achieved by the usual traditional method which primarily focuses on lecture-based teaching, there is a need for the application of innovative teaching methods in the classroom (Holmes, Wieman & Bonn, 2015). There are however encumbrances (for instance, cost) in adopting such techniques, especially in developing countries. This research thus investigates the awareness level and extent of utilisation of these teaching methods in Nigerian universities.

2. Review of Related Literature

The critical issue in this paper is the extent of utilisation and the level of awareness of innovative teaching methods. Research has shown how teachers in secondary school and higher education institutions utilise innovative teaching methods (Udeani & Okafor 2012; Khurshid &Zahur 2013). In Nigerian secondary schools, studies (e.g. Oyelekan, Igbokwe & Olorundare 2017) have found a significant low level of utilisation of innovative teaching strategies among teachers. This implies that teachers are still very comfortable with using the

traditional lecture method which might not encourage meaningful learning. In private institutions, however, there is considerably more reliance on innovative teaching strategies which in turn have significant positive impacts on the performance of students (Naz & Murad 2017). Among student teachers, there is a low utilisation of innovations and techniques of educational technology as they mostly rely on the traditional lecture method in lesson deliveries (Ibrahim 2017). Studies conducted in Nigerian universities show that team teaching and questioning is the innovative strategy mostly used by university lecturers (Adebayo & Kolawole 2016). Lecturers that use this method in lesson delivery do not, however, place students in charge of their own learning (Adebayo &Kolawole 2016). Innovative teaching methods can be applied only when teachers are aware of such techniques and when resources are available (Naz & Murad, 2017). Teachers also need to be willing to adopt these strategies when the resources are available. Achor, Samba & Ogbeba (2010) study show that there are cases in which the level of teacher awareness of innovative teaching strategies are significantly high, and yet only a few of such strategies are effectively utilised while teaching. Thus, using the following research questions and hypotheses, this study investigates the level of awareness and extent of utilisation of innovative teaching methods by the academic staff of federal universities in south-eastern Nigeria.

2.1 Research Questions

What is the level of awareness among academic staff of federal universities in southeast Nigeria regarding innovative teaching methods?

To what extent does utilisation of innovative teaching strategies by experienced academic staff of federal universities in south-eastern Nigeria differ from that of the inexperienced academic staff?

To what extent do the academic staff of federal universities in south-eastern Nigeria utilise innovative teaching methods?

2.2 Research Hypotheses

HO1: There is no significant difference in the level of utilisation of innovative teaching strategies between experienced and inexperienced academic staff of Federal Universities in southeast Nigeria.

Method

The study adopted a mixed method design (Creswell, 2014) as both quantitative and qualitative approaches were used to address the objectives of the study. The sampling technique employed in data collection was purposive, relying on academics from the rank of assistant lecturers to full professors from four Federal Universities in south-eastern Nigeria. Data for the quantitative aspect of the study were drawn from 460 questionnaires administered to these academics. The core survey items formed two 3-point Likert type scale which had three sections, A, B and C. Option scales of Very Aware (VA=3), Aware (A=2) and Not Aware (NA=1) and that of Frequently Used (FU=3), Seldom Used (SU=2) and Not Used (NU=1) were provided for levels of awareness and utilisation respectively. For this study, the level of utilisation of the strategies are rated as follows: Frequently used: 2.5- 3.0, Seldom used: 1.1- 2.4, Not used 1.0 while the level of awareness is rated as; Not Aware: 1.0–1.9, Aware: 2.0–2.5, Very Aware: 2.6-3.0

Qualitative data were based on four focus groups, one in each university with an average of four members. The instrument was validated by two lecturers in the Department of Science Education and Department of Agric Economics of two different universities. Reliability of the questionnaire was determined using Cronbach Alpha with a coefficient reliability index of 0.90 and 0.91 respectively for the two sections of the instrument. Descriptive statistics, frequency count and percentage were used to analyse the research

questions while Independent T-test was used to test the Null Hypothesis. Thematic analysis was used to analyse qualitative data.

Results

The data obtained with respect to each of the research questions and hypotheses are presented and explained as follows:

Tables

Research Question 1: What is the Level of Awareness among academic staff of Federal Universities in south-eastern Nigeria regarding innovative teaching methods.

Table1. Mean of University lecturers awareness regarding innovative teaching methods.

Innovative Strategies	N	Minimum	Maximum	Mean
No 1 Flipped learning	460	1.00	3.00	1.67±0.72
No 2 Problem Based Learning	460	1.00	3.00	2.05±0.67
No 3 Jigsaw Cooperative learning,	460	1.00	3.00	1.44±0.67
No 4 Think-PAIR-Share	460	1.00	3.00	1.48±0.60
No 5 Team Teaching	460	1.00	5.00	2.39±0.67
No 6 Kahoot	460	1.00	3.00	1.18±0.47
No 7 Post-it-pile-it	460	1.00	3.00	1.27±0.51
No 8 In Class Work Sheet	460	1.00	3.00	2.12±0.72
No 9 Blogging	460	1.00	3.00	1.83±0.63
No 10 Mind-Maps	460	1.00	3.00	1.40±0.62
Grand Mean				1.68
Valid N (listwise)	460			

Table 1 presents statistics on Level of awareness among University lecturers regarding innovative teaching methods. Result revealed the mean response of the university lecturers in south-eastern Universities regarding their familiarity with the 10 selected innovative teaching strategies as1.68. Their level of awareness showed that they were not familiar with the selected innovative teaching strategies.

Research Question 2: To what extent does utilization of innovative teaching strategies by experienced academic staff of Federal Universities in the South-eastern region of Nigeria differ from the inexperienced academic staff?

The corresponding hypothesis to this research question is hypothesis 1.

HO1: There is no significant difference in the level of utilisation of the innovative teaching strategies between experienced academic staff of Federal Universities in the South-eastern region of Nigeria and inexperienced ones.

Table 2: T-test table for significance on Level of Utilization of the Innovative Teaching Strategies Based on Experience

Innovative Strategies	Status	N	Mean	SD	Df	F	t	Sig	HO1	Decision
Flipped Learning	Inexperienced	340	1.92	0.76	1378	0.067	-2.449	0.796	Not. Sig	Accept
	Experienced	120	2.04	0.78	620.035		-2.429			

PBL	Inexperienced	340	2.36	0.68	918	0.049	-.202	0.825	Not. Sig	Accept
	Experienced	120	2.38	0.67	422.687		-.203			
Jigsaw	Inexperienced	340	2.33	0.63	1378	5.636	.739	0.018	Sig	Reject
	Experienced	120	2.30	0.69	585.395		.709			
Think-Pair-Share	Inexperienced	340	2.46	0.69	458	0.003	-.106	0.958	Not. Sig	Accept
	Experienced	120	2.47	0.70	208.463		-.106			
Team Teaching	Inexperienced	340	2.59	0.64	458	1.091	-.586	0.297	Not. Sig	Accept
	Experienced	120	2.63	0.61	218.195		-.600			
Kahoot	Inexperienced	340	2.43	0.74	458	2.648	-.706	0.104	Not. Sig	Accept
	Experienced	120	2.48	0.67	226.170		-.736			
Post-it-Pile-it	Inexperienced	340	1.63	0.72	458	0.172	-.925	0.679	Not. Sig	Accept
	Experienced	120	1.70	0.72	209.203		-.926			
InClass Work Sheet	Inexperienced	320	1.92	0.81	458	2.368	.203	0.125	Not. Sig	Accept
	Experienced	120	1.90	0.85	199.224		.197			
Blogging	Inexperienced	320	1.52	0.76	458	1.714	-.334	0.191	Not. Sig	Accept
	Experienced	120	1.55	0.69	226.623		-.349			
Mind Maps	Inexperienced	320	1.56	0.68	458	1.714	-1.655	0.004	Sig	Reject
	Experienced	120	1.68	0.79	184.806	8.499	-1.541			

Table 2 presents statistics on the extent to which utilisation of innovative teaching strategies by experienced academic staff of federal universities in south-eastern Nigeria differs from the inexperienced academic staff. Result revealed that the extent of utilising innovative teaching strategies by both experienced and inexperienced academic staff of the universities did not differ to a large degree. This is so given that both groups did not use one strategy at all, while they sparingly used seven strategies and frequently used one strategy. Result revealed no significant difference in the mean response of the experienced academic staff of Federal Universities in south-eastern Nigeria and that of the inexperienced academic staff. By implication, the extent of utilisation was not affected by the staff years of experience. The hypothetical statement was rejected only on two methods where the sig values were below 0.05. The rest were accepted implying no significant difference.

Research Question 3: To what extent does academic staff of federal universities in south-eastern Nigeria utilize innovative teaching methods? Interpretation of Table 3 is based on the percentage of teachers that used the strategies as well as the level of utilization as represented by the mean utilization values.

Table 3 Frequency Counts, Percentages and Mean of University Lecturers Level of Utilisation of the Innovative Teaching Strategies

	Strategies	Frequently Used (Frequency)	Freq. Used %	Seldom Used (Frequency)	Seldom Used %	Not Used (Frequency)	Not Used %	Mean Utilization
1	Flipped Learning	147	27.0	189	41.0	124	32	1.95
2	PBL	221	48.0	187	40.7	52	11.30	2.37
3	Jigsaw	195	42.3	219	47.0	46	10.7	2.32
4	Think-Pair-Share	266	57.8	140	30.4	54	11.7	2.46
5	Team Teaching	314	68.3	110	23.9	36	7.8	2.60
6	Kahoot	266	57.8	132	28.7	62	13.5	2.44
7	Post-it-Pile-it	66	14.3	166	36.1	228	49.6	1.65
8	In Class Work Sheet	136	29.6	148	32.2	176	38.3	1.91
9	Blogging	70	15.2	104	22.6	286	62.2	1.53
10	Mind Maps	60	13.0	152	33.0	248	53.9	1.59

The table shows that most of the academic staff frequently used only team teaching as an innovative teaching method with the highest percentage of 68.3% and a mean utilisation value of 2.60. The level of utilization of the strategies are rated on the earlier described scale which is frequently used: 2.5- 3.0, Seldom used: 1.1- 2.4, Not used 1.0. Going by this, the mean utilisation value of all other innovative strategies fall within 1.1 and 2.4 indicating a seldom use or non-use of those methods. Thus, there is a low utilisation of the innovative strategies since it was only one method that secured 2.60 of mean utilisation value.

The qualitative findings revealed that beyond quantitative findings of low awareness and usage, there are other factors that limit lecturers from using innovative teaching pedagogies when teaching. This is evidenced in the three themes that emerged during the thematic analysis of the focused group data. These themes are inadequate facilities and equipment, inappropriate skills and classroom structure.

Inadequate Facilities and equipment

"In my university….the management is doing well but we still have some lapses in the area of facilities that are needed for teaching. For instance, in the course am teaching currently…we call it laboratory techniques in physics. This course is supposed to be taught in science education laboratory where we have resources for teaching available…where we have a particular type of board for that topic. Some of these things are not available"

This also reflects in one participant's comment:

Of course, there are lots of things that hinder me from utilising innovative teaching pedagogies when teaching. One of it borders on the fact that some of the facilities and equipment that I need to use most times are not available. For instance, in some cases, there is need for a projector to enable me to project my lecture slides and show the students some videos but there is no light [electricity] and even projector….so I won't kill myself because there is a limit to which I can improvise.

From the foregoing, inadequate facilities are one of the major factors that affect the utilisation of innovative teaching pedagogies in schools when lecturers teach their students. It is obvious that when facilities are not available, lecturers will not be able to use the adequate methods that are required to enhance the understanding of lessons.

Inappropriate skill: This has been identified as one of the basic things that affect the utilisation of innovative teaching pedagogies. This reflects in one of the interviewee's statement as follows

Despite what my colleague has said on facilities and equipment, I think another thing that affects utilisation of innovative teaching pedagogies when teaching is inappropriate skills….one thing is to be a teacher and another thing is to have the required skills to execute your responsibilities as a teacher. In most cases, some of the facilities will be available but some teachers will not know how to operate them thus limiting the utilisation

The above statement signifies that another significant factor that affects the utilisation of innovative teaching pedagogies in schools among teachers is inadequate skills. Teachers require high level of technical skills to be able to use some of the facilities that suit the innovative methods they need to drive home the contents of their lesson

Classroom structure

"In fact, in most cases….the classroom structure makes it quite difficult to apply some innovative teaching pedagogies….you see the class with long benches that you cannot give them group in-class assignment"

In a similar statement, one of the interviewees noted as follows

"I think the application of innovative teaching pedagogies needs to be encouraged from the construction stage of the school building. In Nigeria, some lecture rooms are constructed in such a way that it will even make the lecture itself difficult……let alone applying innovative teaching pedagogies. The teacher will be striving to finish on time due to the nature of the class".

Discussion

The main aim of this research was to investigate the level of awareness of the innovative teaching methods and the extent of utilisation of the methods among academic staff particularly in federal universities in south-eastern Nigeria. Statistical analysis of the quantitative data revealed that the teaching staff of the sampled universities demonstrated a low level of awareness of innovative techniques. This contradicts Gbadamosi's (2013) study which, though at the secondary school level but on same innovative teaching methods, found a high awareness level of those selected innovative teaching methods among respondents.

Low utilisation of the innovative strategies was also revealed by the current study. The low awareness found in the current study significantly contributed to such a low level of utilisation of the methods. Academic staff members of universities in south-eastern Nigeria have not explored to its best, the different innovative teaching methods which are able to improve teaching and learning. Only one teaching method (Team Teaching) was utilised by 68.3% of the population while other methods were sparingly utilised in classroom situations. This is similar to findingsby Adebayo &Kolawole (2016) who showed that Team Teaching is the most used innovative teaching method among university teachers in Nigeria, findings by

Ibrahim (2017) who reported a low utilisation of innovations and techniques of educational technology among student teachers, and findings by Oyelekan, Igbokwe&Olorundare (2017) who found a significant low level of utilisation of innovative teaching strategies among teachers in Nigeria.

The study agrees with Naz& Murad (2017) position that innovative teaching is only possible when teachers are aware of available resources. Lack of awareness is tantamount to lack of utilisation. As the focus group discussions show, the reasons for under-utilisation of innovative methods are centred around lack of awareness especially the lack of knowledge on how to implement innovative techniques in classrooms. Another finding of this research shows that the level of utilisation of innovative teaching methods did not differ between experienced teaching staff and inexperienced teaching staff. In other words, professors and senior lecturers used innovative teaching methods at the same level as their less experienced colleagues. The qualitative aspect of this study shows that though awareness and utilisation level of innovative pedagogies are low, there are significant factors that limit the utilisation of these methods among lecturers. Some of the identified factors are inadequate facilities and equipment, lack of appropriate skills among lecturers and the structure of classrooms in most universities. This implies that even if some lecturers can and are willing to utilise some innovative teaching pedagogies, inadequate facilities and equipment in most universities would make it impossible for them to apply the methods whilst teaching.

There are certain limitations to the current study. Firstly, using only four federal universities in south-eastern Nigeria excludes other institution in the region especially private and state universities. This notwithstanding, the findings can reasonably be extrapolated to cover other institutions in the region since most lecturers in federal universities serve as either adjunct, sabbatical or contract lecturers in most state and private universities. Secondly, some teaching staff were reluctant about taking part in the study. Despite these limitations, there are valuable outcomes that advance our understanding of the awareness, extent of utilisation, and factors limiting the use of innovative teaching methods in Nigerian universities.

Recommendations

Based on the findings of this research, it is recommended that universities provide adequate facilities and equipment and organise training for lecturers on the efficient utilisation of innovative pedagogies. University management should make adequate provision for well-structured classrooms that will enhance the application of active learning pedagogies when teaching.

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LEARNING FOR TEACHING IN UNDERGRADUATE COURSES

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Abstract: *This text discusses the teacher education effected in undergraduate courses in teaching learning. The research problem asks: What learning for teaching profession are developed by the students in undergraduate courses? The research was conducted with 85 graduate teachers who work in basic education in Curitiba, Brazil, through interviews. The research is qualitative, considering the description of the participants' testimonies as the primary source. The analyzes follow the systematization of the content based on Bardin (2010) and Flick (2013) using ATLAS TI; as references: Schulman (1986), Fullan and Langworthy (2014), Marcelo (2013), Imbernón (2017). The results indicate the education for the transmission of knowledge to be taught and the learning of the teaching practice reinforces the transmissive teaching. The undergraduate courses value the learning of specific knowledge without emphasis on pedagogical knowledge. The conclusions indicate the need for changes in the learning focus of undergraduate courses: new ways of teaching, incorporating technologies and education for research.*

Keywords: *Teacher education; Learning for teaching; Teaching practice;*

1.Introduction

This text discusses the teacher education effected in undergraduate courses in teaching learning. The research problem asks: What learning for teaching profession are developed by the students in undergraduate courses? It takes as a reference research carried out with teachers who work in basic education and who have completed undergraduate courses. The objective of the research was to examine the learning of teaching in teacher education courses (undergraduate courses) and to examine the propositions of the teacher education guidelines in Brazil.

The undergraduate courses are teacher education courses at university level, whose purpose is to promote the graduate of teachers for basic education. The purpose of these courses is to develop skills and learning for teaching in order to favor the improvement of basic education teaching, promote professional development and the professionalization of teachers. The goals of teacher education are indicated by many researchers such as Schulman (1986), Nóvoa (1992) Marcelo (1999, 2013), Imbernón (2009), Gatti and Barreto (2009), André (2006) and others.

The Law 9. 394/96 defines the requirements of teacher education in Brazil and the National Curricular Guidelines for Higher Education, as indicated in CNE/CP No. 2, of July 1, 2015, guides the organization of courses. This document indicates as nuclei of the formation of the professors: "I - core of studies of general formation; II - core of deepening and diversification of studies of professional areas; III - core of integrative studies for curricular enrichment". (BRAZIL, 2015, p.9-10). The core of studies and general teachers education, deals with the specific knowledge of the area and the more general and

interdisciplinary contents, including didactic-pedagogical knowledge, fundamentals and methodologies. The core of deepening and diversification of studies in the areas of professional activity indicates studies focused on the diversity of professional fields, taking into account the reality of educational institutions and education systems. The core of integrative studies for curricular enrichment includes training in research, initiation to teaching, internships and practical experiences in the field of education.

According to Dourado (2015), the proposed teacher education in the core of the regulations of these guidelines, observe the recommendations of studies and research for teachers' learning in undergraduate courses and result from a long process of discussion among members of the National Council of Education (CNE) and debates in public sessions with teachers and researchers held in many Brazilian cities. Thus components of teacher education are learning knowledge, conducting research, developing reflection and teaching practices. In these Guidelines the teacher education is understood as an ongoing process taking on the concepts proposed by Marcelo (1999, 2013) and Imbernon (2009).

2. Theoretical framework

For the education of teachers Schulman (1986) proposes as pedagogical knowledge the so-called Pedagogical Content Knowledge - PCK. The PCK covers: (i) general pedagogical knowledge, with special reference to the principles and strategies of classroom organization and management; (i) knowledge of students and their characteristics; (ii) knowledge of educational contexts, ranging from the relationship between groups and in the classroom, the management and financing of school systems and institutions, knowledge of educational purposes, effects and values in historical and philosophical perspective; (iii) knowledge of the content of school subjects and activities; (iv) knowledge of the curriculum, involving understanding of materials and programs that serve as "mediation tools" for teachers; (v) knowledge of the pedagogical content, which relates content and didactics, "what" and "teach". This knowledge, mark the teacher identity as to the professional knowledge, are originated and are articulated with the teachers' practice. (Schulman, 1986)

The learning to carry out research in the education of teachers constitutes a possibility of professionalization of teaching (Ludke & Boing, 2004, André, 2006). For Cochran-Smith and Lytle (1999) there are different conceptions that orient the formation of the teacher who see in the research an ally for their learning, having the practice as the base to be investigated. For researchers, there is a need to adopt a new construct of "inquiry as stance", based on the relationships between research, knowledge and professional practice.

Research development is associated with the development of reflection as indicated by Schön (1983), who proposes the formation of reflexive professionals based on learning in action. This is not enough as Zeichner (1992) indicates, because it alerts to the need to consider contextual issues. The teacher is a professional who acts in social practices and not mere isolated and individual activities.

In relation to the learning of the teaching practice Fullan and Langworthy, (2014) emphasize teaching associated with learning. The proposition of these authors considers learning based on positive relations, to promote the independence, interdependence and self-motivation of the students. The needs, origins, perspectives and interests of students are reflected in the learning programs in order to promote challenges to develop deep levels of thinking and application. This learning connects strongly with the learning communities beyond the classroom in an active and cooperative way.

With the insertion of information and communication technologies in education, the learning of its use in teacher education courses came to be defended by Marcelo (2013), Lawlewss and Pellegrino (2007). These authors emphasize that most teachers do not include the use of technologies in their classrooms. It recommends that for a change it would be

necessary to include the learning of technologies as a teaching tool in the processes of teacher education (Marcelo, 2013).

Considering these indicators on knowledge for teaching learning this text contains the results of research with teachers education in undergraduate courses.

3. Methodology

The research is qualitative, considering the description of the participants' testimonies as the primary source. Data were obtained through interviews involving 85 teachers from Curitiba, a city located in the southern region of Brazil. For the interviews, a sample of primary and secondary school teachers was considered. Teachers of both genders and less than ten years of age were included; 65% of respondents were female; 28% from 1 to 3 years of work experience; 32% from 4 to 5 years; 22% from 6 to 7 years; 13% from 8 to 9 years and 5% with two degrees being one of them just completed. The choice of the interview is justified by the possibility of this technique of data collection, according to Szymanski (2002), to reveal the conditions in which it situates the problems of teaching learning. The interview protocol includes questions about learning in undergraduate courses, which lacked learning about teaching in these courses, which authors and theories were learned during the course.

The instruments used in field research were pretested in order to verify the comprehension and relevance of the issues in focus, considering the research objectives. Before starting the research, an exposition of the study objectives to the participants was made.

The analyzes take as indicators the systematization of the contents based on Bardin (2010) and the indications of Flick (2004) for testimonials collected by interviews. The members of the Praxis Group - PUCPR participated in the interviews. In the analysis of the statements of the interviewed teachers, the pre-analysis phases were carried out, the codification defining the registration units (using ATLAS TI), the categorization ending with the inferences (Bardin, 2010). The categories of analysis of registry highlight: (i) learning of knowledge for teaching; (ii) learning for research; (iii) learning of pedagogical foundations; (iii) learning of teaching practices.

The interviews were transcribed and then the data of the teachers' statements were grouped by registration units aiming at categorization. The formation time did not indicate a significant difference in the reliability of the data. Regarding gender, the female group described the learning about pedagogical knowledge a little more detailed, but the highlights are close to the male group.

4. Results

The units of analysis took the theme words by reference to the indicators of the theories underlying the research (Schulman, 1986, Marcelo, 1999, 2010, Gatti and Barreto, 2009, André, 2010, Ludke Boing, 2004; Lytle, 1999).

(i) Learning of knowledge for teaching: teachers emphasized that during the courses of teacher training (undergraduates) they carried out an intense learning of the disciplinary contents. Focus on knowledge of fundamentals of each discipline. Up-to-date disciplinary knowledge was little approached, much less the contents of basic education subjects. So, in general, learning is about concepts. The classes are developed with the explanation of the concepts by the teachers, then exercises and activities are done to assimilate these concepts. The approach is theoretical with little applied knowledge. Authors and theories on content specific knowledge in each area of teacher education, authors of physical education, mathematics, linguistics, history, and fewer authors of pedagogical theories were also indicated.

(ii) The learning to perform research focuses on the composition of basic concepts on research methods and procedures, an instrumental learning. Most teachers indicate that they have done bibliographic research and the completion research. There were no practices of research in schools about the teaching practice.

(iii) The learning about pedagogical knowledge was centered on the fundamental theories of the pedagogical disciplines, with little articulation with the teaching practice. Classes consist of reading texts followed by content discussion, lack of articulation with teaching practice.

In the interviews the teachers pointed out that they had little learning curriculum knowledge, involving understanding of the materials and programs that serve as "mediation tools" for teachers. They felt lack of knowledge learning on how to develop their students' learning. Among the learned theories cite Teria's development of cognition based on Piaget. The most outstanding didactic knowledge is teaching theories, among them Paulo Freire.

(iv) Learning about the teaching practice is carried out during the teaching stages. The internship takes place in three phases: observing the practice of a teacher; participate in some activities such as correcting student exercises and teaching classes. Few teachers indicated that they taught more than one class.

5. Discussion

The research indicated that the learning in the courses of teacher training are partial: there is little learning about the school contents and curriculum such as the researches of Gatti and Barreto (2009) when examining these courses. The authors point out that pedagogical knowledge is "only a superficial veneer of pedagogical training and its foundations with generic propositions that go beyond offering a more solid formation". (Gatti and Barreto, 2009, p.74). Likewise, Marcelo (2013, p.32) indicates that "the quality of teaching no longer depends only on the mastery of didactic knowledge of the content that teachers possess." This knowledge restricted to concepts and reading of text adds little to training for the role of teacher. The fact that the courses focus training on learning theories of development and little on how to promote student learning "It is not only the knowledge of the content, nor the generic domain of teaching methods", because pedagogic learning "includes how to organize the contents, the problems that emerge "Marcelo (2013, p.33).

Imbernom (2009) indicates the learning of teachers' knowledge about teaching have originated in different moments, from the experiences as students, because they learn to teach the teachers who were part of their school trajectory; in exchanges of experience with school peers and in practice. The research indicates that the learning of the practice restricted in the stages realized during the course indicates that in the course are little appreciated the learning from the experiences. Interviewees do not indicate learning by reflecting on themselves, on their learning practices, on their observations in schools. The learning of practice focused on the completion of the stage and not effectiveness of teacher learning. In general, when doing a single practice of class they point to a limited stage.

Fullan and Langworthy (2014) warn a teaching that mobilizes the student to learn as opposed to passive learning and memorization of knowledge. Teaching by linking learning to a new model articulates technology and helps to achieve deep learning objectives involving the creation and use of new knowledge in the real world. Teachers are partners with students in deep learning tasks characterized by exploration, connection, and broader projects Passive teaching with knowledge transmission produces passive learning.

The instrumental learning of the research limits the understanding of what happens in practice "teachers should be reflexive and critical users of knowledge and practices" as Carr and Kemmis (1988, 195) indicate. The research carried out by the teachers contributes to the retrospective understanding of teaching in order to contribute to a prospective action. The

completion of a complete research at the end of the course is insufficient to incorporate this practice (André, 2006).

The didactic action of research learning can occur in several ways such as: the study and discussion of research on teaching practice; participation in research groups; conducting research in study groups; the systematization and analysis of data; observation visits in schools with data records to be reported during class; mapping of publications on a subject of teaching practice.

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THE "ROMANIAN IDENTITY" FORMED THROUGH THE HISTORY TEXT-BOOKS OF THE FIRST DECADES OF THE 20TH CENTURY

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Abstract: *The purpose of the paper is to find out how were educated the Romanian pupils of the first decades of the 20th century about their "Romanian identity". It is qualitative research, methodologically based on the analysis and comparison of the learning contents offered by Romanian history text-books at that time and of the appropriate school programs. Our analyze includes 10 Romanian history textbooks between 1900-1935 and their corresponding school-syllabus. The paper is organized on two sections. The first section will analyze the concept of "Romanian identity", theorized by some political and cultural Romanian personalities from the indicated period. The analysis of the learning offer from the perspective of its content, historical documents or visual material proposed by the History textbooks, represents the most important part of our paper. Our findings focus on elements of modernity and on specific aspects of education of that time, with positive effects on the formation of Romanian identity in young people that are studying history.*

Keywords: *History text books; Teaching materials; Romanian identity;*

1.Introduction

The foundation of Romanian national identity through school action became a political aim for the political and cultural Romanian elites, during the second half of the 19th century, after the Union in 1859. Scientific and methodological reasons require an interdisciplinary approach to the identity issue. Thus, sociologists identified two main directions of concept development, the essentialist and the constructivist one. We relate the emergence of the constructivist theory to the cultural movement of postmodernism, which became a reality after the beginning of the 20th century. Therefore, we focus only on the essentialist approach. According to the essentialist theory, collective identity is natural and permanent. It pre-exists social actors, being a biological, psychological or cultural result. (Rusu, H. 2009). According to Geertz (cited by Rusu, 2009, p. 34), identity involves primarily kinship ties, but also birth-related membership to a particular religious community, speaking a certain language, or practicing certain social activities. There are different identities, such as personal, cultural, social or national identity. Theorizing the concept of national identity, Schifrinetz (2009) considers that it expresses attitudes, mentalities, and collective behaviors resulted from individuals belonging to a national state. The concept of national identity has often been studied in relation to the concept of nationalism. Although these concepts are reconsidered today in Western society, national identity is essentially defined by specific features of language, culture, habits, tradition, and customs specific to a national community. Romanian historians address the national identity from different perspectives. Zub (2004) appreciates that the earliest moments of meditation on our becoming occur with the 19th century "national revival". After the Romanian territories' unification in 1918, a national pedagogy developed. In our study, we consider this the "Romanian identity project".

2. Theoretical framework

The first approaches of identity or of the "Romanian national ideal" settled during the 19th century, coincide in Romanian culture with the historical Romanticism of French origin, represented by the ideas of Michelet, Lamennais or Quinnet (Volovici, 1995). During a first stage, Romanian historiography was written by historians or politicians, such as N. Bălcescu, M. Kogălniceanu, B. P. Hașdeu or A. D. Xenopol. As Zub (2004) mentions, such historians emphasized national values, focused on Romanian origins or idealized the Middle Ages (Boia, 1997; Năstasă, 1999; Zub, 2004, 2006). Their historical discourse had strong patriotic accents. The first generation of Romanian historians believed in historicism when history "became an instrument of national militancy." (Zub,2004). A new stage in the evolution of the Romanian culture was introduced by "Junimea", a cultural organization which grew to become a modern cultural stream, led by Titu Maiorescu from 1867. The magazine "Convorbiri literare" announced a new cultural program which diminished the importance of history (Boia, 1997; Năstasă, 1999). The main characteristic of the new period in historiography was related to the primacy of truth in writing history, based on an attentive analysis of the historical sources (Zub, 2006). The historians had to keep a balance between the moral side of the national program and their creativity in writing history. A.D. Xenopol was the most representative historian of the moment. Historians had a critical attitude, but they did not openly break down with Romantic historiography (Zub, 2004).

After 1900, Romanian historians continued the new critical trend. Under the German thinker Ranke`s ideas, the Romanian historian N. Iorga argued that the role of the historian was to present the nation as a living, organically developing being. Iorga criticized the revolutionary discourse in history (Zub, 2004) and sustained the unity of Romanian civilization and the particular evolution of the Romanian people compared to the peoples around. He also emphasized on the patriarchal vision of the Early Middle Ages and sustained a Romanian "peasant state" (Boia, 57). The first decades of the 20th century brought a new orientation in writing history in Romania. Gheorghe Brătianu theorized this new historical trend and analyzed March Block`s ideas and the so-called Annals` School (Brătianu, 1924). Similar to March Block, Brătianu agreed that "traditional history" and the "new history" did not radically oppose each other, but represented "different levels of understanding history" (Murgescu, 2002, p. 9).

3. Methodology

The study develops qualitative research, based on history textbooks, school-syllabus, and history–teaching guidebook analysis and comparison. The case study represents another research method used during this research. We focus our research on the following research questions:

which were the main stages and the main characteristics of the Romanian historiography that conducted the Romanian national program of developing the Romanians' national identity?

which of the main ideas of the Romanian national project are found in the History textbooks of the first four decades of the 20th century?

The title of the teaching guide used as a primary source for this study is "Some teaching guidelines to approach the Romanian history lessons from the Syllabus on History at Primary Education" (Puchianu, Stoica, Pora, w.y). The document contains the school-syllabus on History for the 2nd, the 3rd, and the 4th grades, primary education level, from the beginning of the 20th century. Another school-syllabus on teaching Romanian History is dated 1935. We also analyzed nine Romanian history textbooks. A history textbook, edited in Blaj (a cultural center in central Transylvania) was used by primary school pupils, 6th , 5th , and 4th grade; another one from 1935 was used by students in the secondary education, 4th

grade. Other 6 text-books for the Romanians` History were produced for the upper secondary school, grades 7th and 8th. These textbooks were printed in 1926, 1929 (two of them), and 1931. The last two history textbooks analyzed for this study were used in special schools, for military studies, the one in 1925, and for vocational studies, the one edited in 1931.

4. Results

The teaching guide for history teachers (Puchianu, Stoica, Pora, w.y.) includes the chapter "Primary School and National Conscience" which states that "the love for the ancestral land, the love for one's own ethnicity, for the Romanian language, but especially knowledge and respect for the past represent the national conscience" (p. 5). Teachers were advised to determine students to appreciate the great events of the Romanian history, more than the history of other nations. As the study of history began during the 2nd grade, it was recommended to begin with issues of local history. Then, teachers could continue with "legends on other heroes". The need of these steps in studying history was motivated by the students` age, and because children of that age are not aware of historical space and time. The authors appreciate that young students should be prepared to understand history through "incidental approaches, whenever the present is related with the past", or by focusing on the local history and on its personalities, through stories or legends. Legends were introduced in a dynamic manner, with the purpose of impressing students, as to fulfill the educative purpose of teaching history in primary education. The teaching principle of accessibility required the teacher to adapt the story to the students` level of understanding. By teaching history, the teacher aimed to develop a strong national feeling in his students, making them proud of their history. Other feelings that had to be educated by studying history were those of social solidarity, justice, morality, devotion, gratitude, aesthetic or religious consciousness (p.8). The authors recommend an interdisciplinary and integrated approach to history and other school subjects. Geography, poetry and national music were to be combined with the study of history, as well as the use of maps and images or even the extension of learning outside the classes, through visits and trips (p.12). The textbooks on Romanian history should contain, in the author's perspective, "clear, concise and well-systematized knowledge", but should also be completed with pieces of "summary history" or historical narratives, written by "talented writers, in the spirit of children's" understanding (p. 10-11).

The comparative analysis of historical issues studied in different primary education grades reveals that the teaching and methodological recommendations are followed by the Romanian Syllabus for History at the beginning of the 20th century. Themes of local history or historical legends were studied in the 2nd and the 3rd grades. The legend about the foundation of Rome, or the one about the foundation of the Romanian medieval states Moldavia and Wallachia, including the stories about the Moldavian founders, Dragoș and Bogdan and about the mythical Wallachian founder, Negru Vodă, are examples of such historical issues. Other historical legends included in the History Syllabus for primary school are related to the Middle Ages, during the reigns of Vlad Țepeș, in Wallachia (the legend of Țepeș's Soldier), Ștefan cel Mare, in Moldavia (the legend of Daniil the Hermit) and Mihai Viteazul, in Wallachia (the legend Michael the Brave and the Executioner).

As the students grew up, the History curriculum focused on educating Romanian national consciousness. Students learned about the cultural activity of some important Romanian teachers, such as Gh. Lazăr or Gh. Asachi. The foundation of Romanian consciousness is linked with important national events form the second half of the 19th century, that are studied in all secondary grades, such as the Union of Wallachia and Moldavia in 1859, the modernization reforms of the Romanian national state under the leadership of Al. I. Cuza, or the Romanian Independence War, in 1877 and the first Romanian king, Carol the 1st.

5. Implications/Discussion

We analyzed the history textbooks from two perspectives: the format and the content. The *format* analysis reveals that History textbooks were realized in modest technical conditions, in black and white, even if the typing was adapted to students` age (normal, italics or bold characters) to focus the students` attention on different teaching aspects. The Romanian History textbook edited in 1900 includes auxiliary materials that might have been used as case studies to focus the learning activity on students. Such an example is the fragment of "The 22 points from the 1848 Wallachia Constitution" (Tocilescu, 1900, p. 481). This Romanian History textbook is divided into four historical periods, each of them including numerous chapters (18 chapters for the "oldest history" and other 18 chapters for "the most recent history"). After the process of unification between Romania, Bessarabia, Bucovina and Transylvania in 1918, the Romanian History textbooks diversified their format. The text of the lessons became shorter in the Romanian History textbooks for younger students (Cocisiu, 1924) and for those addressed to students in the special military school (Bogatu, 1924). The History textbook for future officers emphasized on the partaking of the Romanian army in historical events, including special lessons on this subject. Such textbooks suggested the use of traditional teaching methods, based on the teacher's narration. The History textbooks for secondary schools included longer lessons and auxiliary materials that provided the students with additional information. Lessons were numbered, without being structured in thematic units (Floru,1926,1929). The most important concepts, the names of the Romanian personalities or places were italicized in the lesson's text. Other History textbooks signed by the Romanian historian Ion Lupas (1929, 1931) structured their contents in chapters, include images, portraits, statistical data and fragments of historical documents. They also contained footnotes and final references, being closer to the format of academic papers. The Romanian History textbook edited in 1931 for vocational schools, 3rd grade, was signed by one university teacher and by two school-inspectors. Thus, its format followed pedagogical requirements more closely. The lessons were shorter, and they were clearly structured on subthemes. Additional documents, images or maps interrupted the text of the lessons. Specific historical concepts were explained in footnotes and the lessons usually ended with study questions. The format of this textbook allowed children to be more involved in learning and final study questions and exercises led to the scientific design of the teaching activity.

The *content* analysis of the textbooks follows criteria related to the quality of historical discourse, and on educative, formative and persuasive intentions of the texts. Tocilescu (1900) tries to stimulate the students` national feelings when describing the peasant issue, around the revolution led by Tudor Vladimirescu, in 1821:

"Working for 180 days in a year, the peasant could hardly pay for the central treasure; for his field, for his food and for his healing (…) there was no time or power left." (Tocilescu, 1900, p. 488).

Although in 1900 Transylvania was not part of Romania's territory, the textbook mentions the lack of national justice for the Romanians in this area, when discussing the 1848 Revolution. The secondary message of the text resides in the intention to emphasize the dislike for Hungarian oppression:

"The Romanian people of Transylvania lived for centuries under cruel laws imposed by Hungarians. The Romanian people, the country's master, did not even have the right to live as a nation in their country (…) they were threatened to lose even their nationality by transforming them into Hungarian people." (Tocilescu, 1900, p. 485).

The development of feelings of national pride, love for the Romanian Dynasty and indirectly, the completion of the formative goal of teaching history in schools were also pursued in the lesson about the beginning of the Romanian Dynasty in 1866:

"On April, 8th, 1866, the Nation's Elected spoke to the country's heart, and from this moment until nowadays he did not move from his post." (Tocilescu, 1900, p. 514).

The authors` educative and formative intentions are also present in the textbooks of Romanian History published after the Union of 1918. They use the term "nationalism" in a patriotic sense, referring to the love for the Romanian culture, literature, and language (Bogatu, 1925, p. 60). In this context, Bogatu`s textbook exaggerates the existence of Romanians` national consciousness around 1600, when Mihai Viteazul united the Romanian countries for the first time (p. 60) The historicity promoted by N. Iorga in his historical writings is also present in this textbook, but the idea is wrongly related with the Romanian dynasty's origins. Thus, the text states that "King Ferdinand I originates from the Bassarab family, The PrinceAlexandru Basarab, from 1310, on a female line" (p. 69). The importance of national culture and education is also stated in the textbook for the Romanians` history, signed by Cocisiu (1924). He explains the necessity of the secularization reform of the monastic properties, adopted by Al. I. Cuza in 1863, based on the principle of social and national justice. (Cocisiu, 1924). An important evolution made in the History textbook edited by Floru (1926) is highlighted by the tangible explanation of the terms "people" and "nation" in Romanian history:

"A nation is the daughter, not the firstborn of the 19th century. In the 18th century, there were states with Princes, classes with privileges, but no nations. No matter how many people spoke the same language, had the same origin, the same tradition, and the same occupation, they did not form a nation, if their clergy were not privileged, if they had no nobles." (Floru, 1926, p. 365).

If the king and the privileged classes represented the medieval state, the modern state, explains Floru, is represented by "people from whom all powers are going". Thus, the author asserts a modern conception about the state, separating the essential period of the Romanian historiography represented by Iorga. Floru displayed the same critical attitude, addressing the modern history of Transylvania in his history textbook for the 8th grade. Andrei Șaguna, the leader of the Orthodox Church in Transylvania, adhered to the same peaceful, hierarchical manner, as Iorga, in his struggle for getting the Romanian national rights. But Floru criticized Șaguna`s methods. (Floru, 1929, p. 369). The two history textbooks signed by Lupas in 1929 and 1931 resumed the historian's scientific ideas about the Romanian history. The textbook in 1929 explained the factors that were "determinant for the Romanian historical life": geographic, ethnographic, religious, rational and moral factors. Some explanations included in the textbook highlighted stereotypes and time-specific patterns of thinking that are now outdated. The ethnographic factor represented "the race or the seed from which the people were formed"; the rational factor was the national language, while the moral factor represented "the national consciousness". Most lessons included in this History textbook bared the generalizing idea of building the Romanian national identity. The lesson on page 253, entitled "General characterization of the Age of National, Political, Religious and Cultural Unity" (Lupaș, 1929) described the context of establishing "the links of unity" between Transylvania, Moldavia and Wallachia since the 14th century, when Prince Ladislau in Transylvania developed "good relations of proximity" with the descendants of Prince Litovoiu in Wallachia. (Lupas, 1929). It is an abusive generalization that will be present for a long time in the Romanian History textbooks, from the moment on.

6. Conclusions

Returning to our research questions, we can conclude that we identified the stages of the Romanian historiography during the second half of the 19th century and the first decades of the 20th century. These are the stage of the Romanticist historiography, represented by M. Kogalniceanu and B.P. Hașdeu, the Junimea cultural stream, represented by A.D. Xenopol

and the critical school of history, represented by N. Iorga and by Gh. Bratianu. The main ideas of the Romanian national program, as the representatives of the Romanian historiography stated them, are also present in the Romanian History textbooks of the first four decades of the 20th century. Thus, history textbooks reflect the views of Romanian scholars on national identity. They also assimilate the elements of modernity regarding the writing of history and correspond to the most important European tendencies in the field. However, this study has also revealed some exaggerated ideas which resulted from the programmed approach to the Romanian identity project. Some of them had a strong impact on Romanian consciousness, as their aftermath is still present in collective thinking.

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TEACHING STRATEGIES FOR A DEMOCRACY AND INCLUSIVE CLASSROOM.CHALLENGES FOR TEACHER PROFESSIONAL IDENTITY[10]

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Abstract: *Within the European debate on quality education for all, and along with the willingness to implement the Rights of Children, the paper will examine how diversities – which may relate to immigration status, disability, ethnicity, culture and social class – can challenge teachers' identity and class context in order to enhance the diversity of each student as a resource. The paper will analyse data gathered during an action-research project, which has been developed in so-called high-complexity classrooms in Primary schools, with the aim of investigating the process of implementing teaching strategies for inclusive pedagogy. It will discuss how this process engages teachers in a dynamics between pitfalls and creativity as well as between school cultural barriers and educational opportunities. This leads to transform their professional identity, by developing a deep reflexivity in their own contexts of practice and strengthening their competence to support democracy and inclusive classrooms.*

Keywords: *teacher professional identity; inclusive pedagogy; diversities; heterogeneous context; democracy;*

1. Introduction: towards teaching and learning 2030

The rapid changes in globalization, increased migration, growing diversity and technological advances require people to be well prepared to meet the demands of the global economy and participate successfully in a culture of democracy in our complex societies (Council of Europe, 2016; European Commission, 2018). Education is internationally recognized to play a key role in this process of change, by providing learners with the competences for a life to act as democratic citizens. The *Agenda for Sustainable Development 2030* (UN, 2015) highlights that the main scope of the school is to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (Goal 4). This means improving education through greater access and equity for all learners, as well as the creation of safer and democratic learning contexts. Indeed, inclusive education is defined as the "process of strengthening the capacity of the education system to reach out to all learners". It leads to overcome barriers limiting the presence, participation and achievement of all students, where the term *all* embraces the existing *diversities* in class, "which may relate to their race, ethnicity, gender, sexual orientation, language, culture, religion, mental and physical ability, class, and immigration status" (Unesco, 2017, p. 7). This principle comes along with the willingness to implement the Right of Children (UN, 1989), according to which all children have the same right to develop their potential in all situations and at all times, regardless of their gender, race, ethnicity, nationality, disability or other status. This principle of non-discrimination has been asserted in other important international treaties and texts, such as the Universal Declaration of Human Rights (art. 26, 1948), the UN Convention

[10] This contribution, fully shared by the two authors, was drawn up as follows: paragraphs 1, 3, 5 by Isabella Pescarmona and paragraphs 2, 4 and References by Alessia Cinotti.

on the Rights of Persons with Disabilities (2006), the UNESCO Salamanca Statement (1994), and the UN Convention against Discrimination in Education (1960). These aim at ensuring that all learners are valued and engaged equally, and devote special attention to those who have traditionally been excluded from educational opportunities. In Italy, the educational guidelines have receipted the challenges of promoting more inclusive learning strategies at school over the last decades. Equality of educational opportunity for all has been affirmed since the Italian Constitution (art. 3, art. 33-34, 1948), and it has been deployed in many institutional documents during the years[11].

Within this educational tradition, which strives for inclusion in increasing heterogeneous classes, and according to the current European educational debate, teachers are recognized as key agents in achieving the provision of quality education.The right to education cannot be fulfilled without trained and qualified teachers. While teachers are crucial to the quality Agenda in Europe and in Italy, there is still a failure to engage more broadly with teaching and learning in heterogeneous classrooms. What knowledge and skills teachers should acquire in order to effectively achieve and ensure inclusive and quality education for all has to debate within the context where teachers work everyday.

The paper would like to investigate how teachers respond to the challenge of creating an inclusive democracy classroom, by implementing different strategies to enhance the diversity of each student in the learning process. Furthermore, it will examine in which terms this leads to transform their professional identity.

2. Inclusive and equitable pedagogy for heterogeneous classrooms

Since the 1990s, international scientific and political debate has promoted the concept of "inclusion", in which access and participation of *all* children are considered a priority, guaranteeing *equality of opportunity, access and retention in integrated setting*, through a particular attention to all the different kinds of diversity(UNESCO, 1994). Schools cover a key role in facilitating both the inclusion processes and the personalization of learning, by providing teachers both educational answers and teaching methods, which are designed to reach out to diverse learners. Indeed, high-complexity classrooms can no longer read as an emergency, but need to be faced more structurally through an *inclusive pedagogy*. This is closely linked to the creation of a supportive learning environment that allows each learner to be fully considered and feel equally valued (Nordlund, 2003). However, such a learning ideal may raise some resistances for teachers that strive for achieving and maintaining acceptable outcomes in heterogeneous classes.

This issue has led to the concept of *inclusive approach*. As Florian (2015) stated "the inclusive approach is predicated on a shift in pedagogical thinking away from conventional approaches that work for most learners existing alongside something additional or different for those (some) who experience difficulties, towards one that involves providing rich learning opportunities that are sufficiently made available for everyone, so that all learners are able to participate in classroom life" (p.11). In other words, inclusion aims to transform the traditional educational perspective, which is typically based on a "specialised answer to special needs", into an "ordinary answer to the needs of all". Instead of many teachers believe that they need *specialized* strategies to reach all students, it can be more beneficial to know that teachers can better support the learners by *differentiating instruction* through *multiple* strategies (Tomlinson, 2004; d'Alonzo, 2017).

[11]The main ones are: Law 104/1992 (*"Legge-quadro per l'assistenza, l'integrazione sociale e i diritti delle persone handicappate*) that promotes integration of persons with disabilities into school;"La via italiana per la scuola interculturale e l'integrazione degli alunni stranieri" (MPI, 2007), which encourages the development of intercultural education and strategies in multicultural classrooms; and "Indicazioni Nazionali per il curriculum" that defines the school a learning community where a global and pluralistic citizenship is nurtured (Miur, 2012).

Differentiating instruction is an approach to teaching in which teachers actively *plan* for student's differences *a priori*, by providing them with more options, so that each student can learn better (Valiandes & Neophytou, 2018). It does not make much sense to present information in a monodimensional way and expect every student to learn effectively. Teachers should use multiple strategies to make sure that all students are involved in the information being taught. They may respond to the variety of students' needs in the classroom, by modifying the *content* (what is being taught), the *process* (how it is taught), the *final product* (how students can demonstrate their learning), and *planning/designing* the learning environment (how the classroom "feels" and how the class works together). It means to design contents and environments that can be effective and usable to the greatest extent possible of students, regardless their cultural background, learning style or abilities (Algozzine & Anderson, 2007).

Hence, teachers need to adopt many strategies of valuing diversity, such as: presenting ideas thought both auditory and visual means; using reading materials at varying readability levels; including materials written or created by people of different backgrounds and/or perspectives (content); working in small group, varying individual and group activities; varying the length of time a student may take to complete a task (process); allowing students to work alone or in small groups on their final products; using rubrics assessment; varying the type of final test (final product).

In terms of rights, nowadays pursuing the route of equality and diversity by adopting *differentiating instruction* is one of the main challenges to ensure a quality education (Heacox, 2012).

3. Research Context and Methodology

This study aims to examine the teachers' perspective, while they are implementing strategies to deal with students' *diversities*. In order to highlight teachers' beliefs, values and practice in the context of their own work environment, an action-research case study has been carried out (Sagor, 2000). The research project has been developed in so-called high-complexity classrooms[12] in 6 Primary schools in the municipality of Bologna (Italy), by involving a reference group of 24 teachers of different subjects. It is designed on these main phases: (1) a preliminary exploration of teachers' needs and analysis of their problems; (2) a teacher training course[13] on *inclusive pedagogy* and *differentiating instruction*; (3) a formulation of multidimensional actions and their implementation in teachers' classes[14]; (4) a follow-up and a critical evaluation of the process.

During the research phases, a qualitative methodology is adopted to gather and analyse data (cfr. Miles & Huberman, 1994; Neumam, 1997). The main data collection tools that are used are in-depth interviews with teachers. These aim to explore:

How teachers define the issues of diversity in class, and which problems they identify (phase 1). The main questions were: "*What does diversity mean for you?*", "*What major*

[12] As a nowadays common situation in Italy, these classrooms consisted of a large number of pupils, both males and females, including pupils with disability or learning diseases, pupils in situation of socio-economic disadvantage, and pupils coming from migrant families.

[13] The training course consisted of 28 hours lessons, which were conducted by University Professors and some in-service school teachers. It involved participants through an active methodology in order to enhance the dialogue between theory and praxis. The main contents provided were: a modern framework of inclusive and democracy pedagogy, the related student-centred teaching strategies, and the principles of differentiating instruction for Primary school.

[14] The teachers were required to implement at least one of the inclusive and democracy strategies that they have learnt during the teaching training course, by analyzing and adapting it to their own classes. This phase lasted almost two months.

challenges and problems do you face while working in an high-complexity classroom every day?", and "*How do you usually address the different learning needs of your students?*";

Which difficulties and solutions they encountered in implementing new inclusive and democratic teaching strategies, and how they redefine their role in class (phase 4). The main questions consisted of "*What teaching/learning strategies did you try out for making students participate, after the training course?*", "*Could you give an example of how have you developed an inclusive strategy in your class?*", "*What changes did you recognize (if any)?"*, and *"In which terms did this process contribute to re-think your teacher's role in class?*".

All the interviews have been transcribed and inductively analysed by identifying patterns, labelling themes, and developing category systems (cfr. Glaser & Strauss, 1967). Tominimize the invalidity of the research, the researchers provided the participants with transcripts of their interview so that they could revise them, and be involved in a continuous professional development. Indeed, the final aim of action-research might be to support teachers to tailor teaching and learning to their students in their educational settings, through a participatory and democratic process.

4. Findings

Although *inclusive approach* has helped to ensure a growing attention to *all the different kinds of diversity* in schools, this approach is not significant in terms of practices. By improving accessibility and learning conditions for*all*, the project has contributed to improving rich learning opportunities in so-called high-complexity classrooms.From pedagogical point of view, the actions carried out during this project are in line with the need of re-organization of school to cater for disadvantages or disabilities in order to achieve "acceptable level of learning" and increase support to teaching-learning processes.

The outcomes of the phase 1 show that teachers tend to define *diversity* as a very controversial topic. A large group of teachers considers "*heterogeneous classrooms*" a very stressful experience, particularly concerning some teaching subject areas (e.g. Maths and Italian language). Conversely, a small group says that this kind of complex situation is an "*occasion*" that the majority of teachers can tackle through a gradual and careful "*accompaniment"* and support. Although they perceive diversity as a resource, they have great difficulty in meeting the various needs of their students. During in depth-interviews, many teachers describe these difficulties in terms of "*obstacle"*, which hamper a "real" implementation of an inclusive approach in their classroom. The main ones concern: a) teachers' beliefs and prejudices that constitute barriers to education ("*I think that students from certain group are really weak"* or *"have high abilities in particular subject areas*"); b) lack of resources allocated to the implementation of initiatives ("*it would like to do more, but school is poor, we do not have economic resources to do better*"); c) lack of knowledge on inclusive approach ("*I need more training opportunity*"); d) lack of time (*"I do not have time … we are always under pressure*); e) lack of a coordination among all classroom teachers ("*I feel isolated*"; "*I would like to do more, but I need the support of my colleagues"*).Indeed, the majority of teachers involved in the research tend to adopt a teaching method based on the repeated reading of the text, accompanied by the underlining,and a finaloral presentation of the key concepts to the students. To simply, teachers tend to present information in a single way.

Based on an initial screening of teachers needs in these educational situations, one of the objectives of the research was to promote the *inclusive pedagogy* and the*differentiating instruction* (phase 2). Thus, a joint experimentation among classroom teachers were implementing in order to create an "inclusive framework", which led teachers to develop a role of responsibility in becoming an "intermediary" between "students" and "learning

objectives" (phase 3). The data collected by monitoring the teaching actions in phase 3 demonstrates an increasing impact of the training course on teachers' action. The objectives are partly achieved and further, in some cases, deep changes in teaching practices are recorded. During the final interviews (phase 4), some teachers state they have introduced in their everyday teaching some new strategies such as, presenting ideas thought both auditory and visual means, varying the length of time a student may take to complete a task, allowing students to work alone or in small groups on their final products, and varying the type of final test. Concerning the impact of these strategies, a group of teachers state, "*At first, I was not comfortable with this kind of lesson. It was not easy to introduce 'something new' in my teaching style".* Another group complain about the effort in planning each lesson for diverse students' learning needs. But, at the end, a large group of them affirm, "*I'm so relief! I realized I can manage successfully a complex class situation*". Furthermore, another group recognize the power of collaboration with their colleagues for breaking the isolation they perceived at school and sharing common problems as well as a wider range of solutions. This leads them to develop new skills, such as planning *a priori* and observing the class in a different way.

Not only does the data gathered highlight how the project provided teachers with the possibility to become more familiar with the *differentiating instruction*. Above all, it shows that this action-research was an opportunity for them to think about their own *professional identity*, in relation to difficulties, motivations, beliefs, prejudices. For example, a teacher affirms, "*Thanks to this experience, I found the courage to tell to myself that sometimes I feel ineffective and I thought some students were 'inapproachable'. But now, I realized I have the power to act".* Finally,a large group of teachers stated that this project allowed them to reflect on their own *know-how*, strengthen their knowledge of new teaching methods and strategies, and nurture equal teaching processes to improve the participation and learning achievements of their students.

5. Conclusion

Research findings allow to gain a deep qualitative interpretation of the process, which highlights some positive aspects and results, but nevertheless also a number of concerns and challenges for these teachers. The study shows that their professional development is related not to the embedding of new methods and techniques in the usual way of teaching, but to the development of a new way of looking at their everyday practice and at their role in class. The research helps these teachers strengthen their competences and skills to support a more different and inclusive learning process, and considering the class context and organization part of the problem – as it could work as an obstacle or a resource in making the change possible. Properly by tackling challenges, which arise from both the pre-existent way of teaching and school cultural context, these teachers recognize themselves *active agents of change*, and developed a deep multifaceted and reflective professional identity. Thus, participating in action-research leads them to feel empowered and improve quality in education in their own high-complexity classrooms.

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TEACHER PROFESSIONALISM AND THE QUEST FOR EQUITY IN MULTICULTURAL CLASSROOMS. CRITICAL PERSPECTIVES FROM THE FIELD

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Abstract: *In a rapidly changing and culturally diverse world, teacher quality may play a key role in addressing different instructional needs and promoting equality of opportunity for all for a democratic society. Beyond the idea of "Best Practices", this paper aims to examine the complex process of learning and implementing a cooperative strategy for promoting inclusion in multicultural classrooms. By discussing data collected during an ethnographic research project in some Italian Primary schools, the paper sheds light upon some of the challenges teachers encountered in putting the new strategy into practice in their own classrooms. Findings reveal how teacher previous educational ideas and ways of teaching, as well as the local teaching context, affected their choices and the meanings they gave to innovation. Instead of applying the new strategy as a "ready-to-use package", these teachers recognized themselves as active agents in this process of change.*

Keywords: *teacher professionalism; ethnography of education; cooperative learning; multicultural classrooms; equity;*

1. Teacher professionalism in the age of globalization and diversity

Within the frame of European wide demographic change and socio-cultural differentiation phenomena, cultural and linguistic diversity emerges as one of the main challenges school may address. Students' success depends upon the schools' capacity to deal with their different instructional needs and respond to such change effectively. Teacher quality is one of the most significant factors in students' achievement and educational improvement, and thus teacher professionalism is at core of the international debate over the last decades. This concept is defined as "improving quality and standards of practice" (Hargreaves, 2000, p. 152), but its meaning is much disputed. Evetts (2013) discusses the relation among profession, professionalization and professionalism, where the latter is presented as a discourse that combines the occupational value and the ideological interpretations, but it is also defined as a value system. In fact, it is not just a matter of standardization of qualification for practice. It may relate to teachers' epistemological beliefs and values, which in turn are particularly relevant for inclusion in our complex and multicultural societies (see Townsend & Bates, 2007). International Agenda (European Commission, 2013, 2018; UN, 2015) highlights the need to ensure inclusive and equitable quality education (Goal 4), in order to promote lifelong learning opportunities for all and nurture more responsible citizens for a democratic society. Teachers are required to be equipped and qualified for this new and developing challenge. Thus, a greater attention is posed to teacher preparation, both as initial education and continuous professional development, to acquire inclusion competences and educational approaches about students' differentiation.

Cooperative Learning is internationally recognized as one of successful approaches to deal with diverse classrooms. It creates the conditions for a more equal dialogue in class, by

leading students of different social, ethnic and cultural backgrounds participate in a supportive manner (Sharan, 2013). Learning from others and with others, balancing interpersonal respect and cooperation, recognizing diversity as a resource are some of the main principles which are developed through cooperative groups. For its potential for intercultural education and social justice, Cooperative Learning has been considered "Best Practice", which deserves to be part of educational policy in some countries and advocated by manyteacher training institutions (universities, educational centres or associations) to improve teaching quality in heterogeneous classrooms (Council of Europe, 2008; Gobbo, Jacobs &Pescarmona, 2010; Grant & Portera, 2011). In Italy, the educational guidelines have receipted the challenges of promoting intercultural education and more inclusive learning strategies at school, and explicitly refer to Cooperative Learning as a means of dealing with pluralism in the class (MPI, 2007; Miur, 2012). However, despite there is an increasing interest at the political level and academic discourses, some research shows that there is a persistence of traditional teaching approaches in Italy and little attention to students' differences and to the promotion of class discussions and group work tasks (Ferrer-Esteban, 2016; Miur, 2018). While educational guidelines emphasises teachers' preparation to strive for inclusion and teachers' capabilities have featured strongly in arguments for reforms in teacher education, only a modest evidence is provided regarding the process that connect teacher training and the effective implementation in class.

Therefore, one of the questions that arises in my research is how may professionalism of teachers be enhanced locally when implementing "Best Practice" for inclusion, such as Cooperative Learning, and to which extent can this practice innovate the way of teaching.

2. A Cooperative Learning strategy for democracy classrooms

Among the various cooperative strategies, the proposal of Elizabeth Cohen, which is called Complex Instruction (CI), distinguishes itself by its explicit aim to improve equal status interaction between students of differing academic and social levels in group work (Batelaan, 1998; Cohen, 1994; Cohen & Lotan 1997; Gobbo, 2010; Pescarmona, 2012). While other cooperative methods seem to focus on the way of working together successfully, Cohen starts from the analysis of the factors which may impede students' participation in a group task and produce inequality. Based on a sociological analysis of classroom interaction and Expectation States Theory (Rosenthal & Jacobson, 1968), Cohen recognized that inequality in class has to be addressed, not only to the social inequities of the larger society, but mainly in the structure of work tasks and patterns of interactions in classrooms. Indeed, the ways in which teachers design learning tasks, organize the communication among students and between teachers and students, and evaluate the outcome influence the participation in learning activities and, thus, students' academic success. In order to change the conditions that influence students' participation in the educational process, CI offers three main strategies, such as: (1) teacher delegation of authority and accountability; (2) adaptation of the curriculum towards inter-disciplinary and open-ended tasks, which require an interdependence of multiple abilities (See Gardner, 1983) to be solved; (3) status treatment and feedback procedures that enable teachers to change the perceptions of students' ability to learn (especially the low-status ones'). The final purpose is to make the class context more equal by recognizing each student's different contribution as a resource to the task, and creating a positive mix set of expectations of competence for each student.

3. Research Context and Methodology

Grounded in Cohen's theory, this study will analyse the process of embedding this "Best Practice" into teaching in Italy and what meanings teachers give to this process of innovation. It presents a further reflection on some findings from an ethnographic research

project, which was developed at the University of Turin, in Italy (Pescarmona, 2017, 2018). This took place at the end of a teacher-training course on CI and involved a group of primary school teachers who decided to create new CI teaching units and implement these in their multicultural classes. Four schools located in different areas of Bologna and its Province were selected: one school was in the city centre, one in the mountains and the other two within the near countryside. All of these schools were attended by students with different immigrant and socio-cultural backgrounds. The research was set up as a *case study*(Pole & Morrison, 2003; Jewett & Schultz, 2011) and was carried out in two second classes (pupils of 7 years-old), a fifth and a fourth year class (pupils of 9-10 years-old). A qualitative research methodology is adopted. Data was collected by using participant observation in teachers' meetings, while they were working together on creating new CI units, and then in their classrooms during everyday lessons and afterwards during CI experiments. The main fieldwork took almost two years, at least twice a month, by adopting a "recurrent time mode" (Jeffrey & Troman, 2006). To reach a holistic comprehension of the context and gain a "thick" description (Geertz, 1987) of educational reality, field notes were triangulated with open interviews and informal conversations with the six teachers involved. Data were qualitatively analysed according to *Grounded Theory* (Glaser & Strauss, 1967), which allows constructing interpretative categories from raw data (Wolcott, 1994; Pole & Morrison, 2003). Data were read and re-read in order to look for recurrent themes, by identifying singularities, regularities, and variations. This process allowed to organizing data into manageable units, making connections among them, and then developing patterns to interpret the world of educational actors. Although ethnographic data usually can not be generalized, it has the advantage of getting a sensitive and deep understanding of teachers' professional beliefs, values and strategies and voicing the insiders' point of view in relation to their contexts (see Troman, Jeffrey, &Walford, 2004).

4. Dilemma and strategies in implementing a new teaching strategy

Findings revealed that learning and experimenting with CI was more complex and uneven than what may have been initiallyexpected. During teachers' meetings, these teachers were highly motivated to make students understand that there are different ways to learn, and often stated they believed in Cohen's sociological theory. They showed a progressive self-involvement, but the implementation of the new strategy did not proceed constantly. Dealing with CI required of teachers a huge creative effort and led them to compare the new ideas with their previous educational values and beliefs. Rather than simply transferring the new ideas and cooperative rules into practice, they discussed critical educational issues, such as how pupils learn, what and how to assess the work, how to teach. This generated *educational dilemma* (Pescarmona, 2015, 2017), which was not easy to solve. The main dilemma concerned: the creation of multiple abilities tasks and the consequent evaluation of students according to a broader notion of intelligences; and the issue regarding the delegation of authority and the recognition of pupils' power of acting autonomously. For example, teachers recognized the power of designing multiple ability group work for inclusion, but also complained about the pressure caused by having to follow a vast syllabus. And, in general, they argued the priority of developing linguistic skills at school. Thus, they often reported, "*I'm worried about dropping behind*". They believed that their role was to promote the ability of each pupil to participate and give a specific contribution to the task. But they reported they had to act as mediators of learning activities. As a teacher said "*I'm afraid pupils may fail... some pupils need extra-help*". Experimenting with CI challenged the perspective they were accustomed to, but at the same time it could stimulate a pedagogical discussion and sparked a new kind of awareness. As a teacher realized, "*Sticking to the same teaching method is a strong temptation* […] *We often believe to be equal and unbiased,*

despite our class context and students' diversity". They started to recognize the importance that their expectations had in class interactions and, thus, started to consider pupils' different answers.

Even if these teachers appreciated the aim of giving equal opportunity to all students, they questioned CI effective implementation at school. They frequently argued the constrictions they experienced in experimenting CI in classroom, such as the difficult relationships with colleagues and the limits caused by a fast turnover, when they wanted to develop an interdisciplinary task during the year. They also complained about the rigid school time-table and the increasing requirements for fulfilling bureaucratic aspects. And, in general, they perceived the lack of educational policy and financial resources for supporting a real innovation at school. As a teacher said "*it's not just a question of method*". Sometimes, they felt they had little choice and they could decide to fall back on their usual way of teaching. But, at the same time, the teachers recognized CI as a tool to reaffirm their educational values and tried to find new strategies to tackle dilemma and the usual school constraints creatively. Thus, they interpreted the syllabus and the evaluation criteria in a more interdisciplinary way, re- organized the school timetable in order to devote more time to working in groups or enrich the task activities with engaging resources. By balancing different requirements and ideas, they became more aware of the complexity and richness of the process of teaching, and felt they had the power of working in a different and unexpected way because, as a teacher said, *"I don't want restrict students' chances".* Therefore, they started to analyse each lesson in terms of access to learning.

5. New professionalism from a teachers' perspective

All these teachers succeeded in implementing CI in class, but they gave different meanings to this experience. According to the degree of difficulty or openings these teachers encountered in introducing CI "Best Practice" into their usual way of working at school, their reactions to innovation could be different. They interpreted CI strategy from different perspectives, according to the perception of having the power to overcome dilemmas and constrictions. Consequently, they followed different patterns of response by moving among different positions, which I summarized in four categories. The educational innovation could be a *challenge*. It could be seen as a confirmation of teachers' beliefs and a strengthening of their professional identity. As a teacher declared, "*CI is a professional adventure*", and got this opportunity for sharing new ideas with colleagues and involving them in a CI training course to start a process of change in her school. CI experience could also act as a *professional springboard,* an improvement in teacher own professional career, in terms of competence and values. "*I think I'll take a new path, but it's a long way to go*", a teacher affirmed. CI could be a plunge to innovation for the individual teacher, nevertheless the constraints and poor conditions that hampered an effective dissemination in school practice. Moreover, this process of innovation could be experienced as an *adjustment*. It could be seen as an activity that implied a compromise between teachers' ideals and usual school requirements. It would be a negotiated practice. As a teacher said, "*CI is a luxury amongst other activities. But it's just one of many*". At school, this might be a common position towards "Best Practice", which could be interpreted as "*good initiatives*", but limited to a period of time, and sometimes without the power to modify the class setting. Finally, in another case, experimenting with CI acted as a *professional breakdown and self-reconstruction*. It was a real break from tradition and an opportunity for a deeper professional change. One of these teachers realized how the everyday way of teaching constructed certain "*school habits*", which could activate in pupils a resistant attitude towards change and affected the adoption of a new strategy. Thus, she used CI as a new lens to critically look at her usual educational practice and at the end stated, "... *CI has changed my professional life*".

Hence, teachers filtered CI Best Practice and adapted it in the new contexts. This is important to say because in classroom we should expect changes to take place, but this should be not taken-for-granted.

6. Conclusion

Research findings do not give an evaluation of a CI strict implementation, but rather a qualitative interpretation of the process, which sheds light on the uneven but rich way of dealing with the new educational strategy. What emerges from data is that borrowing CI Best Practice was experienced by these teachers as a process of appropriation. Innovating their way of teaching was for these teachers an open process. They did not just apply the new strategy as a "ready-to-use-package". These teachers acted according to their own educational ideas and to their local school context, which did not play a neutral role. During the process, teachers were not just "passive recipients" of the new practice, but they were active subjects of change. While they were considering alternative ways of giving voice and power of participation to students, they appropriated themselves of the same voice and power. In this terms, this process enhanced teacher professionalism, by raising their ability to rise critical questions about their own usual practice and reflecting on their role in class. These teachers realized that their professional identity was not necessarily pigeonholed in a predefined "script". Thus, they started to develop multiple expectations for themselves as teachers and became more aware of differential teacher effectiveness[15], which made it possible to create the condition for inclusion and equity in multicultural classes.

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ORIENTATION PROGRAMS IN HIGHER EDUCATION: CIVIL DUTY AND A WAY TO IMPROVE EMPLOYABILITY?

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Abstract: *The purpose of this study is to investigate the influence of orientation programs on student soft skills at Engineering Faculty of Sibiu during a period of 8 years. A number of theoretical and conceptual framework are used in our study, as well as a mixed method research (quantitative and qualitative). Specifically, we sought to answer: What soft skills are most important for scientists and recruiters? Are those soft skills learnable? Will a special developed Orientation Program increase students' chances to score higher in employability rankings? The most important findings from the qualitative investigation relate to 3 hypotheses. The survey covers 3 topics: involvement in student unions as a result of a special designed Orientation Program, the number of team building activities students take part in and awareness of their rights. These 3 topics are seen as an indicator of key skill sets employers will look for by 2020.*

Keywords: *Orientation Programs; Soft Skills; Higher Education; Employability;*

1. Introduction

What soft skills are most important for scientists and recruiters? Are some soft skills more important than others on an ongoing company project? Are those soft skills learnable? What method and tools can be used to develop those skills? Are they suitable for any bachelor programs? Most employers are looking for employees who are strong in both technical skills and soft skills to increase productivity and competitiveness (Gibert et al., 2019). One of the most important elements in meeting the needs of industry is developing the soft skills for engineering students (Székely, 2018; Ahmad, 2014; Aimao, 2012). It can be argued that soft skills are vital in every workplace and many researchers (Gura, 2012; Hungwei et al., 2019; Ho et al., 2016) are showing the increase request for implementing soft skills for their undergraduate and graduate student programs. Due to the rapid development of digitalisation in new technologies, innovation and globalisation in the past decade the necessity to face competition on all over the world created a major change on the necessity of developing new set of skills. Soft skills are one of the critical elements in the global working environment and should be possessed by the graduates of the Higher Education Institute (HEIs) (McQuick & Lindsay, 2005; Curtis, 2004).

Analytical and technical skills need to be balanced with soft skills competences developed in different activities like mandatory school projects, implementation of orientation programs, volunteering activities in student unions or different associations.

The main ten categories of soft skills that we need to focus on are (1) communication skills, (2) ability to work in teams, (3) leadership/ entrepreneurship skills, (4) Interpersonal skills, (5) decision making/problem solving skills, (6) flexibility/ adaptability skills, confidence level and also ability to adapt in the workplace (7) moral and professional ethics, (8) organisational skills, (9) project management skills, (10) analysis/creativity skills. What makes the difference on employability success rate for engineering students, nowadays, are

not only the good academic results but also to have additional skills such as soft skills to enhance professionalism.

When talking about problems and solutions in higher education, reports often look at grades, rate of graduation or number of employed graduates. Considering that grades are not always the best indicator for the knowledge a student has on a certain topic, and that most companies are looking for a lot more than just reading machines and diplomas, solutions to teach student soft skills like working in a team, communication and assertiveness are starting to be an important goal for universities nowadays (Cranmer 2006; Jones, Torezani and Luca 2012)**.**

1.1. Theoretical framework and research hypotheses

Student success and retention has been consistently linked to a successful transition to college. The main mission of orientation programs is to aid in the successful transition of new students to college. The lack of evidence related to the efficacy of these programs leaves orientation programs open to criticism from the various stakeholders who may have a limited understanding of the critical role that orientation programs can play in the early college experience of students and at development of soft skills competences.

This study provides insight into these areas, while also highlighting several areas for further investigation. We anticipate that the use of these approaches would strengthen this study by expanding its reach and subsequent utility to many stakeholders within the field of higher education.

We could not find in any university from Romania an orientation programs made by the last year students and offered for freshmen students but only some dry presentations like administration information sheets for students. The interpersonal skills can be developed not only in year project or during the internship programs offered by the school but also in activities that could create liaisons between the students of the same specialisation. As well as being a good engineer, future employees need to be able to work with others towards common goals, such as project objectives or company strategic or operational objectives implementations.

Building external working relationships, networking, creating connections between students from different years can be done even through programs that are made by the students for the students. If we want to develop competences in which students can understand what it means team diversity (culture, language, traditions, regional diversity, gender), developing communication skills in communicating with diverse people, and identified issues from the perspective of others, or show respect for values of others' we need to get them involved in projects that creates these sceneries. Moreover, those students that are participating in implementation of orientations programs or other projects, volunteering activities in student unions or different associations can create a pleasant human working environment where they can show empathy, friendliness, unselfishness and accountability (Marques, 2013; Komarraju & Nadler, 2013).

Social skills are essential in any harmonious human relationship. Social skills, at workplace, are closing the gaps between people with different personality traits and create the environment for colleagues to specialize and increase efficiency (Deming, 2017). In contrast, poor social skills have been found to have negative impact in not only academic achievement but also success in employment and long-term career, personal relationships, and mental health (Gresham, Van, & Cook, 2006).

We are proposing the following research hypotheses after reviewing the scientific literature in this field:

H1. Fourth-year students can develop more soft skills after implementing the project of orientation program and they are more likely to succeed in applying and implementing different projects at their work place / organisation.

H2. The driving force of passion of the volunteering projects can be transmited to first year students by their example and the foundations set by this practice in creating the necessary skills for team leaders in organisations projects.

H3. Social skills would have positive effect on learning outcomes among freshmen students and the rate of drop out will decrease by networking skills that were created and support groups developed during the two-week program activities.

The advantages of the orientation program are presented in table 1.

Table 1: List of Soft Skills Developed in the Freshman Orientation Project

Soft skill	Description
Communication skills	Building external working relationships, networking Communicating with diverse people Identified issues from the perspective of others, or show respect for values of others' they need to get them involved in project
Ability to work in teams	Team diversity (culture awareness, language, traditions, regional diversity, gender)
Leadership/ Entrepreneurship skills	Value trust and accountability within the team, share information, treat all participants and team members respect, act with integrity, keep your word, respect the program and fulfil expectations
Interpersonal skills	Proactive and self-starting initiative; seize opportunities and act upon them; originate action and actively influence events Empower talents of others Persuasion Negotiate skilfully
Decision making/Problem-solving skills	Inspire a strong desire to succeed among team members; steer others towards successful goal and task accomplishment' Make quick decisions when required; commit to definite courses of action; Make rational and sound decisions based on a consideration of the facts and alternatives available
Flexibility/ Adaptability skills, confidence level and also ability to adapt in the workplace	Conflict resolutions Make quick changes in the program when required (weather forecast, schedule changes, no proposal of the freshmen) Respond effectively to disappointments and setbacks; remain calm and in control even under pressure; receive criticism in a constructive manner rather than becoming defensive
Moral and professional ethics	Ethical and moral attitude Inspire confidence in your capacities and skills, be able to explain and underline your competences and their value to others
Organisational skills	Strategic thinking Gain agreement to proposals and ideas; stand ground in the face of opposition
Analysis/Creativity skills	New ideas, not bound to old ideas Handling disagreements Entertaining a wide range of possibilities

2. Case Study: Students from Economical-Engineering Field of Study

In 2010 a group of teachers and fourth-year students from the Economical-Engineering field of studies from the Engineering Faculty in Sibiu started an Orientation Program for first year students from the same field of study. The goal of the program was to ease the integration of first year students and to close the gap between upper secondary school-life and student-life, to create a community and organisational culture & liaisons between the students of the same specialisation inside the Economical Engineering in Mechanical Field Specialization (IEDM) and also to present students with their future opportunities in terms of volunteering, student organizations and their rights.

The team started working on the project from mid-September and created a two-week program with activities. The first pilot project was implemented from the 4th to the 17th of October 2010.

After the first day introductions and exchange of contact details, first year students were presented with the program schedule. The first activities organised were a series of "icebreakers" and team building-type games. This immediately helped first year students to get to know each other better and learn how to interact and work together. Team work was often fostered during the other activities as well, as students had to go on a treasure hunt were, they were split into two teams, or use their creativity to win the contest at the end of the funny city photo tour. The treasure hunt's goal was to help students find all the main Faculty or even University facilities and main offices. Game nights and movie nights were also included in the program, so not all activities had a training side to it. A very important activity from the second week was the student union's presentations. We invited the three most active student unions in their field of studies at that time: AEGEE Sibiu, SOLIDUS (Sibiu Engineering Students Association) and AIESEC Sibiu. First year students discussed with the student union members about their projects and the benefits of volunteering.

2.1. Methods Used & Participants

This study uses quantitative (survey questionnaire) and qualitative approaches (3 focus groups).

After the implementation of the pilot in 2010, a survey was carried out by the authors at the end of the academic year 2010/2011 in order to determine the effects of the Orientation Program and to test some theories regarding awareness of student's rights for the program participants compared to the other students from the same field of study.

In order to obtain relevant results and statistically representative data, the University UMS database was chosen as the frame for collecting population data. The survey population was represented by the full-time students from the Economical-Engineering field of study from the Faculty of Engineering in Sibiu (first, second, third and fourth year). We used the following method to determine the number of the sample:

$$n_c = \frac{p*q}{\frac{e^2}{t^2} + \frac{p*q}{N}}$$

[1]

where: n_c – sample size corrected

N – the size of the investigated community

t – trust level coefficient

p - the non-percentage weight of the sample components that are characterized by a particular attribute

q - the non-percentage weight of the sample components that are not characterized by a particular attribute; is determined with the relation "1-p"

e - margin of error

Out of the total of 70 first-year students, 46 second-year students, 59 third-year students and 49 fourth-year students, it was determined that 160 students were needed for the survey results to be relevant. The structure of the sample was set by dividing the sample into two groups: one group was formed by the first-year students and the second group was formed by the students that did not benefit from an Orientation Program (the ones from the second, third and fourth year). In order to determine the sample size for each group, we have calculated the percentage of each group out of the total population. The first group represented 31,25% and the second group (second, third and fourth-year students) represented 68,75%. Therefore, we considered that 50 responses from the first group and 110 responses from the second group would provide representative data for our survey.

Table 2: Subsamples Demographics

Information	Subsample 1 (first year students)	Subsample 2 (2^{nd}, 3^{rd}& 4^{th}-year students)
Male	44 %	42,73 %
Female	56 %	57,27 %
From Sibiu	56 %	49 %
Outside of Sibiu	44%	51 %

2.2. Survey Results

Most important findings of the survey cover 3 topics: involvement in student unions as a result of the Orientation Program, the number of team building activities students take part in and awareness of their rights.

In the context of this paper, these 3 topics are seen as an indicator of the student's initiative and problem-solving skills, ability to work in teams and coordinate with others, and the degree in which the university has fulfilled its civil duty in informing students about their rights.

With regards to its civil duty, implementing this Orientation Program has for sure brought a plus to the University. It was surprising to see that most of the respondents that did not benefit from the Orientation Program found out about the train discounts, or the right to representation in the Senate and Senate's role, only after the first year of studies. 24% of the students only found out about these aspects in the third-year and 4 students, only during their fourth-year of studies (as shown in Figure 1 below).

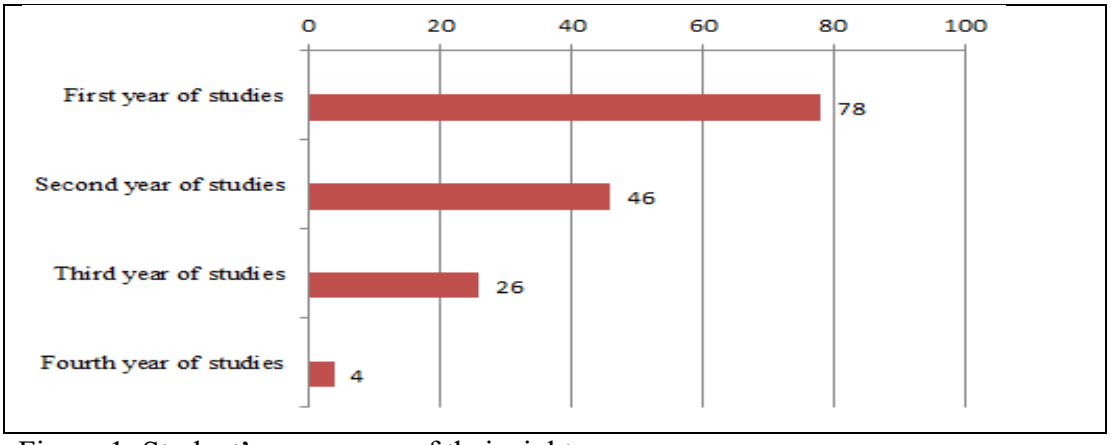

Figure 1: Student's awareness of their rights

Considering the studies about student's difficulties to identify and articulate their values due to a lack of critical thinking skills (Claudia Crişan et al., 2015) the authors consider it is the University's civil duty to implement projects to improve the quality of the learners. Unless students understand the importance of staying informed, of choosing their representatives when it comes to University meetings (like the University Senat) and understanding their rights and opportunities, the chances of developing these learner's critical thinking, ethics and decision-making skills remain slim.

For the involvement in student unions 3 main NGOs were named in the survey: SOLIDUS NGO as this is the Engineering Faculty's NGO, AEGEE Sibiu and AIESEC as they are not subject or faculty related and students from all universities / faculties can join.

As seen in the below table, the involvement of students from sub-sample 2 is much smaller than the one of the students from sub-sample 1, which were involved in the Orientation Program. The difference between the responses is significant according to the chi square test: 40% of the students involved in the Orientation Program are part of a student union, while only 17,27% of the students that did not benefit from such a program are part of student unions.

Table 3: Students Part of Student Unions

Members in student unions	YES	NO
Subsample 1 (first year students)	40%	60%
Subsample 2	17,27%	82,73%

There was no correlation found between student's grades and their involvement in extracurricular activities or NGOs. Most of the students that are part of student unions and that are more aware of their rights tend to have medium to very good grades, but the aspects are not necessarily connected.

2.3. 2018 Results and Focus Groups

The central features of focus group research is to provide access to participants' own language, concerns and concepts used and to have the opportunity to observe the process of collective participation to the project.

Given the results of the 2011 survey the Program has been implemented every year for the last eight years. We were however interested to see if the three topics covered by the 2011 survey were still representative for the next generations. Based on the reports written by each generation that organised the Orientation Program we discovered that some activities were taken out of the Program. After a focus group with 6 of the 2018 organisers we discovered that some of the activities in the original Program were forgotten. For example, the first team building-like activities and "icebreakers" were no longer officially included, but part of the reason was the lack of training and skill in this area of the organizers. After further investigation one of the root causes for this was the fact that they received their Orientation from the generation that graduated in 2016, which also received their Orientation from the 2013 graduates, which had no Orientation Program in their first year of studies and a low rate of involvement in student unions (the most common place to learn these "icebreakers").

The second activity to be excluded was the treasure hunt for discovering the University offices, but due to the big number of students to join the Faculty Student Union in 2010 and 2011, they tried to implement this activity for all first-year students, at Faculty level. The disadvantage was that some of the first-year students would choose not to participate in this activity as it was only a one-time activity with a group of new people and not all freshmen were open to this challenge. The activity could also not be part of the Orientation Program as organizers thought it might clash with the one organised by Solidus or be considered as lack of originality.

Based on this information we chose to organise 2 more focus groups. One focus group was organised with the 2017 graduates which were the first first-year students to take part in the Orientation Program, the second focus group was with the freshmen this generation trained (so the ones that will graduate in 2020).

A common idea from all three focus groups was the fact that organizing and implementing this project made fourth-year students develop competences in all ten soft skills categories.

H1. Fourth-year students can develop more soft skills after implementing the project of orientation program and they are more likely to succeed applying and implementing different projects at their work place / organisation. There is a positive correlation on implemented projects with problem-solving and critical thinking skills developed during different stages of unplanned decisions. Such decisions required to inspire their colleagues and participants a strong desire to succeed towards different goals and tasks that needed to be accomplished. This needed to define a course of action and to make quick decisions sometimes, without previous experience or any structured steps given to them by a professor or any external support team. This made them rely on their gut and be proactive and assume the risk of failing. Quick changes in the program were sometimes required because of some unpredictive events like the weather forecast or schedule changes or sometimes because of lack of creativity or proposals from the freshmen. This led to develop skills necessary when disappointments and set-backs appeared during the progress of the project. They learned how to remain calm and in control, even under the pressure of the events. Strategic thinking is an ability that top-level management needs in order to create sustainable strategic plans, more than low-level management, that require broader interpersonal and technical abilities.

Communication is another important soft skill required at the work place. Communication skills are developed in two directions. First direction is communicating with their own team with diverse personalities and they needed to build working relationships with their colleagues and with some external sponsors. Second direction is communicating their ideas with all the participants in the project. They needed to have a proactive and self-starting initiative, originate action and actively influence events, seizing opportunities and act upon them. One of the fourth-year students mentioned: "I learned a lot about communication and working with different people with different levels of motivation. I think project work is definitely something for me in the future".

H2. The driving force of passion of the volunteering projects can be transmitted to first year students by their example and the foundations set by this practice in creating the necessary skills for team leaders in organisations projects. The main acquisition during the implementation of the project is creating a trust between all participants and knowing all the issues from the perspectives of others and learning to respect the values of others when they get involved in project. For the freshmen one of the most important abilities learned during these two weeks activities regarded keeping their word, respecting the program and acting with integrity while fulfilling expectations of their colleagues. One student stated that: "It was nice to see so much involvement from the faculty and fourth year students. There was no way

you could not keep your word and participate in the activities after seeing the effort they put into organizing everything".

The creativity skills are fostered by the nature of the activities. Freshmen need to solve different tasks like creative photo-shootings, treasure hunt activities, game nights and surprize fourth-year students during the “icebreaker” activities.

H3. Social skills would have positive effect on learning outcomes among freshmen students and the rate of drop out will decrease by networking skills that were created and support groups developed during the two-week program activities. During the follow-up informal meetings, first year students learned to receive criticism in a constructive manner, without becoming defensive and they became more action oriented and more confident in their abilities to handle a failed exam or difficult school situations. "This program created a community for IEDM first year students and it is nice to see you are not alone coming to school and going back home without any other purpose".

Fourth-year students inspired confidence and they were able to underline and put to use freshmen unknown competences and give them advice and good practice in communication and attitudes towards academic staff.

At the end, they succeeded to empower talent of first-year students and maintained the Facebook groups and communication on social media. They created a nest for exchanging information, books and sharing new tools required in different school projects.

3. Conclusions and Future Recommendations

The results of this study illustrated that soft skills acquired during the implementation of the Orientation Program Project are essential for better employability of the final-year students and higher retention rate of the freshmen students.

In order to determine if soft skills could be taught or developed outside the curriculum, through volunteering and other activities, we chose to analyse the case of the orientation program implemented for first year IEDM students. This study determined that the activities organised in this orientation program are relevant for analysing the hypotheses proposed by the authors. The unit of analysis in this case was the group of first and fourth-year students, involved in the program.

The opportunity of developing soft skills through project tasks by setting game-based activities in the Orientation Program, or different group projects are a necessary informal learning environment in digital era and information technology and communication.

Learning skills are developed in informal activities when students challenge and support each other in various aspects of the project.

Soft skills can be strengthened by implementing different volunteering activities from students for students, where they can learn real world situations by solving authentic problems.

Some recommendations for other Universities are presented next. Universities/Faculties should divert more attention and effort towards students to help them grow not only by offering knowledgeable teachers, but also by involving them in research projects, community volunteering actions and helping them develop their soft skills, for a better chance to get a good job.

We consider this Orientation Program a best practice for Universities in Romania, as we could not find any public information regarding the implementation of similar programs in other Universities in Romania. Career and Orientation Offices exist in many Universities, including the one in Sibiu, but their role, although of great value, is complementary and focuses on other aspects of student development.

Considering that a one-way relationship is never fruitful, if the resources and support come from the institutions' leaders and if the students pitch in with effort, drive, passion and commitment, then with this join-effort, the overall outcome for student grades, rate of graduation, rate of good employment out of colleague will also grow.

4. Limitations and Future Research Directions

The study was conducted only for IEDM specialisation in the Engineering Faculty, during eight years, but we think this methodology can be applied to all specialisations regardless of the professional competences acquired in that field of study. Therefore, it would be an interesting knowledge addition to our research if future studies could validate the results and findings from our methodology in other fields of study.

A yearly quantitative study of the results of the program are too time consuming, but a mixed method is recommended as face-face interviews that can provide a more in depth understanding on beneficial features developed.

Future research could approach a multi-level model with a more complex questionnaire that can identify different factors and their strengths in acquiring soft skills for students.

Further creative activities can be integrated in the program, like displays of creative designs using different mechanisms which are easy to reach and learning about new design of innovative and original products (for example Steampunk or Diesel punk products).

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CHILDREN'S WAYS OF THINKING WHEN COPING WITH EVERYDAY MATHEMATICAL SITUATIONS

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Abstract: *Already at a very young age, children come across mathematical situations as part of their everyday life in preschool and at home. Engagement in mathematical situations helps children in developing their mathematical thinking. Listening to children while they are coping with such situations, help us learn more about their ways of thinking. This study describes the ways of thinking of four children aged 5.2–6.4 when dealing with nine everyday mathematical situations, involving addition, subtraction and division into equal groups. The children have given correct answers to almost all situations and used a variety of solution strategies. They have used mental calculations in some of the situations, while in others they have used their fingers and/or manipulatives. The children have paid attention to the numbers given in the situations and one child has surprized us by showing number sense, when using the compensation method for solving 7+5 and 8+4.*

Keywords: *mathematics; everyday situations; preschool children.*

1. Introduction

In recent years, there has been an increasing comprehension that more resources should be invested in early childhood education. This opinion is being held not only by educators and early childhood researchers. It is also embraced by economists who claim that investment in early childhood education pays off financially, being the key to a prosperous society. Investment in young children comes to the fore in future generations, as the children of today will be the adults of tomorrow (Barnett & Masse, 2007; National Scientific Council on the Developing Child, 2007; OECD, 2011;The World Bank, 2008).

Dealing with mathematics in early childhood is important for two main reasons. The first reason has to do with the fact that mathematics is a part of children's everyday life and is a necessary everyday activity. For example, when children are counting how many cards are there in the box; when they are checking if the number of pencils is sufficient for the number of children sitting in a group; when they compare whether they have received the same number of cucumber slices for dinner like their brothers. The second reason is grounded in the fact that mathematical activities at this age lay the foundations for the development of children's mathematical thinking. Good practices in early childhood will promote children's mathematical thinking, becoming the basis for further development of mathematical thinking at school.

Studies show that very young children can already build mathematical ideas, sometimes even abstract ones (Baroody, Lai & Mix, 2000). Many times they surprise us with their ability to cope with mathematical tasks as well as with their inquisitiveness and willingness to engage in activities related to mathematics. Greenes, Ginsburg, and Balfanz (2004) describe children's competences when field testing the program Big Math for Little Kids: "…we observed children doing mathematical work at a higher level than we expected. Indeed, we were surprised at what the children managed to accomplish" (p. 164). Hachey (2013) adds that, "We now know that prior to elementary school, young children engage in surprisingly complex intuitive mathematical thinking with regard to numbers, geometry, measurement, algebraic thinking, and data analysis" (p. 419).

However, many preschool teachers tend to make young children engage more in language than in mathematics. This might be because they either believe that language is more important than mathematics at this age or they themselves have no interest in mathematics or are afraid of it (Copley, 2000; Lee & Ginsburg, 2007; Ginsburg, Lee & Boyd., 2008). Studies show that some preschool, pre-service and in-service teachers, do not like mathematics and even hate it (Gresham, 2007; Markovits, 2012; Markovits & Patkin, 2018; Zacharos, Koliopoulus, Dokimaki & Kossoumi, 2007), and probably avoid opportunities to engage in mathematics with the children. Involving children in mathematical situations can provide a means for understanding young children's ways of coping with mathematics (Charlesworth & Leali, 2012). Exposure of preschool teachers to children's ways of thinking when dealing with mathematical situations, is important not only for understanding how children think and for paying attention to the mathematical abilities they already possess, but also for learning how to advance the development of children's mathematical thinking, Jung, Kloosterman, and Mcmullen (2007) conclude that young children have natural intuitions for solving problems and that teachers should listen to the children while solving problems in order to better understand their ways of thinking.

This paper describes the ways four young children coped with everyday mathematical situations, involving addition, subtraction and partition into equal groups.

2. The study

2.1. Research aims

This study aimed to learn about children's ways of thinking when coping with everyday mathematical situations. Furthermore, it aimed to observe whether the children use the same strategies and manipulatives when dealing with different situations or change strategies and manipulatives for different situations.

2.2. Research participants

Four children aged 5.2 – 6.4 took part in the study. Emily (6.3) and Sara (6.4) were in the last year of preschool and would attend school after the summer vacation. Daniel (5.2) and Noah (5.5) will complete one more year at preschool before attending the 1st grade.

2.3. The interviews

Each child was individually interviewed. Nine situations were presented by the interviewer, one at a time, and the children were asked to explain their way of thinking when coping with each situation. Manipulatives, such as cubes, beads and corks were on the table and the children were told they could use them.

2.4. The everyday mathematical situations

Mathematical everyday situations are situations involving numbers that children encounter in their everyday activities in preschool and at home. This study refers to everyday situations which are actually word problems children will face at school. The list of the everyday mathematical situations is presented:

1. Abigale had four spoons. She received two more spoons. How many spoons does she have now?
2. Daniel had four cars. He received two more cars. How many cars does he have now?
3. Amir had five bananas. He ate two bananas. How many bananas are left?
4. Jonathan had seven oranges. He ate three oranges. How many oranges are left?
5. Rona had seven colors on the table. She put three colors in her pencil-case. How many colors were left on the table?
6. Mother had eight stickers. She divided the stickers equally between her

two daughters. How many stickers each daughter received?
7. Dana had six colors. She divided them equally between two pencil-cases How many colors did she put in each pencil-case?
8. Emma had seven jellybeans. She received five more. How many jellybeans does she have now?
9. Michael had eight dolls. He received four more. How many dolls does he have now?

Three types of situations were presented: Addition situations categorized by Carpenter, Fenemma, Frank, Levi, and Empson (1999, cited in Jung et al., 2007) as *join with unknown result* (situations 1,2,8,9); subtraction situations categorized as *separate with unknownresult* (situations 3-5) and division to equal groups, categorized as *partitive division* (8,9).

The numbers given in the first two situations were small numbers and similar in both (the numbers four and two) in order to check whether the children would pay attention to the repetition of the numbers and decide not to solve again the second situation. The numbers in the other two addition situations were bigger, so when the children added them, the sum was more than ten. The same numbers were also repeated in two of the subtraction situations (the numbers seven and three).

3. Results

All four children were very excited to solve the situations presented to them. The following is a description of the way each child coped with the situations.

Daniel (5.2) gave correct answers to all nine situations. For situations 1 and 2, he gave the answer six and said: "I just know" for the first situation and "It is the same as before" for the second situation. Regarding the subtraction situations (3,4), he counted backwards. He explained about situation 4: "You count backwards: seven, six, five, four". For situation 5, he said that the answer was seven and explained that he counted backwards and specified: "This is similar to your last question". In situation 6, he used his fingers and said: "Four and four is eight". He did not use his fingers in situation 7 and just said: "Three. I know that three and three is six". Daniel used his fingers in situations 8 and 9. In situation 8 he lifted seven fingers to represent the seven jellybeans. Then he counted three more fingers up to ten and counted (without using fingers or manipulatives) eleven and twelve, saying that the answer was twelve. He continued using his fingers in situation 9. He lifted four fingers on each hand to represent the eight dolls, lifted one more finger on each hand and said this was already ten. Then he said that he needed to add two more dolls and this was twelve.

Noah (5.5) gave correct answers to all nine situations. In the first situation he said: "Six. I practice math with my brother. Who does not know that four and two is six?". In the second situation he asked: "Same question again? I already told you that two and four is six". In all subtraction situations (3, 4 and 5), he calculated in his head and said, for example in situation 5: "Also four. I thought in my head that seven minus three was four". He explained that he was also thinking in his head about situations 6 and 7: "If it is equal than it is the same so four and four is eight" (situation 7). In situation 8 he said immediately "twelve" and explained: "I join my brother in his math assignments. I remember he told me that seven and five was twelve". In situation 9 he said: "Twelve. I have already told you many times and you keep asking. My brother told me that seven and five was twelve. Here it is the same. You give one to the four and you take one from the eight. It is twelve."

Emily (6.3) gave correct answers to four out of five addition and subtraction situations (1-5). In the first situation she said that the answer was six and explained: "I thought about it very well. In my head I put one row of four and one row of two. Together it is six". She

again relied on the rows in her head but this time she did a manipulation: "I thought again and again. In my head I took one from the first row and added it to the second row and it is three and three. Together it is six". She used her fingers for situation 3 and said: "I did it with my fingers, five and he ate two, so four are left". She used her fingers also for situations 4 and 5, reaching the correct answer. Emily encountered difficulties in the division situations. About situation 6, she first said "I don't know". Then she used her fingers and said that it would be three. About situation 7, *six colors equally divided between two pencil-cases*, she said that "there will be two colors in each pencil-case because there are two pencil-cases". When situation 8 was presented to her, she said: "Oh... this is already hard. I think the answer is eight. Mother does not give me such difficult questions". Regarding situation 9, she said that the answer was also eight. She lifted 4 fingers on each hand and said: "Four on each hand, eight together".

Sara 6.4 gave correct answers to all nine situations. About the first situations she said: "Six spoons. I did it in my head. Mother exercises with me at home". In the second situation she said that the answer was six once again because the numbers were the same. She said that she took five bananas and took off two, so three bananas were left in situation 3. In situation 4 she used corks. She arranges seven corks in a row, moved three of them aside and said: "Four". When situation 5 was presented, she immediately said "Four colors. It is the same exercise as before". She used the corks in the division situations (6 and 7) but demonstrated different strategies. For situation 6, she took eight corks and divided them equally into two groups. She moved one cork to the left and one to the right until she moved all the corks, saying that the answer was four. For situation 7, she arranged the six corks in two rows, three in each row, and said the answer was three. For the addition situations 8 and 9, Sara used her fingers. In both situations she represented the big number by lifting her fingers. Then she lifted the rest of her fingers up to ten. For the remainder of the second number she used corks. Thus, in both situations, she lifted ten fingers and added two corks, saying that the answer was twelve.

5. Discussion

The children used a variety of strategies when they dealt with everyday mathematical situations presented to them. They explained what they were doing and, thus, enabled us to listen to their ways of thinking.

Three of the children, Daniel (5.2), Noah (5.5) and Sara (6.4) gave correct answers to all nine situations. Emily had difficulties with the division situations and the addition situations which involved bigger numbers. This is interesting because she actually solved situation 2 by dividing the six cars in her head into two equal groups. Maybe she was less exposed to the phrasing of division situations and met addition situations that mostly involved small numbers.

The children were paying attention to the numbers involved in the situations. Thus, Daniel (5.2), Noah (5.5) and Sara (6.4) noticed the similar numbers in the first addition situations (1 and 2). They did not solve the second situation but said that the answer was the same as in the previous question. All three of them also noticed the similar numbers in the subtraction situations (4 and 5).

The children used a variety of strategies in coping with the situations: counting forwards, counting backwards, division into two equal groups by putting one cork in each of the groups or by arranging the group in two rows. They sometimes used mental computation and calculated in their heads, especially when small numbers were involved. Moreover, they used their fingers and applied manipulatives. When the fingers where not enough (answer bigger than ten), they combined fingers and manipulatives. Is seems that the children used different ways of solution and adjusted the way of solution to the situation presented.

Noah (5.5) surprised us all along the interview and showed a high level of mathematical understanding. It seems that he not only knows how to add, subtract and divide into two equal groups, but he has already developed numbers sense and used a given exercise together with the *compensation method* in solving 8 + 4. He solved the previous exercise, 7 + 5, and said the answer was 12. For 8 + 4, he took 1 from the 8 and added it to the 4 to get an exercise similar to the one he had solved previously, saying: "Here it is the same. You give one to the four and you take one from the eight. It is twelve."

Preschool teachers can undoubtedly learn a lot from listening to children while coping with everyday mathematical situations. They can realize that there are children, even at preschool, who think already by using numbers sense.

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NARRATIVES TOWARD TO TEACHERS' PROFESSIONAL DEVELOPMENT IN ONE TEACHER EDUCATION COURSE

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Abstract: *University needs to collaborate and to investigate in meaningful moments that might be powerful in teachers' ways of thinking about their practice and also impact their professional development. Considering the difficulties of continuing teacher education courses contributes to this attempt, the goal is to identify critical incidents in the narratives of Brazilian teachers related to their professional development. Two narratives were collected from 28 basic educational teachers in Brazil during one course designed to improve their professional development. Narratives could be both for research and an educationalinstrument articulated in a theoretical framework oriented to the reflection about professionality. Findings suggest that chosen moments in personal and professional construction are crucial, when they make a difference in their students' lives to give motivation to each teacher career. The critical incidents evidence that professionalism has been an isolation phenomenon of each teacher with the lack of support in the Brazilian context.*

Keywords: *professional development; critical incidents; collaborative processes; narratives;*

1. Context of Brazilian teachers' and their professional development

A big challenge in education is to prepare teachers and keep them working in the educational system, in a committed way during their careers. Brazil is the fifth largest country in the world and its large dimensions amplify the difficulties to teach in rural regions, poor outlying areas and in cases of violence and lack of resources. The number of avaible teachers is not enough to meet the school's needs, showing the system's wellness in keeping teachers (Gatti, Barreto e André, 2001).

Besides the difficulties in the country, there is a loss of both, prestige and teachers' career statute, in different countries and (Flores, 2014). Even though other logics are present in the Brazilian context, tends to a new educational management making individual or groups of teachers and schools responsable, in which the efficacy does not concern itself with the growth of social wellbeing as a right (Oliveira, 2015).

Conforming to Avalos (2011) researchers had presented the professional development as a process about teachers learning, including how to learn, and transforming their knowledge into practice for all their students' growth. Since many studies are concerned with the professional development of teachers, some of them are focused on the contribution to the reflection of narrative methods and the construction of stories within professional development activities. According to Marcelo (2009), the professional development of teachers is a concept related to self-construction as a teacher and the evolution of career, defining their identity themselves.

Universities need to collaborate and to investigate in meaningful moments that might be powerful in teachers' ways of thinking about their practice and also impact their professional development. In this way, university programs of teacher education in service could prepare better courses and other activities, such as collaboration in a community of learning at school, targeted at being a meaningful experience of learning to teach for educators. The goal of present study is to identify critical incidents in the narratives of Brazilian teachers (in São Paulo state) related to their professional development.

In this context, the question to be asked is (research question): what are the meaningful moments that might be powerful in teachers' ways of thinking about their practice? How is the context related to professional development?

2. Methodology and critical incidents in teacher narratives

According to Kelchtermans (1993) the narrative is a biographical perspective on teachers' professional development. Narratives refers to a form that teachers presents the professional experiences focused on the meaning of facts in context; into a story, there are constructed meaning for teacher's professional life. Critical incidents act as "turning points" of teacher perspective with impact (positive or negative) on professional commitment and job satisfaction.

The participants (28 basic educational teachers) in one university course designed to improve professional development of in service teachers in Brazil (São Paulo state). Two written narratives were collected, in first and second classes, before any discussion of theme to not influence results. Narratives could be a research and also an educationalinstrument, as it was in this course, because teachers could reflect about the "self- construction". During the course, some ideas included critical incidents that were discussed in a theoretical framework oriented to the reflection about professionality. For example, many narratives mentioned the indiscipline as a problem and questions of teachers' authority was discussed with theory support in course. For analyses, 18 narratives were considered for the first question "What is lacking in my professional development?" and 25 narratives for the second solicitation: write about your professional path and professional growth.

3. Narratives and student hole in professional development

Changes in educational contexts have bringing the intensification of work in teacher profession. The intensification is evident in the time spending with multiple bureaucratic and administrative tasks and the consequence is loss of time to prepare and develop activities with students, changing the idea of professionalism (Flores, 2016). According to the same author (Flores, 2016), these changes diverge the teaching profession in its essence that are teach and learn process, and it is necessary to analyses contexts and factors acting as support to professionalism based on confidence, appreciation and recognition of teacher profession, including collaboration.

The "time" is a decisive factor to be a teacher nowadays for 6 teachers. They related lack of time to improve the practice, for example, one of teacher say "school life consumes a lot of my time. I do not have time to read, watch documentaries, prepare better lessons (...)". However, only one teacher linked major changes in professionalism and this intensification, articulating changes and responsible of teachers and all system in this context. In narratives, it is not clear how to grow up in profession for teachers, understanding that better classes and better relationship with student are patterns to professional development.

The narratives about "what is lacking for future in your professional development" were organized in 5 perspectives: 1. Necessity to support practice, considering dimensions of context; 2. Necessity to psychological support for better relationship teacher and student; 3. Lack of time; 4. Pathways to improve yourself in teacher profession; 5. Focus in methodology to identify professional development.

In narratives, the beginning of professional pathways indicated phases of greats learning and it was choice to be a critical incident for 15 among 25 teachers, results that support Huberman (2000) proposes that pointed the beginning as a survivor phases in life career. Each teacher has an emphasis on professional trajectory. The meaningful moments that might be powerful in teachers' ways of thinking are related to students in classes for 13 teachers in 28. Learning how to teach and enhance a successful practice in situation with

student are understood in the self-construction in a mental logic as "I am able to teach, so I can be a (good) teacher". These teachers choose incidents in situations into they make a difference in students' life or students' dedication to schools projects. These moments give motivation to teachers to invest in their career and to seek professional engagement. Individual situations in class or with students are meaningful for teachers, an isolation form of each teacher of this study find ways to development in their profession.

Some teachers in their narratives value relationship with the principal and Educational Directory. The hole of support or constrain for professional development is different and its depending of school and personal characteristic of participants. The constrain are explain with situations of authority abuse and charging without support to class, especially in schools far from urban center in cases of violence (critical incident for 2 teachers). The support is some orientation of school principal to teacher and indication for participate in courses. But courses in formal education were rarely remembered in professional development for the most of teachers. Day (2001) understand that professional development of teachers as all spontaneous experiences of learning and also activities planned to teachers concerned to contributes to classes, in a process that involves enlargement of commitment of purposes of teach, as knowledge and emotions to an effective reflection and practices. Limitations of formal activities like a seminar for in service teacher are known according to researchers and needs to be considered to guide professional development policy and practice (Borko, 2004).

4.Conclusion and implications

Teachers' narratives were a valuable instrument to understand the meaningful stories for teachers. Teachers pointed the lacking of time: time to study, prepare classes and projects, related as necessary to their professional development. Meaningful moments that might be powerful in teachers' ways of thinking about their practice are related to situations to construct themselves as a teacher when they perceive that student learned especially in the beginning of career. Teachers rarely choosecritical incidents with other teachers or school leaders. It suggests individual effort of teachers in situations indicating an isolation factor that bringing major difficulties to transform situations in opportunities of professional development and to find ways to construct the professionalism in collaboration or face bureaucratic forms to stay in profession. These conditions of professional development in Brazil/S. Paulo show fragilities of support to face the changes. The collaboration with universities could incentive the critical thinking and teachers' professional development in schools focused in the student, reason of profession development in narratives of most teachers.

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EDUCATION FOR CREATING AN ENTREPRENEURSHIP AND INNOVATION ECOSYSTEM

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Abstract: *We live in a time of unrivaled social, economic, technological and environmental problems and desperately are in need of change and improvement in many different areas on a global scale. It is obvious that current educational models, assumptions about learning and approaches to learning and teaching are unable to equip individuals for these new and unexpected challenges since present education systems all over the world are almost exclusively based on a world of yesterday.The globe needs more creative and innovative individuals who can come up withsolutions to both present and future concerns in every sector of the societies they live in. In order to build and initiate at least a functional entrepreneurial ecosystem, an effective collaboration between all types of entrepreneurs and educational sciences specialists is amust. What is education for? What kind of people do we wish to develop? Why do we need more innovation and innovative individuals? How can this vision be accomplished?Who can bring this vision to come true? This paper highlights the importance of implementing an entrepreneurial education carried out by entrepreneurial teachers tofoster the right mindset to create an entrepreneurial ecosystem in order to live in a betterand peaceful world.*

Key Words: *Education; Entrepreneurial teaching; Entrepreneurial teacher; Entrepreneurship; Innovation;*

Introduction

Entrepreneurship is not a new idea but it has never been more important than it is today in this time of financial, societal, educational crisis and massive challenges both at local and global scale. On the one hand, innovation and entrepreneurship are possible potential instruments to provide solutions for both local and the global challenges of the 21st century and onward by building sustainable development, creating jobs, generating renewed economic growth and advancing human welfare. On the other hand, education has the potential to develop the skills to generate the entrepreneurial mind-set needed to prepare future leaders in all sectors, entrepreneurs, to solve more complex, interlinked and rapidly changing social and economic problems of the world. Therefore, education systems across the world are facing profound challenges.

We live in a time of unrivaled social, economic, technological and environmental problems and desperately are in need of change and improvement in many different areas first locally then on a global scale. Our time calls for new ways of thinking, teaching and learning in school, business and professions. These concerns and ever-increasing need of change are placing pressure on education systems and calling into question many of the traditional models, content and processes of education leading to new thinking about the nature of education, what learners should know and what they should be able to do as a result

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of their education in order to be able to come up with innovative solutions to these concerns and meet the needs of nations specifically and the globe in general.

Considerable advances, even astonishing breakthroughs, are created throughout the last decades in our understanding of the connection among learning and development on one hand, and business and development on the other hand. Additionally, significant understanding have likewise been gained on with respect to how business, development and learning are interrelated However, a complete comprehension is as yet missing concerning the interface of those factors: knowledge, development, enterprise, innovation, creativity and development.

With the above picture in mind, educating young people becomes the key to future innovation and entrepreneurship. So it is a good and critical idea to ask ourselves if we are on the right track or not? Innovation and entrepreneurial initiatives start with the power of human thought. Ideas, inspiration and creativity all come from humans, not from machines. Since the technology is the product of human innovation, the greatest technology cannot reproduce what the human mind can do.

It is obvious that current educational models, assumptions about learning and approaches to learning and teaching are unable to equip individuals for these new and unexpected challenges since present education systems all over the world are almost exclusively based on a world of yesterday! Therefore, as educators we need to create alternatives. That is, we desperately need for an educational paradigm shift to educate more individuals with entrepreneurial mindset to create innovation in each and every area of life.

Entrepreneurship and innovation are usually thought as a notion of business, capital, commerce and growth and as a result, this way of thinking usually misleads us drastically to understand the real power of entrepreneurship and innovation and their vital relationship with education.

The globe needs individuals who are more creative, innovative, and able to come up with solutions to both present and future concerns in every sector of the societies they live in. What is education for? What kind of people do we wish to raise? Why do we need more innovation and innovative individuals? How can this vision be accomplished? Who can bring this vision to come true?

So in this paper, I will try to emphasize my philosophy and highlight the importance of implementing an entrepreneurial education carried out by entrepreneurial teachers to foster the right mindset to create an entrepreneurial and innovative ecosystem in order to live in a better and peaceful world.

Entrepreneurship is perceived to be the core source of innovation, creativity and growth and generally recognized as a measure of a country's economic condition. The way countries establish their educational systems can lead people to develop qualities that are considered to be vital for entrepreneurship, innovation and creativity. To build an entrepreneurial society, it is important to change traditional ways of educational systems and teaching methods so that learning takes on new meanings for the whole society. Without changing the predominant culture it is impossible to create the desired change. Therefore, culture is considered to be the biggest barrier in front of the desired change!

Although entrepreneurship and entrepreneurial development is seen the main engine for the prosperity of most nations, education is still the main precondition and indispensable element in bringing this vision to come true.

Education is not only about the present, it is also about building and shaping the future. If main enterprising determinants like risk taking, confidence, initiative taking, creativity, social responsibility that is entrepreneurial mindset lacks, is absent and/or not enforced in general education systems at all levels, it becomes highly critical and difficult to

create an ecosystem to grow enterprising individuals ready to manage economic growth and prosperity and solve ever increasing local and global problems.

Education and Entrepreneurship

Teachers play a significant role to the success of any educational system for a positive societal change. Qualified and well-equipped teachers can lead the education to the highest quality. Therefore, teacher education plays the main role for preparing teachers for both present and the future of educational organizations.

Entrepreneurial education, implemented by entrepreneurial teacher educators and/or teachers has a potential power to help the world to create economic growth, jobs, innovation and to raise happy citizens capable of finding solutions for many long lasting and ever growing local and global issues and bring both prosperity and peace.

Current educational models, assumptions and approaches about learning and teaching are unable to equip individuals for new and unexpected challenges and the dramatic changes brought about by globalization. So it becomes obvious that we need for an educational paradigm shift.

Although entrepreneurship education is considered as a lifelong learning process, teaching entrepreneurship as a method concept lacks a very important part and seems unable to explain of how this method could help students to know more about themselves so that we could be away from the monolithic personality of entrepreneur.

Current education practices

Present education systems are fundamentally based on verbal/linguistic and mathematical/logical intelligences (IQ) and as a result they focus mainly on the functions of the left brain and left brain focused skills. Such systems force all individuals to put on the same size and never help them to question, think, take risks, think critically, ethically, morally, be creative, patient, conscientious and merciful. Therefore, we need to prepare our children to become locally and globally aware in order to become better citizens and humans and live in a better society and globe.

So called standardized (standardizing) local and international assessments, like PISA or TIMMS cause abandonment of local identities and traditions, disregarding of local needs and disrespect for student differences. No customization, personalization and/or diversity of talents that is, sources of true entrepreneurial mindset. International assessment programs, internationally benchmarked curriculum standards, internationally organized educational policies, etc. both lead and help global homogenization.

Such standardized (standardizing) local/international assessments do not help our children to be aware of the global nature of ever increasing societal issues. Tests measure only what test–makers put on them.

Neo-liberal political theory increasingly influences education policies. Recent reforms systematically transform curricula, pedagogy, and assessment as a whole. Neo-liberalism provides the rationale for reforming school curriculum and pedagogy to focus on teaching students the skills and knowledge they need to be productive workers in workplaces. STEM and coding movements should also be analyzed and critiqued from this perspective.

Current education practices kill individuals' entrepreneurial potentials. Most left brain focused test-driven curricula and local/international assessments DO NOT include creativity, diversity of talents, critical thinking skills, entrepreneurship, global competences, morality, ethics, compassion, humanity that is right brain focused skills.

Proposition

It is obvious that we desperately need entrepreneurial education, teacher educators and teachers who are trained are entrepreneurial themselves. Entrepreneurial education

implemented by entrepreneurial teachers has a potential power to help the world to create economic growth, jobs, innovation and to raise happy, socially responsible citizens capable of finding solutions for many long lasting and ever growing local and global issues.

Entrepreneurship Education through Individual Differences and Alternative Assessment Systems

Entrepreneurial education taking individual differences into account and based on alternative assessment systems have the power to be the ultimate solution to overcome the present obstacles and to achieve improvements for the future of the nations. Awareness on individual differences will have a great impact in raising more individuals with entrepreneurial spirit. The emphasis should be on entrepreneurial education rather than teaching entrepreneurship which is presently seen and practiced in many educational contexts.

Individual differences such as motivation, intelligence profiles, gender, attitude, self-esteem, learning strategies, brain dominance, learning styles, personality, field dependence/field independence, tolerance of ambiguity, anxiety level and beliefs about learning should be taken into account during all these activities and nurtured equally and definitely performance based/alternative assessment techniques should be implemented to prepare enterprising individuals who are creative, risk takers, critical thinkers and practice the language freely language with one another and with people in the community in order to reach an effective level of proficiency.

Alternative assessment refers to procedures and techniques which can be used within the context of instruction and can be easily incorporated into daily activities of both the school and the classroom. Education systems need to shift from traditional assessment to alternative Assessment. The current movement calling for a shift from traditional assessment to alternative assessment practices (McLaughlin and Vogt, 1996; Perrone, 1991). Such a shift involves a reconceptualization of how learning occurs and what learners are supposed to do with the things they have learned. Specifically, this type of reconceptualization targets; firstly, the overuse of lecture as a primary teaching method and paper-pencil exams and so called objective and/or standardizing tests as the primary way of assessment, secondly, the increasingly diverse student population in classrooms at all levels, and thirdly, constructivist learning theory (Piaget, 1970; Bruner, 1986; Vygotsky, 1978 and Bandura, 2000). For example, Brooks and Brooks (1993) offer define constructivism as “Drawing on a synthesis of current work in cognitive psychology, philosophy, and anthropology, it defines knowledge as temporary, developmental, socially and culturally mediated, and thus, non-objective. Learning from this perspective is understood as a self-regulated process of resolving inner cognitive conflicts that often become apparent through concrete experience, collaborative discourse, and reflection” (p. vii). These are vital for entrepreneurial teaching.

Some of the alternative assessment techniques can be listed as; Exhibitions and demonstrations, Interviews, Essays, Anecdote logs, Audio and visual, Take home exams, Minute papers, Fact maps, Graphic organizers, Dramatic readings, Dramatic performances, Debates, Contracts, Observations, Reports, Simulations.

By taking individual differences into account and implementing performance based/alternative assessment techniques, entrepreneurial education aims to prepare enterprising individuals who are creative, risk takers, critical thinkers, responsible for the society they live in and who have the attitudes, skills and knowledge necessary to achieve the goals they set for themselves to live a fulfilled life in the global world.

Entrepreneurial Teaching

If we can take entrepreneurship as a teaching/education philosophy, we can help individuals to understand, develop, and practice the skills, techniques needed for productive entrepreneurship at all levels and areas.

Education should be implemented entrepreneurially instead of adding entrepreneurship as an add-on in certain classes or as elective courses as it is the case of today's practices. Teacher education programs should be designed providing entrepreneurial pedagogy so that prospective teachers could easily implement it in classrooms. Therefore, we definitely need entrepreneurial teacher educators.

Entrepreneurs are no longer only those who start a business and try to maximize profits. We are talking about many different types of entrepreneurs. We need people with entrepreneurial spirit (entrepreneurs) in every single profession and sector of industry. Everyone needs to be entrepreneurial in the 21st century and onward.

With this expanded definition of entrepreneurship, it will be much easier for people with entrepreneurial spirit to have more power to solve the ever increasing complex problems facing human beings and bring both prosperity and happiness to humanity. It will also be the answer to ever asked question "Why don't we have enough entrepreneurs for every sector?"

Conclusions

To prepare locally-thinking, globally-acting, creative, risk taking, critically thinking and socially responsible entrepreneurial individuals for the future, education systems should not harm individuals' brain of the heart, curiosity, imagination, desire to be different by imposing out dated practices and evaluate them with local and international standardized (standardizing) tests designed for one size fits all philosophy.

Education should be able to enhance human curiosity creativity, morality and responsibility, encourage risk taking, and cultivate the entrepreneurial spirit. Industry, schools, colleges, universities, professional organizations and local governments should co-operate closely and strictly into making it physically, economically and most importantly culturally and philosophically appropriate place to nurture and create sustained entrepreneurship and innovation.

To have a better future where people can live happily, successfully and peacefully, we need to develop appropriate education systems and train teachers to serve for this system. This vision could be accomplished by an educational philosophy taking individual differences into account and focusing on performance based assessment instead of standardized curriculum and testing. That is, through entrepreneurial teaching and teachers.

The globe needs more creative and innovative individuals who can come up with solutions to both present and future concerns in every sector of the societies they live in. In order to build and initiate at least a functional entrepreneurial ecosystem, an effective collaboration between all types of entrepreneurs and educational sciences specialists is a must.Industry, schools, colleges, universities, professional organizations and local governments should co-operate closely and strictly into making it physically, economically and most importantly culturally & philosophically appropriate place to nurture and create sustained entrepreneurship and innovation.

Creativity and innovation take courage. Therefore, we need more courageous individuals and as a result more courage in the halls of governments, and conferences, in company meeting rooms, at university classrooms, in school boards and in our hearts and minds.

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INFORMATION AND COMMUNICATION TECHNOLOGY FOR INCLUSIVE EDUCATION – THE EVALUATION OF A TEACHER TRAINING

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Abstract: *For a successful inclusive education, the teachers have required and participated in additional training. However, the information and communication technology (ICT) for inclusive education is seldom covered, and a model of effective training is not available. The current study aimed to evaluate a teachers' training on ICT for inclusive education. The training unfolded in class and online with group and individualized activities. The evaluation aimed to improve the training's planning, content, and format. A pre-training questionnaire, the participant's portfolio, a post-training questionnaire, and trainers - trainees discussions provided data for evaluation. The theoretical framework followed the Kirkpatrick's model of evaluation. The results showed that the training met the participants' expectations and it was positively appreciated. Also, the participants express confidence that the acquired ICT skills will help them achieve inclusive education in class. Overall, the methods and the training format can be replicated.*

Keywords: *educational policies; inclusive education; ICT competences; teacher education; program evaluation;*

1.Introduction

After a long time of schooling segregation in special and mainstream schools as the only approach to differences between children abilities, the education systems worldwide started to build bridges for inclusiveness (Ainscow, 2005). The inclusive education paradigm refers to the integration of children with disabilities in the mainstream schools and concomitantly the adaptation of the education processes to all students' needs and requirements, including those with learning difficulties (Ainscow, Booth, & Dyson, 2006). Internationally, inclusive education is seen as a reform of education to address the diversity - instead of commonality – of learners, while in a narrow approach it means that all children, including those with disabilities, learn together, in the same school and class (Ainscow, 2005; Hodkinson, 2005).

Organizational change depends on individual change and teachers find themselves at the core of the paradigm shift toward inclusiveness and its success. (Ainscow, 2005; Lindsay, 2007; Pantic & Florian, 2015). New approaches to learning shift the role of teachers from knowledge and skills providers to learning facilitators (Jung, 2005), and the responsibility of learning from teacher to student (du Toit, 2015). The teachers' traditional skills continue to be valuable and their role in education does not diminish but the new responsibilities associated with student-centred learning require specific training (du Toit 2015; Martinovic & Zhang 2012).

Information and communication technologies (ICT) appear to meet both learning and teaching needs in an inclusive education and tend to play an increasing importance in teachers' training (Livingstone, 2012; Tondeur, van Braak, & Valcke, 2007; Mahmud & Ismail, 2010; Florian & Hegarty, 2004). It was shown that in comparison with the traditional approaches, ICT stimulate the development of intellectual skills; diversify the ways of learning knowledge, develop skills and attitudes; spur more spontaneous interest in learning; help to concentrate longer (John & Sutherland, 2004). Also, the learners have positive attitudes towards ICT use in education due to the flexibility and the interaction they facilitate by contrast with traditional teaching methods (Sanchez, Mena, He, & Pinto, 2012; Heemskerk, Brink, Volman, & ten Dam, 2005).

In regard to learning disabilities, the few studies that go beyond assistive technologies have drawn attention to a) specialized hardware and software for students with dyslexia, b) virtual learning environments particularly useful for people with social interaction difficulties and cognitive disabilities, and c) websites that seem to be powerful motivators for adults with learning disabilities (Williams, Jamali, & Nichols, 2006). Beside its role in reading and writing, the technology has a high potential of diverse activities as mediators of learning such as creating, designing, performing, search, play, improvise, experimentation, simulation, multimodal navigation and remixing, multitasking, networking, negotiation, and judgment of diverse information sources, (Livingstone, 2012). A UK survey found that 54 percent of the respondents with disabilities considered internet access "essential" in contrast with six percent of the general population (Knight, Heaven, & Christie, 2002).

The term ICT includes a large variety of tools such as devices (personal computers, laptops, printers, LCD projectors, cell phones, iPods, and digital cameras), adaptive devices, software, data bases, and networking (internet, multimedia resources, and web sites) that continue to develop and diversify (Martinovic & Zhang, 2012). The teachers need to be aware of the ICT potential for education, need skills to use technology and knowledge to choose the appropriate ICT type for a specific educational objective, and altogether they need training (Benigno, Bocconi, & Ott, 2007).

There is also worldwide agreement that the ICT skills and its educational uses are the most beneficial for teaching and learning (Valcke, Rots, Verbeke, & Van Braak, 2007; du Toit, 2015; Jung, 2005; Galanouli, Murphy, & Gardner, 2004). Internationally, many training courses for professional development integrate ICT (du Toit, 2015). Standards for teachers' ICT knowledge/competency have been elaborated and are available for guidance (UNESCO, 2011;Infodev, 2015).

Preferences for methods vary among lectures, presentations, demonstrations, collaborative activities, individual work, personal contact between trainee and trainer (Galanouli, Murphy, & Gardner, 2004; Valcke et al., 2007). As Watson (2001) showed, the approaches to teaching vary also.: a) a trained teacher becomes a tutor for his/her colleagues, b) a tutor makes demonstrations before assisting the trainees' individual work, c) the participants take responsibility for their learning and learn by them-selves under the tutor assistance, the use of good ICT resources to boost motivation and interest in trainees. A different approach commonly mentioned in the literature was described as supply-driven with pre-defined objectives and content (Valcke et al., 2007).

Different training formats have been identified, such as stand-alone courses, part of foundation courses, workshops, on-line courses, distance learning, face-to-face, self-study, residential, school located or a combination of these (du Toit, 2015; Valcke et al., 2007; Galanouli, Murphy, & Gardner, 2004; Jung, 2005). The teachers in UK and the Netherlands prefered courses tailored to the participants needs, led by colleague-coachers, that combine face-to-face with on-line activities, provide ongoing support and advice post-training (du

Toit, 2015; Valcke et al., 2007; Galanouli, Murphy, & Gardner, 2004; Jung, 2005). The same respondents disliked on-line training, distance learning, self-study, and lectures.

Overall, guidelines for an effective training course lack consensus. Criteria for successful models of ICT training such as flexibility, capacity to meet individual needs, follow-up activities, and ongoing support after the course is over have been formulated (Valcke et all., 2007) but need confirmation. The most effective approaches to training have yet to be identified and hence the necessity of evaluation studies (Jung, 2005).

In Romania, the unique national curriculum for teacher's education include neither ICT training nor disciplines relevant to children with special needs. After graduation, the teacher's professional development continues, but it is an individual responsibility. Consequently, while the framework for inclusive education in schools is well articulated by policies, educational studies, and methodological guidelines, the teacher's training for inclusive education is less systematic, and far behind.

A large array of ICT tools proved to be useful for inclusive education are available in the Romanian schools. Examples are wiki-, blogs, podcasts, social media networks, tools for bookmarking, tagging and annotation of social websites, specialized searching engines, and widgets-gadgets. However, they are seldom used in class because the teachers lack the technological competence and qualified guidance to achieve the ICT skills.

According to the "Survey of Schools: ICT in Education" and "POSDRU -ePROF" (www.eprof.ro) findings, the school teachers in Romania rank below the European average in experience of using ICT. Accordingly, only 58 percent of the Romanian teachers reported advanced knowledge and skills (such as using multimedia objects in online learning environment, data transfer between Office suite applications, using spreadsheet programs such as Microsoft Excel), and a much smaller proportion (15.6%) used Web 2.0, eLearning or any ICT in class activities.

The aim of the current study was to evaluate a training course, the "Project eMentor: The development of competences and ICT skills and teacher training on mentoring persons with disabilities (PeM)". The PeM had three components as follows: a) the evaluation of the teachers' training needs, b) the teachers training, structured in two modules namely ICT competence and TMPD competence, and c) the evaluation of the teachers' training. The project's overall goal was to develop competences that encourage the use of ICT in class activities to facilitate the teacher's interaction with students with disabilities and their learning. The project was carried out in Sibiu and Galati, during 2014 and 2015. The training needs evaluation was conducted in June 2014 (Mara & Corman, 2015).

2. Methodology and Methods

The current study focused on the ICT training organized in Sibiu that unfolded between September 2014 and November 2015. The training included a demonstration of assisted technology equipment -such as printer, keyboard and tagging devices for Braille, scanner Iris IRISCAN Pro 3 Cloud, Player Daisy, recorder with voice control, touch screens displays for monitors, e-book reader, special licenses for disable persons, screen reader, lecturer and voice for Romanian language.

Of the 3007 teachers that answered the call for training, 1521 were selected and 748 were trained in Sibiu. The socio-professional composition of the participants in Sibiu is shown in

Table 1. The socio-professional composition of the ICT training participants

Socio-demographicCategories		Number	Percent
Gender	Woman	671	82,84%
	Man	139	17.16%
School Location	Urban	556	68,64%

Socio-demographicCategories		Number	Percent
	Rural	254	31.36%
School level	Primary (grades 1-4)	103	12.72%
	Secondary (grades 5-8)	283	34.93%
	Vocational (post secondary)	103	12.72%
	High School (grades 9-12)	213	26.3%
	College	108	13.33%
Teaching Experience	First year	113	13.95%
	2-9 years	163	20.12%
	10-14 years	168	20.74%
	15-19 years	179	22.1%
	20 years or more	187	23.09%

The participants were divided in 28 series of 24-26 individuals, differentiated between basic and advanced needs of ICT competence. The training duration was 48 hours divided in face-to-face activities (in class) – 32 hours, and online assignments - 16 hours. The content of the module is shown in the **Table 2**. Theoretical aspects of ICT were addressed in face-to-face activities, while practical aspects of using technology and the course's evaluation in on-line and face-to-face activities. The trainers presented the support material for the training and accomplished the planned applications.

Table 2. The ICT training topics and objectives

ICT Topics	Teachers, ICT - beginers	Teachers, ICT - advanced	Professors, ICT - advanced
Microsoft Word – text editing			
Google Docs – create educational content online			
E-learning Platform EUPD			
Microsoft Excel			
Microsoft Power Point and Prezi –presentation designing			
Browser Mailer – web page presentation			
Computer assisted education			
VoiceThread			
Web 2.0 tools for teaching and learning			
Computer technologies for adapting content to diverse special needs / disabilities			
Mobile technologies for teaching and learning			
Open source authoring tools for creating Learning Objects			
Objectives	**L**earn concepts and methods specific to ICT and digital resources	**I**ntroduce the trainees to specialized technologies and tools for the virtual	

ICT Topics	Teachers, ICT - beginers	Teachers, ICT - advanced	Professors, ICT - advanced
		teaching.	
	Integrate ICT and teaching competencies to increase the educational activities quality and the learning outcomes evaluation.	**L**earn to create educational content for students with special learning needs and to use web 2.00 tools to accommodate students with disabilities.	
	Develop the skills to use ICT in school education in special for the inclusion of students with disabilities	**A**dapt teaching and evaluation methods to mobile technologies and e-learning platform	

The support material was available to participants on the e-learning platform. After face-to-face activities, each trainer assisted the participants during practical activities and evaluation on the e-learning platform, for about three hours, according to a schedule set at the beginning of the course. The on-line assignments were differentiated by the participants' ICT competence level and were evaluated on the e-learning platform (http://www.e-mentorat.ro/moodle/) followed by feed-back from trainers. The on-line assignments outcomes were included in the participant portfolio.

The information for the program's evaluation was collected through a pre-training (expectations) questionnaire, the participant's portfolio, a post-training (satisfaction) questionnaire, and feed-back from the participants. The pre-training questionnaire had four open questions. The first two questions addressed expectations regarding the course content and organization, the third referred specifically to difficulties in teaching students with deficiencies expected to be addressed during the training while the forth asked about the expected outcomes of their training.

The post-training evaluation or the satisfaction questionnaire consisted of 11 questions, of which 10 where Likert type with five response options. The questions 1 to 6 addressed various aspects of the curriculum such as objectives, content, methodology, and evaluation. The questions 7 to 10 asked the participants to measure how well the knowledge and the skills achieved during the training will help them in teaching students with special needs/disabilities. One open question was used to collect suggestions for the training's improvement.

The training evaluation followed the Kirkpatrick's model (Kirkpatrick and Kirkpatrick 2006). The model recommends the evaluation of the training effectiveness on four levels as follows: 1) reactions to training overall, 2) knowledge, skills and attitudes achieved during the training, 3) changes in behavior as a result of the training, and 4) the training results from the organizers point of view. These aspects are further addressed in detail and provide the theoretical frame for the current evaluation.

3. Results

3.1. Participants' reactions

The reactions were measured in terms of how useful the training was, the strengths and weakness of the training, the quality of instruction and of the presentations, the trainer-participant interaction, the quality of the support materials, the content of the training, the usefulness of assignments, the group interaction, the use of technology, the level of difficulty, the course structure and the time management.

The analysis of the pre- and post-training questionnaires showed that the majority of the participants appreciated positively the way the course was organized, how it unfolded, its content, its methods, its venue and facilities, the trainers' performance. More than 90 percent of the participants were contented with the quality of the information and the training methodology.

One of the expectations with an important role in the participants satisfaction was a hands-on approach to learning instead of boring lectures. Thus, the interactive activities, the variety of communication methods, the psycho-affective environment that encouraged experiencesharing, the team-work – were all valued and beneficial. Also, the opportunity to mingle with colleagues from other schools and regions of the country was mentioned as a positive aspect with impact on learning. The trainers' notes confirmed that the participants engaged in activities and showed interest in the technology applications in education, in special in activities that benefit various learning needs.

The attitudes toward ICT and its application in the inclusive education evolved from scepticism to confidence in positive outcomes. The trend was more visible among beginner teachers who were also more sceptical initially compared to teachers with more years of practice. The majority of the participants asked for a follow up training on more advanced levels of ICT and their application to teaching. Moreover, the participants recommended the inclusion of ICT for education in the national curriculum for teacher's initial and continuing education.

3.2. Knowledge and skills acquired during the training

The change in knowledge, skills and attitudes regarding the use of technology and its integration in teaching was measured against the training content and learning objectives (see Table 2). With few exceptions, the participants in the basic ICT level class had not had an e-mail address, had not open a Word document or had not turn on a PC prior to the training. Despite progress in computer literacy (Microsoft Office Suite tools) during the training, the online applications were challenging for them. In the advanced ICT class, the participants experience with Microsoft Office Suite and Web 2.0 technologies allowed the trainers to focus on skills enhancement and diversification in these areas.

The post training questionnaires showed that overall, all participants described the training content and the methods as contemporary and innovative. Most valued aspects were the technology web 2.0, the knowledge and ability to create virtual professional communities on the e-learning platform, and the module dedicated to technical equipment and devices to assist people with sensorial deficiencies captured great interest. The teachers' exposure to these technologies triggered enthusiasm over the existence of these technologies and disappointment over their absence from schools.

The trainers confirmed the high interest in the practical activities. For example, the participants asked many questions about the ICT's potential for individualized education, and about resources regarding the integration of ICT in the education of students with disabilities. The online assignments boosted even more the interest and the enthusiasm for using ICT in instruction

3.3. Behaviour change

The change of behaviour in this context refers to the integration of technology in teaching, and learning. It is a process that takes weeks and months but meanwhile the intention to change is a good indicator (Fishbein and Ajzenk, 2010). The participants did express the intention to use the acquired knowledge and skills in class, in particular with students with special needs. Some participants started to plan changes in the school education, during the training. Others initiated a process of sharing ICT resources with

colleagues. And others created on-line discussion groups or signed up for professional networks.

3.4. Program results

The final results were evaluated and interpreted in terms of instruction such as communication methods, curriculum, trainers, support materials and provide valuable information to the organizers. The evaluation of the individual portfolios compiled during the training resulted in a performance ranking. The top 10 percent of the participants were selected to participate in professional exchanges in four European countries, namely Great Britain, Italy, Spain, and Austria. The prospect of a visit of foreign universities and schools that implemented inclusive education had a positive impact on the teachers' attitudes and behaviour.

Two types of difficulties encountered during the training are worth mentioning. One refers to the trainers' language that was too technical for a non-IT audience. The difficulty was overcome through informal, open dialog between the participants and the trainers leading to the adjustments in wording. The other one refers to the self-evaluation of the ICT learning needs that resulted in the placement of a few participants in the wrong competence category. The trainers addressed the difficulty with a flexible approach to learning and individualized assistance while the participants fully cooperated to achieve their goals.

In a positive note, the participants made valuable suggestions for future trainings. One of them was about the teacher's conduct in educational activities in different environments. Another topic of high interest was how to adapt a lesson's content to various learning needs of students in the same class.

4. Discussion

The current study aimed to evaluate a teachers' training on ICT for inclusive education. The evaluation was aimed at improving the training's planning, content, and format to increase its effectiveness. The results show that both the training objectives and the participants expectations were met. Consequently, the objectives, content, methods and format of the ICT trainingcan be replicated.

The knowledge and the skills targeted by the training were in line with the international standards recommended for the ICT integration in pedagogy and evaluation studies conducted in other countries (du Toit, 2015; Jung, 2005; Valcke et al., 2007; Galanouli, Murphy, & Gardner, 2004). Also, the study adds more enthusiasm for a hands-on approach to learning, found more effective and more likely to be applied in class (Russel et al., 2003; Jung, 2004). The course format combining face-to-face activities with online activities confirmed previous appreciation (Valcke et al., 2007).

It was not a surprise that the Romanian teachers, like their counterparts in other countries recommended that the ICT instruction be included in teacher's training at all stages, the initial training and the in-service teacher continuing development while assistance and advice are made available at any time. As stated in the literature, the teachers' professional development is a process, not an event (du Toit, 2015) and the ICT competency more than any other aspect of professional package illustrates this due to its rapid progress on one side and its popularity among the school children. Thus, the ICT training should catch-up with the technology progress and standardize its integration in teaching (Martinovic & Zhang, 2012). Educational policies that promote the integration of ICT in the teachers' education have great impact on teachers' motivation for improvement, on training opportunities, and on professional recognition from the education community (du Toit, 2015).

Also, the results confirm the need of specific training to effectively integrate ICT in teaching (Martinovic & Zhang, 2012; Russel et al., 2003; du Toit, 2015). Hodkinson (2006) provided clear evidence that the training influences positively the participants' attitudes

toward inclusive education due to increased perceived competence. Similarly, the participants in the current study displayed an increasingly positive attitude toward inclusive education and a growing self-perceived competence in this regard.

The interest in assistive technologies for people with sensorial deficiency shown by the participants highlighted the chance of success in making the education inclusive. It demonstrates that the lack of information is the source of resistance, that can be overcome. Moreover, it suggests that the Romanian teachers are open to change and to professional development while support and resources can speed up the process.

Across the countries, teachers express different preferences for the training format. For example, in the Netherlands, the teachers prefer training courses within their school, even better during the school hours (Valcke et al., 2007). However, the Romanian teachers enjoyed the residential training format that provided them extra-time for networking and discussions on their own learning experience.

About 20 percent of the participants were not satisfied with one or another part of the training. One reason might be the misplacement of some participants in the ICT level-class based on self-evaluation. Although efforts were made to accommodate the outliers, it is possible that frustration still built up. Therefore, the evaluation of the ICT competency and the training needs a revision.

As stated in the introduction, in Romania, the school has no responsibility for the in-service teacher's continuing development. The teacher's participation in training was therefore a personal choice and a private matter. The immediate consequence was the difficulty of finding a teacher replacement for classes scheduled during the training. The more lasting and serious consequence is the lack of school engagement and support for the use of ICT in school. As research findings show, the effective use of ICT in class is a complex process that demands time and institutional support besides equipment and individual competence (Sanchez et al, 2012; Hodkinson, 2006; Pijl, 2010; Valcke et al., 2007). Regardless the training quality and success, in the absence of school support the teachers' ICT skills shrink and their competences erode over time (du Toit, 2015). Thus, the training organizers should at least involve the school authorities in the process of the participants selection and even better motivate the principals to support them after the training. The training organization can also be improved by adding a follow up evaluation, six to 12 month later. It would be an incentive for the participants to apply their achievements and for the school authorities, if involved, to encourage and support changes in school education.

The international educational policies and practices regarding inclusive education continue to be one of the big challenges of the current educational system in Romania. The studies on educational policies regarding the inclusion address changes at organizational and methodological levels. These studies relate to the general level of education (educational macro system), as well as the level of educational facilities (school micro system). Unfortunately, the studies of educational policy are necessary but not sufficient if they remain declarative, rhetorical products of politicians and governmental methodological tools. Similarly, at the operational level, the strategies, the programs, and the projects proposed are not enough to link the educational policies with the classroom activities. The action level, namely what occurs at the teachers ' mentality level and translates in teaching is poorly addressed and does not cover the whole problem of inclusive education.

The current training evaluation used conventional research means such as questionnaires pre- and post-training but also unconventional means such as the material produced by participants during the course included in the participant portfolio, face-to-face discussions between trainers and trainees, feed-back from participants, and the trainers' observations. The combination of different methods to collect information for the current

evaluation study highlights important aspects of the learning process that could not be obtained through conventional methods (Danson, Loveday, & Dalton, 2010). Consequently, nonconventional methods provide practical clues for planning and improving future training programs.

5. Conclusions

The educational system, as part of the society is influenced by a number of political, economic, technological and cultural changes among others. On the politic stage, the European schools promote the ideology of diversity that affirms the necessity of changing the schools' environment in schools for all children. Inclusive education is just a facet of this broader ideology that support equal rights for all children, regardless their ethnicity, religion or disability. Changes in the society lead to changes in the educational process, in all three essential components teaching-learning-evaluation. The teacher's role in class has changed and consequently the teacher's education must change. The education policies must assure the conditions for both students and teachers' education in line with the societal changes.

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GROUP ACTIVITY – NEEDS IN TEENARGERS EDUCATION

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Abstract:*This paper brings to the attention of teachers the issue of group learning activity by combining the results of a research conducted to identify the level of satisfaction and the level of pupils' involvement in learning, remedial activities, counseling activities and of extracurriculars, carried out under the ROSE project, in high schools in Romania and of direct observation, during the special inspections for granting the didactic degree I and the evaluations ARACIP (Romanian Agency for Quality Assurance in Pre-university Education).The questionnaire was administered to a batch of 760 high school students and direct observation was done during 134 lessons.*

Keywords:*group activity; cooperation; collaboration; interrelation; student needs;*

1. Introduction

One of the themes frequently addressed by theorists and practitioners of education is group work: collaborative work, cooperative learning as a need to meet the expectations expressed by the labor market and the current social context.

Nevertheless, in Romanian school, very little group work is used as a way of organizing learning, although it has many positive valences and contributes to the formation of life skills necessary beyond the school activity.

Among the teachers, it is very widespread that only competitive relationships generate a proper motivation for learning, for performance.

The most convincing arguments for stimulating group activity in school are: the results of numerous research, as well as the effects observed by teachers who introduced specific learning methods in small groups in class. Through the activity in small groups are practiced a series of abilities:

- cooperation with group members to carry out common tasks: collecting, interpreting and evaluating information on various issues;
- recognizing some types of interpersonal relationships, behaviors, roles and attitudes;
- identifying their own expectations for the activities carried out;
- evaluation of some types of psychosocial behavior;
- analyzing the possibilities of personal development for assuming roles in the social vine;
- analyzing the characteristics of one's own personality and the personality of others.

Through this paper, we propose an argumentative approach, through which we succeed in changing the paradigm among the educational community.

Considering learning, work specific to school age, we will approach group work as a learning and development activity.

2. What do research on cooperative learning say?

Since 1898, when the first research on this theme was carried out, numerous experimental research and correlation analyzes have highlighted the differences between cooperative learning, individualistic learning and competitive learning.

The results of these researches reflect:

- from the point of view of the obtained achievements: greater availability at the effort to succeed, implicitly, better results for all pupils, intrinsic motivation, involvement in pregnancy, better dosing of the time available for the task, critical thinking;
- in terms of interpersonal relationships: Deeper and warmer relationships among colleagues by enhancing team spirit, appreciating and valorizing diversity, by developing empathy and cohesion at the working group level;
- from the point of view of personal identity: strengthening self and self-identity, developing social skills, improving self-image, developing the capacity to cope with adversity and stress.

In the last decades, researchers have dealt with setting up the group as a learning environment, highlighting the high efficiency of groups of students who have a common learning task.

Small group training is an increasingly useful alternative, as frontal training limits instructional options. In frontal activity, almost necessarily, the didactic framework becomes the focal point. Indeed, it is difficult, though not impossible, to avoid training with a large group centered on the teacher. There are times when frontal activity is entirely appropriate, but we can also predict that much of the time will be devoted to procedures of producing and maintaining order.

By dividing the class into small groups, the responsibility of each student towards the group increases greatly. Also, the actual time of involvement of a pupil and the importance each pupil receives in one hour in class grows. Instead of representing the 25th part of a class of 25 students, the student represents a quarter of a group of 4. In theory, the actual time a student has to express his / her opinion to interrelate with others increases considerably. And involvement means development.

Learning through co-operation is the use of small groups for instructional purposes, so that, working together, pupils maximize their own learning as well as other colleagues.

Through such an organization of learning situations, pupils depend in a positive way on one another and this positive interdependence leads them to devotion to the group.

Other essential elements of cooperative learning mentioned in the literature are (after Johnson, D.W., Holubec, E.J., Johnson, R.T., 1998):

- individual responsibility. Each student is responsible for both what he teaches and the help he gives to other members of the group to accomplish a task;
- Face-to-face stimulus interaction. Students promote success to each other;
- skills and interpersonal skills, indispensable for working in small groups;
- reflection and evaluation of how the learning group works.

Learning collaborative groups focus on maximizing the academic success of all members of the group.

To use collaborative learning in the classroom, we need to plan and implement four specific actions (Ulrich, C., 2000, p. 74):

1. Take some pre-instructive decisions regarding:
   - what are the objectives related to the pupils' social skills;
   - how large the groups are, how we structure them, as long as we offer;
   - how we can better arrange the classrom so that it is suitable for working in small groups;
   - instructional materials that we need;

- what roles we attribute to group members.

2. Let's clarify what students have to do during a cooperative activity:
   - formulating concrete tasks;
   - explaining to children the positive interdependence;
   - what are the group work skills that insist at a certain time and how they improve over time.
3. Lead the lesson because although students work in groups, they must:
   - track and monitor clusters;
   - intervene where needed;
   - enrich the tasks and help students work more effectively in the group.
4. Organize and organize activities after work in small groups where:
   - evaluate what they have learned;
   - evaluate how well they worked as a group, what progress or difficulties they encountered in the personal learning process, which corrections and enrichments can be brought.

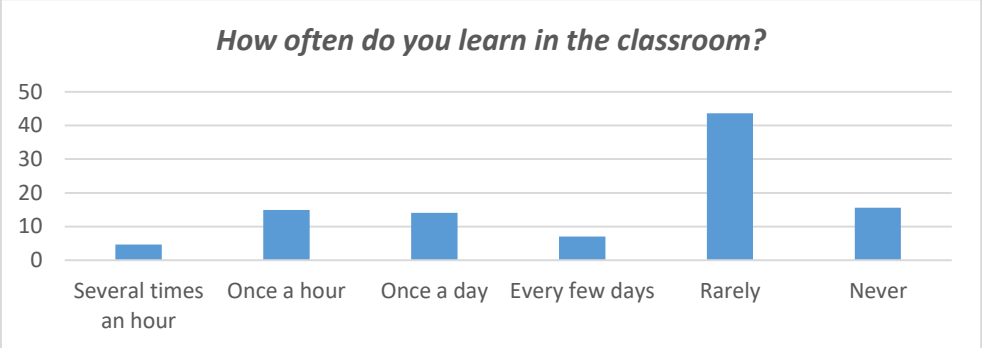
3. Research presentation

The direct observation of lessons, as school activities and the interview, by using a questionnaire were used as research methods.

The information gathered during the 73 special inspections for obtaining the first degree did in 13 counties and the city of Bucharest, 61 ARACIP evaluations carried out in school institutions and the administration of the questionnaire were used, to 760 pupils from 22 high schools, in the counties of Alba and Hunedoara, in which students were asked to improve satisfaction and efficiency in remedial, counseling and extra-curricular activities, as well as to identify the level of involvement in learning activities carried out under the ROSE project.

78% of pupils, at least in one of the three situations (remedial, counseling and extracurricular activities) suggested that the use of teaching strategies based on collaboration and learning cooperation: teamwork, group learning, peer support, working group.

To the question,, How often do you learn in the classroom?" the results were the following:



From the observation of the 134 lessons, it results that only 15% of the assisted activities are constantly using group learning, in an effective combination with frontal activity and individual work.

Research results confirm that group learning activity, although it is a need expressed by students, a pre-subject often approached in methodical and in-service training, a requirement of national educational policies, a labor market requirement in terms of expectations that employers they have to graduates, it is very rare and never (59.2%) used in class as a way of organizing learning.

4. Recommendations for an effective cooperative activity

For the successful use of cooperative activity, it is worth considering the following recommendations:

- Examine your beliefs and pedagogical goals! Think about the question: ”Why is cooperative learning exciting and important to me as a teacher?” You need to reflect on the fact that it is important for your practice to introduce cooperative learning, motivate it for the effectiveness of teaching and learning in your classes, and convince your colleagues about the value and the effects of such a change.
- Establish and share with your classmates the methodical benefits! Why would cooperative learning be required in the heterogeneous classes in terms of student performance? In what sense would cooperation learning be a positive change?
- Proceed progressively! Gradually introduce class change; first enter the activity in pairs, then activities in small groups! And students need time to adapt to a new situation for them, where solving with one another a task does not mean cheating.
- Prepare for these changes to take a long time! To make cooperative learning a reality, it takes a lot of time and effort both on your part and on your students. Effects on children will not be immediately visible. Some of your colleagues may be amazed at the "bustle" of your class. Make sure that you "fool" means that students learn together, performing specific tasks!
- Talk to colleagues and parents!
- Look for collegiality not isolation! Find partners in school with whom you can work together, share ideas and materials with which to organize interracial lessons, make comments and give feedback!
- Apply new ideas! Practice forces teachers to be pragmatic. Inform not only your colleagues but also your students' parents about the changes you intend to enter!
- Build a cooperative learning model! For both you and your colleagues is important to build an implementation plan together. What goals do you propose? Which student grouping criteria do you use? How do you monitor and evaluate your activity? What anticipated effects?
- Review educational policies and procedures used in school! The introduction of cooperative learning is mentioned in national documents and provisions. At school level, it is necessary to adjust the timetables so that the teachers sometimes have two hours or even a day at their disposal to carry out certain projects. This is easier to achieve in grades I to IV.
- Link cooperative learning to your own responsibility and professional development! Even though the idea of cooperative learning is new in school, there is nothing strange about trying to respond to the needs of pupils as much as possible, creating learning situations that are diverse and appropriate. Take responsibility for the changes introduced in your class and make the most visible results at school level (after Ulrich, C., 2000).

5. Perspectives and recommendations

Depending on the pupils' needs and the objectives pursued, grouping can also be done according to differentiation criteria: learning style, intelligence type, activity rhythm.

Often it is necessary to have heterogeneous working groups, from the point of view of intellectual potential, organizational capacity, labor power. For this we will, as group leaders, choose as many groups as we need. We will use different criteria or selection criteria, for example: Ionel, because he worked very nicely on the homework, Ghita because she had the initiative of classroom cleanliness, Ileana for helping Crina in the math exercises. They will, in turn, choose a colleague with whom they will form the working group. This way, students from each category will be chosen: very good, good and with modest potential.

In addition to realizing the heterogeneous groups that we have proposed, such a strategy is an opportunity to positively strengthen the behaviors we want to generalize (neatly written themes, cleanliness initiative, support for colleagues).

Optimal grouping and deployment of cooperative work is particularly useful for modular furniture. Arranging the meals will be based on the teacher's anticipated interaction needs and obviously the space available.

While there is no possibility of grouping pupils (due to fixed furniture, for example), interactive activities can be carried out in pairs for:

- discussing a text, an image, a task, a problem;
- providing support for solving an exercise, a problem;
- asking questions about a topic;
- conducting a dialogue;
- evaluating and / or correcting the topic of each;
- summarizing a lesson at the end of the hour;
- advancing some conclusions;
- comparison of notes;
- performing an experiment.

Also in a cooperative learning activity, the learning strategy can be used: "Thinking alone. I work in pairs. Comunicate "where an individual task is worked for a period of time, then the views are changed at the level of the pair, then at the group level to get ideas, more and more interesting, more elaborate conclusions.

Monitoring and intervention work is an open and cooperative attitude. It is the time when the educator can convince by attitude that he does not "hunt the mistakes" (according to De Landsheere, G., 1975, p.33) but helps them to achieve learning, harmonizing to their needs. It is time to cultivate a relationship of trust, dominating by positive stimulation.

Use activity in small groups, as a first step, as an exercise, to overcome negative emotional states as they have a point of view, to argue in public. In the small group, students feel more comfortable, more relaxed, more secure, less exposed to colleague criticism.

For the most emotional of the group, suggest them to choose the group they want to work with. Make the members of the group in which they want to work your allies, being aware of your purpose, helping them become support for them.

The combination of small, individual and frontal work enhances dynamism, attractiveness, motivation, and adds to learning efficiency.

6. Instead of conclusions

Cooperation is essential for the efficiency of any learning or practical activity. Cooperation does not depend spontaneously. It must be taught and built. It takes a long time to build cooperation, measured in months, not in days or weeks. The key to success in building cooperation in the classroom is a sustained and consistent effort undertaken by the entire group of classroom teachers aimed at this goal.

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EFFECTS OF AMBIENT MUSIC IN THE LEARNING PROCESS

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Abstract: *The paper aims to highlight the importance of ambient music in the classroom and the effects it generates over the learning process. The classroom must be a welcoming environment suitable for learning.In times when the abundance of external stimuli is on the rise, focusing on the activities is more and more affected and absorbed by these stimuli. As a result of these stimuli, many people, both children, adolescents and adults, develop Accelerated Thinking Syndrome, which can be improved, even eliminated with ambient music.*

Keywords:*ambient music; learning process; educational activity; concentration; classroom;*

1. Introduction

The classroom is the third teacher, along with the main actors, teacher and student. (Malaguzzi 1993). Starting from the idea of Malaguzzi, we all want to have a welcoming classroom in which the atmosphere is relaxed, with a positive vibe and attraction to spend time in it. Ambient music is a factor at everyone's fingertips, which has a positive impact and great effect on the educational environment. The effects of ambient music in the classroom can be de-accelerate thinking, improve concentration, develop the pleasure of learning, calm anxiety and even educate emotions.

2. Theoretical foundation

Many times as we develop a certain activity, our minds "get crazy" and end up in a completely different point than what is happening at the time. We often talk to a certain person and jump from one idea to another, just not to forget the idea. All these events the psychiatrist and educator Augusto Cury calls and falls into the Accelerated Thinking Syndrome.

People affected by this syndrome cannot concentrate, feel tired unjustifiably without a specific effort, hate routine activities, sleep poorly, are sensitive, restless, stressed, they are affected by memory and fail to manage their thoughts cleaning their mind. During this time the brain consumes a lot of energy to feed the thoughts that invade us and the created states.

The causes of Accelerated Think Talk are multiple, but the most common are the premature delivery of children who do not have time to "mature" in the mother's tummy and prepare for life, the high number of visual stimuli and sounds in the environment, excess information, consumer policy (excess color), which also affects adults, but especially children who are more permeable to stimuli.

The effects of Accelerated Thinking Syndrome can be diminished by reducing the time spent on television and in the presence of incentives that favor it, by trying to control the thoughts that distract us by reducing the information we receive on various channels and the small ones in the process of teaching and learning. The more emotionally the pupil is, the higher the concentration and engagement capacity, the slower the pace of thinking and the encouragement of learning. Using ambient music, quiet and produces positive emotions and is the most handy remedy for this.

Researcher A. Tomatist studied the effects of Mozart's composite music on the human body, which he called the Mozart Effect generically. Mozart's music, the researcher

concluded, is best suited to helping the individual concentrate better, relax, calm down, moreover, qualities that make learning more effective.

If the quality of learning is given by the degree of emotional involvement, it is very clear that when it does not exist, the transmission of information does not generate anything but the indifference, the lack of effective learning. Ambient music helps mathematics, chemistry, foreign languages or other school disciplines no longer be perceived as arid and unattractive, but to have an emotional dimension.

For music to have the desired effects, it is necessary to meet certain conditions:

- especially classical music (Mozart, Vivaldi, Beethoven, etc.) or relaxation, based on sounds from nature;
- gentle and quiet, so that the state it transmits is a relaxing, tranquil one;
- instrumental, precisely because it does not have a text and does not distract the message that the text transmits and weakens the capacity to focus on the proposed tasks.

3. Brief research

3.1. Framework of research

For one semester, at one of the courses of Psychology-Education, held at "L. Blaga "in Sibiu, ambient music was used in the classroom.

3.2. The actual research

The research used as methods: interviewing, using a questionnaire, direct observation during classes, and student product analysis - student feedback sheets at the end of the courses.

The questionnaire was applied online through the Google-drive platform, includes six questions and was completed by 73 students from three courses. The questionnaire is attached in Appendix.

3.3. Results

In the questionnaire of the 73 students, 71.4% claimed that each time or very often they reported having a background in the classroom. The ambient music relaxes them and confers 89.1% comfort on their intellectual activity. 93.2% of students claim to be able to concentrate well and well on classes where ambient music exists in the classroom and 86.3% of them feel an improvement in well-being. 75.4% in large and very large extent and 17.8% feel less willingness to learn at courses where there is ambient music in the classroom, compared to courses where it is not present. Most students 78.1% believe that there is ambient music and other courses.

At classroom classes with ambient music, the state of the classroom was a calm, reassuring, Atmosphere was a good fit for the proposed educational activities. By analyzing the student feedback sheets, most of them have mentioned positive aspects: the existence of ambient music, the fact that time has passed without being felt, the involvement in the great workload, the mood for learning, the psychoacoustic climate favorable to learning.

4. Conclusion

From the answers, observation and analysis of the feedback sheets, it results that the effects of ambient music are the expected ones. Ambient music would be suitable to be used from childhood and listening to it to become a skill.

Augusto CURY argues: "After six months of quiet and gentle music, the students and young people’s reaction is ready and stabilized."

Music is recommended to be a partner throughout the day, in theoretical classes as ambient music and music as a way of relaxation and good mood before learning.

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Appendix 1

Questionnaire - Impact of ambient music on learning

1. How often do you notice that you had a musical background in classes?
a) Each course
b) Quite often
c) From time to time
d) Never

2. What is the state of mind that produces the musical background?
a) tranquility / relaxation
b) comfort for intellectual activity
c) agitation
d) of anxiety
e) no effect / unchanged

3. Can you focus on courses when you have a background sound?
a) Very good
b) Good
c) A little
d) Very little
e) Not

4. Do you feel an improvement in mental activity in sound background classes?
a) To a great extent
b) To some extent
c) A little
d) Very little
e) Not

5. Do you feel an improvement in mental activity during the background courses?
a) To a great extent
b) To some extent
c) A little

d) Very little
e) Not

6. Do you feel the difference between availability for mental activities in sound background courses versus non-musical backgrounds?
a) To a great extent
b) To some extent
c) A little
d) Very little
e) Not

"I WISH MY TEACHER WOULD KNOW…" – BEHIND STUDENT'S GRADES: THOUGHTS AND WELLBEING

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Abstract: *The grade is, in mosteducational systems, a key concept with a strong short-term echo, which influences the student's dynamics in school, but also with a long-term one, through the emergence of attitudes such as those related to competition and social hierarchy. The study analyses quantitatively and qualitatively the factors that stand behind the grade. The participants are 48 students in their first year of university studies. Their grades are examined through their level of interest for a particular subject and through the importance they attach to a certain course having in view their future career. Also, grades are linked to wellbeing factors. Results show that the interest and importance for courses can directly explain the increase and decrease of marks, and the quality of sleep is an essential wellbeing factor that effects school outcomes.*

Keywords: *grades; students' wellbeing; teachers' awareness;*

1. Introduction

School implies passing through a continuous process of teaching, learning and evaluation. In these three major categories, we can include the entire activity of both teachers and students. In the modern education paradigm, teaching, learning and evaluation are not in a linear relation, in which the last one ends the process(Boud & Soler, 2016). We are rather discussing about a circular route (Firestone, 2014; Whitton, Barker, Humphries, Nosworthy, & Sinclair, 2016). In this circular model, starting with teaching, learning is awakened and, from this point on, continuously calibrates the teaching.The two reach evaluation, which through its multiple functions,echoes teaching and learning.

The evaluation follows the diagnosis and prognosis in education (Bhise, Thorat, & Supekar, 2013). Selection and classification arealso made by evaluating(Jahanian, 2012). It is also necessary that the assessment is regarded as a feedback moment in which the educational duo (student-teacher) can be calibrated by raising consciousness on both sides. Ideally, the authenticity of the evaluative moments will motivate and increase efficiency, and not morally disarm or place in inferiority the ones wholearn, for whomteachersbasically started the whole process.

In this discussion, there is a concept that fills with significancethe majority of world schools: the grade. In most educational systems, with various scoring methods(Dahlgren, Fejes, Abrandt-Dahlgren, & Trowald, 2009), the grade is a prism that reflect the learners' achievements and reverberatesup into their school life(Becker, Geer, & Hughes, 2017; McClarty, 2015).

Studies sustain that grades reflect 25–35% of academic knowledge (Bowers, 2011). What else fills the grade? Classroom emotional climate, students engagement, and their interest also impact outcomes, argue Reyes, Brackett, Rivers, White, and Salovey (2012). Other aspects such as family relationships, perceived stress level, sleep quality or diet are also variables to be taken into account when discussing the grade(Ahrberg, Dresler, Niedermaier, Steiger, & Genzel, 2012; Lee, 2018; Silva et al., 2017; Stupnisky, Perry, Renaud, & Hladkyj, 2013).

Offered with a lower or higher degree of objectivity, the grade remains an essential topic in school. It is a concern for both teachers who follow personal or unanimously accepted principles when assessing (Tierney, Simon, & Charland, 2011),but especially for students who receive the grades, most of the time with a definitive status, without the possibility to fill with meaning the teachers conclusion.

This study identifies a gap in the possibility to extract feedback from students after receiving a mark. Their feedback can be used to calibrate the accuracy with which teachers make the assessment and give the mark, while still remaining in an objective area. Also, exploiting the nuances of the grade and looking for possible explanatory factors such as interest in a course or student's sleep quality, interventions can be made to improve outcomes. Mobilizing a teacher who is aware that it is necessary to make his/hers course more interesting or to place a meeting not in the first hour of the morning(Wolfson & Carskadon, 2003) may have an resonance in raising the students'outcomes.

The framework question of the research is *What is behind a student's grade?.* Starting from this question, we are looking for actual answers to:

1. Can the gradebe explained by the importance and the interest in a course?
2. How do marks modifystudents' outlook on learning and school in general?
3. Which aspects of wellbeing influence the mark?

2. Methods

Research design of this study has both qualitative and quantitative features. 48 students attended the study. All of them are in the first year of university studies. Most participants are female, aged up to 25. The research focused on the 10 subjects studied in the first semester of the first faculty year.

In Romania the scoring is done with Arabic numbers starting from 1 (lowest score) and up to 10 (highest score). The grade for passing an exam is 5.

A questionnaire, with closed and open questions, was used to collect the data. Validity and reliability of the instrument was verified by previously filling out the questionnaire and two questions were rephrased. Cronbach alpha for quantitative scales is 0.75.

3. Results

Students were invited to fill in their the grades they had at: Fundaments of Pedagogy, Fundaments of Psychology, Age Psychology, Romanian language, Romanian literature and children's literature, Early education, Pedagogical practice in pre-school, Foreign languages, Sports, and Intercultural Education. They were then asked to give a score of 1 to 4 (1 low interest / least interesting, 4 high interest / most interesting) to showtheir interest in a particular subject and the importance they offer to a particular course in their formation.

Although R^2 has a low value (0.39), we notice the grouping of school grades (comprised in means) in a linear up trending pattern (Figure 1). So the marks can be explained by the interest shown to the 10 subjects and the importance given to each one. The two variables may explain in a directly proportional relationship the increase or decrease of the mean. Figure 1provides a response to research question number 1.

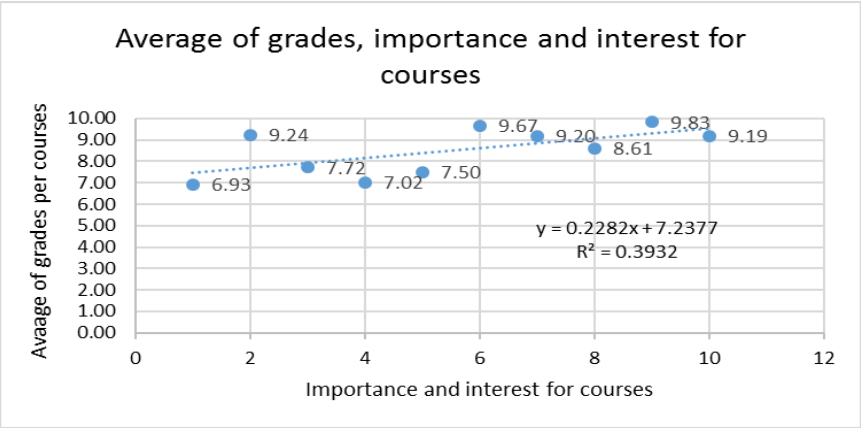

Fig. 1. Avarage of grades, importance and interest for courses

Figure 1. Average of grades, importance and interest for courses

In the data analysis we find a negative correlation (p=-0.42) between the subjects' means and the importance students give to the gradeobtained for that particular subject. The higher the grade is in a subject, the lowest the importance for that subject becomes. The lower the mark, the higher the importance of the grade becomes. The importance of the grade is in general 3.37 out of 4.

Students who have had over the 8.40 averagemarks answer the open question and share their thoughts by continuing the phrase I would like my teachers to know that ... *Those who received grades below the group average offer 50% fewer responses.*

Open responses can be grouped as follows:

- *Students with the highest averages provide answers that denote modesty*

  We are now learning.
  The marks do not reflect a student's level of achievement.
  No one is born wise, it is for him/her to become like that.

- *Most students (56%) have meansbetween 8 and 9. Among their answers are the most messages that would like to transmit teachers that they are doing their best in learning.*

  We are all interested in becoming specialists in education and teachers should be more understanding.
  I'm doing my best!
  I really try!

- *The negative messages from the students' answers are:*

  Sometimes quality, not quantity, matters.
  Teachers should encourage us in what we do. Some of them are really just disheartening us.
  We get bored when we are only forced to listen.
  Just as an interactive teaching is required for children, the same thing is required in the case of students. And in each subjectpractice, not just theory, must be emphasized.

- *Positive messages are:*
  I thank teachers for all their effort.
  Teachers are very good.
  I liked the hours we spent together.

In students' thoughts, there is a request for understanding the ones who work and can not attend classes. The averages of this category of students vary; they are not grouped below the general average, nor over it. Working does not influence their marks.

Student shared thoughts respond to research question number 2. *An in-depth analysis of responses reveals a greater concern for those who have achieved higher grades. This concern places them in an area of modesty regarding learning and school in general.*

Students who consider that their grades reflect their level of learning have lower averages than those who say that the grades obtained accurately reflect learning. We can once again articulate the modesty. Students who have highoutcomes think they could have been evaluated more severe.

The 60% of students who believe that the grades were objectively offered by teachers have a higher average than the remaining 40% who think they were subjectively assessed. Those who have the lowest grades are those who consider thatmarksare very subjective.

There is a negative correlation (p=-0.50) between grades and self-assessed wellbeing. The index answers research question number 3. *Table 1 shows in detail the average scores for each category by which the perception of own wellbeing was analyzed on a scale of 1 - bad to 4 - excellent.*

Table 1. Perception on wellbeing

Wellbaing factor	**Score**
Appreciation of family relationships	3.58
Appreciating relationships with faculty collegues	3.29
How I sleep in general	3.17
Self-assessment of the mental state in general	3.17

Appreciation of personal financial status		3
	.17	
Appreciation of involvement in college in general		3
	.17	
Self-assessment of physical condition in general		3
	.15	
How I slept the last night		2
	.94	
How well I feed myself		2
	.94	
The level of stress I live in		2
	.52	

Family relationships have the highest score and the perceived stress level the lowest one.

In factorial analysis and PCA (Appendix 1), how well students slept the night before influences the other factors and the grades at all studied subjects.

4. Discussion

From the data obtained from the students who participated in this study, we can conclude that their grades can be explained by the importance that students attribute to a particular course and the interest they have for a specific subject. The importance and interest may be different for the same course. Table 2 shows the order of subjects listed by interest and importance. The two different variables can be considered predictors for grades.

Table 2. Interest vs. Importance of studied subjects

	Interest in subject		**Importance of subject in future career**
1.	Fundaments of Pedagogy	1.	Sports
2.	Foreign languages	2.	Foreign languages
3.	Sports	3.	Intercultural education
4.	Fundaments of Psychology	4.	Fundaments of Pedagogy
5.	Intercultural education	5.	Romanian literature and children's literature
6.	Romanian language	6.	Age Psychology
7.	Age Psychology	7.	Fundaments of Psychology
8.	Pedagogical practice in pre-school	8.	Early education
9.	Romanian literature and children's literature	9.	Romanian language
10.	Early education	10.	Pedagogical practice in pre-school

The lower the score in a subject, the greater the importance offeredto it, the data tell us. Students want good grades. In a society that continually hierarchizes, it is normal for students to be concerned about getting a bigger grade. The result is also acknowledged by other studies, and is linked to the wellbeing of students (Pardos, Baker, San Pedro, Gowda, & Gowda, 2013).

The effect of the pressure that marks put on students has the greatest echo in the quality of sleep that directly influences other factors that build their wellbeing.

The fact that once a good grade is obtained reduces the interest in that particular course, it can also have unwanted effects. Here we can raise questions about to rush to finish a course, pass the exam and obtain a grade if this is considered satisfactory. This can generate learning just to get rid of effort, not to gain knowledge.

Students, through the answers in open questions, shared their striving and their desire to do well at exams. The ones grouped around the mean are those who struggle the most and want teachers to know about their effort.

Students with the highest grades are modest. They considerlearning a process. Although having high grades, they are carefully self-assessing themselves and think that teachers should have been more demanding.

Students with the lowest marks are the ones who share the most negative answers. They blame the evaluation, considering it subjective. Their thoughts are full of frustration, and their wellbeing has the lowest scores. They are also the ones that have the worse relationships with their colleagues (Coefficients of determination (Pearson): 0.175). The grades influence their connections with their peers. Of course, other variables should be considered.

Conclusion

The grade gained an important place in school. Students want great marks. The echo of the grade is found in life aspects that socio-culturally define populations. The effect of the grade is hierarchization. There will always be some better and some less good. It is, however, very important how the two perceiveone-other. This perception may influenceone's attitude to competition, for example. School can teach you subtly that you have to have a good, better grade than others, so you can obtain a higher place in society. Or it can teach you social responsibility by canceling the spirit of competition and developing a cooperative attitude. All for the beauty of knowledge and for genuine wellbeing.

Most of the times, although it is given by the teacher, the grade is the student's mark. However, it takes two to tango. A low grade may of course reveal a student's lack of preparation, but it can also be a genuine feedback to raise awareness of the teacher's ability to nurture students' interest in knowledge. As long as teachers maintain their good intention to produce learning and not to point out who did well, and who did not. In this vision, the student's low grade is also the teacher's low grade.

It is, therefore, necessary to be aware of what stands behind the grade, in order to gather the full impact of it and what really emerges into society. This does not mean that teachers should give good grades. It means that teachers should work alongside students for better outcomes.

Appendix 1

Factor pattern:

	F1	F2	F3	Initial communality	Final communality	Specific variance
How I slept the last night	**0.454**	-0.055	0.317	0.315	0.310	0.690
How I sleep in general	**0.646**	-0.501	-0.003	0.587	0.669	0.331
Self-assessment of physical condition in general	**0.635**	-0.477	0.429	0.552	0.815	0.185
Self-assessment of the mental state in general	**0.577**	-0.304	-0.482	0.439	0.657	0.343
The level of stress they live in	**0.545**	-0.374	-0.110	0.409	0.449	0.551
Appreciating relationships with faculty collegeues	**0.613**	0.404	0.032	0.503	0.540	0.460
Appreciation of family relationships	**0.737**	0.276	0.102	0.594	0.630	0.370
Appreciation of personal financial status	**0.677**	0.243	-0.223	0.519	0.567	0.433
Appreciation of involvement in college in general	**0.568**	0.458	0.180	0.514	0.565	0.435
How well I feed myself	**0.718**	0.216	-0.170	0.509	0.591	0.409

Values in bold correspond for each variable to the factor for which the squared cosine is the largest

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WAYS OF STIMULATING CHILDREN`S CREATIVITY THROUGH PLASTIC EDUCATION ACTIVITIES

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Abstract: *Creativity is hard to define because of its complexity. The expression evokes the power to innovate, to be original in thought and achievements, to manifest a flexible spirit, a tendency towards active prospecting. So it would be more appropriate to talk about creative skills. Thus it would be more appropriate to talk about creative skills. This is, in Guildford's opinion, in the area of divergent production, a concept that approaches the original action of non-conformism, simply an escape from the current and common ideas of imitation or reproduction.The educational ideal of the Romanian school aims at forming the autonomous and creative personality, a personality capable of anticipating the future, transforming the present in its own anticipations, discovering and solving situation along with the others. In our article we want to highlight the possible means of classroom intervention that would favour the development of these innate skills.*

Keywards: *creativity; stimulating; education strategies; capacity; aptitudes;*

1. The Importance of stimulating preschool children`s creativity

The Romanian educational ideal aims the development of autonomous and creative personality, a personality that is capable of anticipating the future, to change the present towards anticipations and to discover and solve situations along with other peers.

The notion "creativity" originates in the Latin word "creation," meaning "conceived," "making," "creating," "giving birth." The very origin of the word demonstrates that the term of creativity defines a process, a dynamic act that develops, completes and encompasses both origin and purpose. Creative capacity is hard to define because of its complexity. The expression evokes the power to innovate, to be original in thought and achievements, to manifest a flexible spirit, a tendency towards active prospecting. Thus it would be more appropriate to talk about creative skills. This is, in Guildford's opinion, in the area of divergent production, a concept that approaches the original action of non-conformism, simply an escape from the current and common ideas of imitation or reproduction.

The literature refers to three categories of factors favouring creativity: mental factors, social factors (cultural, educational and socio-economic environment) and biological factors (gender differences, age, etc.); it is understood that, in real situations, these factors are in a complex interaction.

A.L.Taylor proposes five levels of creativity:

- selective, when there is a free and spontaneous expression of the person, without concern for unity or value, as in the case of drawings made by young children;
- productive, when the person has mastered the skills and habits that enable him/her to produce useful things, but where his/her specificity is poorly expressed;
- inventive, innovative, emerging.

From a psycho-pedagogical point of view, we are interested in creativity as a psychic structure that the kindergarten/school is called to develop and to form. Its structure has many facets, many factors compete for the creation of the creative potential.

An important factor in stimulating creativity within schools is the educator. The "creative" teacher provides self-directed learning, a non-authoritarian atmosphere, encourages students to learn extra, encourages creative thinking processes. This means that s/he urges children to seek

new connections between data, to associate, to imagine, to find solutions to problems, to make unsuspected assumptions, to express ideas, to perfect the ideas of others, and to direct these ideas to new directions. It encourages the student to juggle with elements that seem to be unrelated, to express theories that seem ridiculous, to form theories that are hard to believe, to combine materials and concepts into unexpected new patterns. The good educator allows students to take intellectual risks, speculate on inconclusive information, probe structural relationships and spaces between things".

The creative educator knows how to use the questions. Every creative act begins with questions, but they must be open, meaningful, not predominant, and especially there should be questions that do not require an exposition of facts. The operational question provokes creative behaviour, because it leads to exploration, develops curiosity and stimulates the tendencies involved.

The psychopedagogy of creativity does not have its centre of gravity on methods (whose importance is not to be denied), because they, depending on the teacher's training, can quickly slip into routine and conventionalism. Fortunately, the key factor in stimulating the creative spirit is the relationship between educators and pre-schoolers, their attitude in class or outside the class.

Have we been wondering why creativity is stifling? The causes are numerous, but there is one that definitely dominates the others, i.e. the educators` attitude towards their creative students. The perspective from which the student's intervention is judged is that of error. This is sanctioned so as not to be repeated and for the student to avoid being mistaken in the future. And the child avoids it, but sometimes this fear of mistake is so profound that s/he no longer dares anything when s/he is on unexplored ground. The courage to try fades away, the taste of risk is lost and will not be recovered in the educational institution because s/he knows that, by failing, she will not escape the educator's ironies and admonitions. The child learns to do nothing but what is prescribed and required, suppressing his natural spontaneity. As primary pedagogical remedies available to any teacher, it is recommended: to establish periods of non-evaluation and encouragement.

If we urge the child to think or compose originally, we must respect the ideas and compositions they produce. Let's take their effort seriously, which proves they worked sincerely. If we are forced to reject their creation, we must indicate why. Let us always remember that a creation that can be trivial to us can be something new to the child who produced it.

Finally, self-evaluation should not be neglected. Learning to be creative, to be self-reliant and self-responsive requires constant practice in self-evaluation. A good educator will cultivate this ability in his children. Children must be trained to appreciate correctly; fairness is in fact the reporting of their own production of internal values, which is constituted within the internal creator's assessment framework, and is so necessary in maintaining the courage to confront the often incomprehensible and hostile opinion of those around us. In short, the assessment that responds to the demands of a pedagogy of creativity takes three hypotheses: it changes its character; sometimes deferred (brainstorming); sometimes given up (the non-evaluation).

Emphasis should be firstly placed when formulating the instructive-educational objectives. Cultivation of imagination should not be placed at the end, among the secondary goals. It must be alongside the education of thought. We need to combat cultural conformism, which is manifested in educators who regard fantasy exercises as a simple game without serious consequences on intellectual development.

The creative behaviour is the most complex, it is carried out on several levels, leading to a revolution of the whole humanity in terms of knowledge, which is why it is necessary to have a creative child today, which is the basis for the progress of tomorrow's society.

2. Research methodology

2.1.Argument.

Ensuring children's success in learning according to their biological and psychological potential, on the one hand, and overcoming failure, on the other hand are considered educational objectives of great complexity at this stage of development in terms of pedagogical theory and practice.

The pre-schoolers` effectiveness depends not only on the ability to assimilate knowledge, skills and abilities, but also on certain personality traits, particularly their imagination. Without imagination it is impossible to accumulate the same knowledge, skills and abilities, it is impossible to form the pre-schoolers` personality.

The achievement of experiment goals involves organizing learning situations through activities followed by applied themes proposed by educators by means of which children develop their thinking, interrogative attitude, discernment, imagination and creativity.

Research objectives:

The research objective is the interpretation of spontaneous forms in artistic-plastic activities with pre-schoolers in higher level groups.

2.2. Research hypothesis

If interpretation exercises of spontaneous forms are used, the children's` imagination will evolve to a new stage, creating and developing their creative capacities. It is assumed that children will acquire the right way to draw forms, to apply elements, shapes, objects, skills to work with the watercolour and colour palette independently if their plastic art activities will be consecutive. Developing creative capacities at pre-school age would make progress in developing creative potential, and the more creative the capacities will be, the higher the creative potential of pre-school children.

The potential of children with a developed creative imagination will differ from the potential of children with less developed fantasy through the values of expressiveness, consistency, originality, variability, flexibility, fluency.

2.3. Research objectives.

The entire experimental programme depends on the general research objectives. They are:

O1. Knowledge and use of materials and working techniques specific to plastic education activities;

O2. Acquiring techniques specific to plastic shapes.

O3. Development of children`s creative abilities.

The following methods have been used according to the research objectives:

a) theoretical methods - analysis, comparison and generalization of data;

b) empirical methods - observation, detection and training experiment;

c) statistical methods - qualitative, quantitative and comparative analysis of the data obtained.

2.4. Work Variables.

2.4.1.Independent variables

The use of entertaining and creative games during plastic activities with preschool children.

2.4.2. Dependent variables

- Skills to stimulate creativity through plastic activities with pre-schoolers;
- Social skills;
- The children`s degree of involvement during work activities

2.5. The Sample

2.5.1. The experimental sample

We selected as experimental group, the upper group "B" with 15 children and the upper group A with 12 children. The two groups are approximately equal.

2.5.2. Content sample

In terms of content sample, we focused on the development of children`s creativity to obtain creative products according to valid School Curricula.

2.6. Research tools

We used modern techniques and methods as well as different entertaining and creative games to successfully carry out plastic activities.

2.7. The experiment

We conducted the experiment through the following stages:

2.7.1. The ascertaining stage – pre-test stage

- we checked the level of both groups at the beginning of the school year during the initial assessment stage (October, 2013). We used exercises for spontaneous forms interpretation;

2.7.2. Formative stage

- we applied specific topics for plastic forms during the activities with children according to the yearly planning (November, 2013 – April 2014)

2.7.3. Final stage – pre-test.

- we applied the same test to both of the samples to be able to compare the results obtained and verify that the hypothesis is confirmed. (May, 2014)

In the first stage we gave the children a predictive evaluation test with the following objectives:

- recognize the materials used to create plastic images (brushes, watercolours, white sheets, water bowl, straw);
- to obtain spontaneous shapes by folding the paper, by spraying with a brush, on a dry support and blowing with the straw;
- to identify the spontaneous forms.

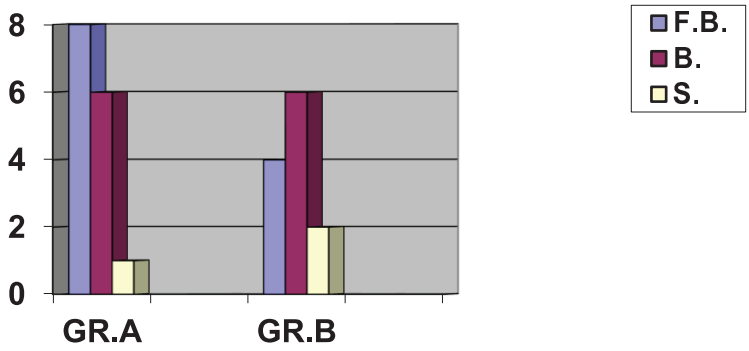
The children in the two groups had as working time between 30 and 35 minutes in an organized classroom environment.

Very good	Good	Sufficient
- recognizes all the materials used to create plastic images:	Recognizes half of the materials used to create plastic images:	- recognizes less than half of the materials used to create plastic images;
- uses all three techniques to obtain spontaneous forms;	- uses at least two of the three techniques to produce spontaneous forms;	- uses only one working technique to achieve a spontaneous form;
-identifies all spontaneous forms obtained.	- partially identifies the spontaneous forms obtained.	- fails to identify any spontaneous form.

The appreciation was based on the following performance descriptors:

Performance Descriptors

We would like to mention that the identifiable situation referred to what children knew from previous years.
Results



The test addressed the imagination and creation skills. Children had to develop the first idea that came to their minds after using the techniques to give the paper a title as interesting and close to reality as possible to help them in understanding it.
Even though they all knew how to properly designate their work tools, only a few of them managed to do interesting works, giving free rein to imagination. For this early school year, both myself and my colleague have been pleased with the children`s results. Over the course of the five months we have been doing activities in which we have used these ways to create spontaneous forms and also bring some new techniques through themes that aim the objectives of the curriculum.
For the unit "Autumn - characteristic phenomena" we used the forced spray technique with dry brush paint suggesting the rain, a phenomenon frequent during the autumn season. Also, for the unit "Children's Winter Games", we used the technique of painting a piece of ink dyed with colour and discreet colouring with watercolours to get a work that suggested winter games for children. For the unit "Mother's Day" I used the colour-soaked thread technique, pressed between two sheets of paper, suggesting brightly coloured flowers or vases with flowers, works given by children to the mothers.

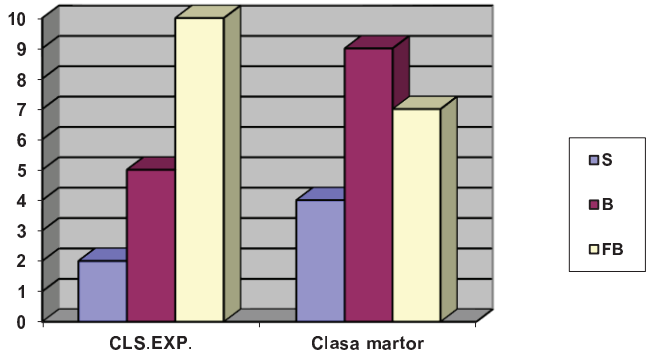
II. After this five-month period (April), we applied a common theme represented by the technique of folding and pressing paper, entitled "Butterfly". The experimental programme is appended to the didactic project, where we highlighted the objectives, the stages the games of our experiment, the activities to develop creativity in pre-school children in order to remove as much as possible the deficiencies observed during the first stage of the experiment. We have tried some new solutions for the development of skills, abilities and the creativity in plastic art. We organized activities as games (fun and movement games: "Coloring Game", "Catch the butterfly"), nature observation, etc. linked to the activities of plastic education. This unit had the following objectives:
- to obtain the spontaneous form ("Butterfly") by folding and pressing the paper;
- to designate the technique of making this spontaneous form;
- to identify similarities between the spontaneous form obtained and certain forms of reality.
The appreciation was based on the following performance descriptors:

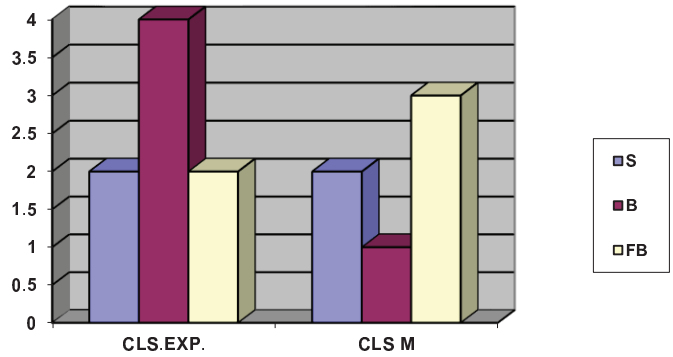
Performance descriptors

Very good	Good	Sufficient

- totally obtains spontaneous form ("Butterfly") by folding and pressing the paper;	- partially obtains spontaneous form ("Butterfly") by folding and pressing the paper;	- failed to get the spontaneous form ("Butterfly") by folding and pressing the paper;
- explains and denotes the technique of obtaining the spontaneous form;	- partially explains the technique of obtaining the spontaneous form, and it denotes it;	- explains the technique of obtaining the partial spontaneous form but cannot name it;
- identifies all the similarities between the obtained spontaneous form and certain forms of reality.	- identifies partial similarities between the spontaneous form obtained and certain forms of reality.	- identifies a single resemblance between the spontaneous form obtained and certain forms of reality.

Results





In achieving the objectives of this common task, 14 children from the upper group scored VG. and only one child failed to meet all the objectives by scoring only G. In the upper group, 8 children scored VG meeting all objectives, and 4 children scored B, meeting only some of the objectives. This time, as well, I was more than satisfied with the results of the children.

2.8. Results

By comparing the test results, we noticed that all the children in the two groups met the requirements of the school curriculum. There were no significant differences between the two groups, they all recognized work materials and spontaneous forms using different techniques.

Significant differences were found in the identification, recognition and naming of these spontaneous forms, where the upper group was the one who encountered several difficulties. The most relevant reason could be the age difference between the children of the two groups, the children in the preparatory group having a richer imagination.
At the beginning of June, we re-tested the children of the two groups. The third stage of the experiment is the control experiment, which is in fact a stage of evaluation of the ways of creating the spontaneous forms in the plastic education activities. To achieve this goal, we used the same evidence as in the observation experiment in order to achieve a new objective consisting of adding some elements of the obtained spontaneous form, combining the spontaneous form with the elaborated form. The topic of the activity was to obtain a spontaneous form ("Cherry Tree") through the blowing technique with the straw, within the unit "Summer has arrived!", through combining elements belonging to the elaborated forms, the line and the point for the contouring of the image and through stamping (cherries and leaves).
We set the following objectives:
- to obtain spontaneous forms through the blowing technique;
- to add to spontaneous forms, some elements that combine the spontaneous form with the elaborated form;
-to identify similarities between the obtained forms and certain elements of nature.

9.Conclusions

The exercises of interpreting spontaneous forms have resulted in the stimulation of children's creativity. Children have been able to complete their spontaneous forms so that they would resemble certain forms of the surrounding reality.
In conclusion, through this experiment, we demonstrated that children`s imagination and implicitly the creativity of the children can be influenced by creative didactic procedures, through creativity stimulation strategies, for example the game. In plastic activities where the basic method was the game, we achieved high results: the children were active, they felt free, the works were very good.

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