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Stanisław Juszczyk

The New Educational Review

Editor's Preface

The fourth number of *The New Educational Review* in 2019 is the fifty-eighth issue of our journal since its foundation in 2003. In this issue, there are mainly papers from: Belarus, Iran, Malaysia, Nigeria, Palestine, Poland, Russia, Slovakia, South Korea, Taiwan, Ukraine, and United Kingdom, because our journal is open for presentation of scientific papers from all over the world.

In the present issue the International Editors' Board have proposed the following subject sections: General Didactics, Social Pedagogy, Pedeutology, and Special Pedagogy.

In the subject section "General Didactics" we publish seven articles. The paper by Jolanta Bonar presents research results that demonstrate the efficiency of creative-thinking techniques in extracting children's visions of the world, as illustrated by the concept of the family. The study by Cheng-Chang Tsai introduces an anthropomorphized robot-assisted instructional tool that has been developed for learning English as a foreign language and assesses the effectiveness of robot-assisted English learning. The research presented by Marwan M.A. Abuualrob measures the affordances of augmented reality in delivering the science curriculum to elementary grades in the West Bank (Palestine). Piotr Mazur and his co-workers in their research address the opinions of parents of homeschooled children on the issue of homeschooling. The objective of the article by Olexandr Romanovskiy and his co-workers is to study the peculiarities of students' perception of teaching style and to determine the correlation between such perception and the motivation of students' learning. In his article James OJo Olubukola describes basic schools' learning resources and effectiveness in Egbeda local government area, Oyo State in Nigeria.

In the subject section "Social Pedagogy" we publish four articles. The article by Ivan Parubchak, Olesia Smolinska and Joanna Marszałek-Kawa describes the principles of cultural conformity, environmentalism and homeostasis as organizational in relation to the cultural and educational space of the university as

a complex social system. The aim of the study by Magdalena Sitko-Dominik is to investigate whether there are any differences in the intensity of Facebook use between Generation Y and Generation Z. The study by Mohd Mahzan Awang, Divya-Jindal Snape and Terry Barber analyses the theoretical foundations utilised by past empirical research in order to understand the pedagogical strategies used in schools for promoting positive behaviour. The research by Olga Marinenko and Elena Snopkova aims to identify and rank the problems which international students face during study in Belarus. The objective of the study by Eun Hee Seo and Min Ji Kim is to examine the effect of peer tutoring on college students' academic achievement and, as well, their competencies in communication and collaboration.

In the subject session "Pedeutology" we publish three articles. The paper by Marta Kondracka-Szala and Joanna Malinowska refers to entrepreneurship as a key skill. It presents the components of an innovative concept of kindergarten and early school teacher training in this area, which has been carried out since the academic year 2019/2020. The purpose of the study by Mona Zare and Naser Nastiezaie is to investigate the relationship between distributed leadership and job self-efficacy with the mediating role of the academic optimism of the teacher. The aim of the study by Krzysztof Sas-Nowosielski and Agnieszka Kowalczyk is to determine if self-efficacy specific to physical education teachers is related to their burnout.

In the subject section "Special Pedagogy" we publish an article by Alicja Gałązka and Marta Dick-Bursztyn, the aim of which is to present the complex problem of a lifelong developmental disorder, known as Autistic Spectrum Disorder, in the context of inclusive education offered to these students in general, and in the teaching of English as a Foreign Language in particular.

We hope that this edition, like previous ones, will encourage new readers not only from the Central European countries to participate in an open international discussion. On behalf of the International Editors' Board I would like to invite representatives of different pedagogical sub-disciplines and related sciences to publish their texts in *The New Educational Review*, according to the formal as well as essential requirements placed on our website: https://tner.polsl.pl – For Authors.

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General Didactics

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Jolanta Bonar
Poland

The New Educational Review

Using Creative Activities to Discover Children's Understanding of the World

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Abstract

Cognition of the world, construction of knowledge related to our surroundings, and expressing meanings that stem from our life experiences are by no means easy processes. A substantial part of our knowledge remains dormant, but its extraction makes it possible to grasp children's visions of the world. Even if rarely applied in educational practice, creative activities remain a very effective approach to release children's conceptualisation of the world. This paper presents research results that demonstrate the efficiency of creative-thinking techniques in extracting children's visions of the world, as illustrated by the concept of *the family*. The study, which was conducted as a didactic intervention, was performed in the 2018–2019 school year on a group of younger pupils from a large city. The results reconstructed children's process of understanding the above-mentioned concept and revealed the possibilities behind creative psychodidactics.

Key words*: understanding a concept, didactic intervention, creative activity.*

Introduction

Children are constantly attempting to understand the world and continuously constructing their knowledge of themselves and their surroundings. From its earliest origins, the human-world relationship has been characterised by our ever-changing perception. We struggle with the reality around us, parsing it intel-

lectually, thereby shaping our individual image of it. We build a structure that is a model of the world and consists of a certain system of inner projections which helps us to anticipate events and prepare to face them (Donaldson, 1978). Children create their own images of the world not only by listening to stories, but also by experiencing it, and yet a substantial part of their knowledge remains dormant. Its extraction renders it possible to grasp children's visions of the world and this is the main rationale behind this study, as it allows us to discover children's interpretative thinking, revealing their personal knowledge and methods of comprehending reality. The psychodidactics of creativity was the inspiration behind the search for favourable conditions which facilitate the development of a child's potential. It was also an attempt to identify barriers in the educational sphere.

Theoretical background for selecting the subject, terminological findings

In defining creativity, the most legitimate reference seems to be the classical definition proposed by Władysław Tatarkiewicz, who described the phenomenon of modern creativity as *pan-creationism*.

> There is a great deal of creativity when we define it this way: not only in what we do with the world and how we think about it, but also how we perceive it. (…) Whether we want it or not, we have to complement stimuli sent by the world and shape our own image of the world, since the sensations we receive are not complete and formulated; they must be consolidated, as they are only raw material
>
> (Tatarkiewicz 1975: 291).

The degree of children's creativity is determined by four psychological ingredients: knowledge, cognitive skills, motivation and personal traits. When these are completely developed, we can speak of fully realized creativity. The cognitional ingredients of such creativity are processes responsible for the generation of new ideas, and above all, the process of divergent thinking along with support for the creative ways in which attention, perception, imagination and conceptual knowledge function. Emotional ingredients, on the other hand, include cognitive curiosity and 'phil-creative' emotions. The list of motivational ingredients includes a need for novelty and certain manifestations of self-motivation, e.g., having fun and playing, whereas personal factors involve traits related to openness, which enable the smooth and flexible generation of ideas (Cropley, 2001).

Children's creativity is facilitated by an education that has grown from constructivism, based on the assumption that people construct knowledge creatively and build their own world not as a representation or reconstruction of the true world, but as a realistic and functional structure that they share with others (Siebert 1999: 5). What arises from this assumption is the specific characteristic of the didactic process and the related expectations of the pupil:

1. The starting point of learning is always the pupil's activity. The child's personal, intellectual efforts precede any information provided by the teacher or the textbook. Therefore, the structure of representation is built in accordance with natural processes of gaining knowledge, and personal procedural strategies precede communicative forms. Learning is a process of building new knowledge on the basis of a person's previously acquired knowledge and experience. Knowledge provided by the teacher is restructured in a manner that means it partially loses the original features given by the teacher, as it begins to reflect individual traits of the recipient's cognitive apparatus.
2. Learning includes the social negotiation of meanings. What makes group work a particularly desired form of learning is the fact that any increase in knowledge lies in the dynamic processing of meanings, their construction and reconstruction in the face of changing contexts, and their juxtaposition with various conceptions. Group work allows for negotiations with partners, triggers an exploratory way of speaking, and offers an opportunity to activate divergent thinking, to generate pupils' own ideas, solutions, policy strategies and interpretations of events, and to discover miscellaneous methods of perception, comprehension and explanation.
3. The effect of learning is the pupil's actively constructed, modifiable and developable personal knowledge, which springs from the child's cognitive curiosity, and requires self-reliance, as well as for them to extend the boundaries of the data provided, with new ideas and concepts which are generated. This knowledge enables the child to be dubious and questioning towards constructs, expressed by means of creative language that is full of analogies, comparisons, and metaphors. Pupils construct their own understanding by applying various strategies and techniques of creative thinking, i.e., posing questions, and drafting cognitive maps. The former are a verbalisation of what a given pupil knows about a given subject and also what else they would still like to learn about it. 'Asking questions may sometimes be "unfocused", i.e. a question may not always be consciously posed. Sometimes all that we are aware of is a nagging puzzle, or a niggling feeling that some-

thing is not quite straight in our mind' (Craft 2000: 6). Another effective technique is cognitive maps, aimed at condensing textual information in graphic form. If it is assumed that information is processed in the form of concepts organised into maps and models, and that cognitive development has much in common with the development of concepts accomplished in the course of cognitive conflict, then the generation of cognitive maps should be perceived not only as a way to illustrate the conceptual structure, but also as a tool for its processing, questioning, and expanding (Novak & Musonda, 1991; Sungur et al., 2001).

The Research Problem

The research focuses on the manner in which eight-to-ten-year-old children comprehend the concept of *the family*. It was presumed that this is the age at which young people's explanation of how social systems work becomes logically coherent, and that they can expound on the existence of certain relationships even if they cannot observe them directly (Schaffer 1996). The assigned research objective – i.e., recognition of children's ways of constructing meanings customarily given to the term of *the family* – was the basis for formulating the following research agendas: How do children understand the meaning of the term *the family*? What features attributed to the term *the family* do they consider to be important?

Research methodology

This attempt to reconstruct meanings applied by children uses an approach from qualitative studies (Seale, Gobo, & Gubrium, 2004; Silverman, 2005; Denzin & Lincoln, 2005). The type, nature and organisation of qualitative research is vital in an educational situation , where it is seen in its full complexity and with changeability of its impacts – namely, as an area of diversely determined events (Silverman, 2005, Denzin & Lincoln, 2005). The research approach implemented stems from the action-based paradigm (Reason & Bradbury, 2008). The multidirectional and (by definition) open model of analyses made it possible to create circumstances that activated children's intellectual abilities within the framework of didactic intervention, which is essentially, 'an intentional creation of educational conditions – which cannot be found in the public education system – in order to observe learning processes in situations that conventional education institutions neither

provide nor take into account' (Klus-Stańska, 2010: 132; cf. Touraine, 1973). In this case, it was the release of creativity obtained by application of creative-thinking techniques, which were presumed to facilitate and support the pupils' efforts when interpreting a difficult and complex term. Techniques of creative thinking are based on a non-directive style of working, and recognition of the right to self-reliance when formulating sincere and authentic statements. The effectiveness of such techniques increases if participants are comforted by psychological safety (unconditional acceptance exercised by those in charge; an atmosphere free of external evaluation; empathic understanding) and psychological liberty, which is not limited by the expectations of others and enables unrestrained thinking, feeling and acting. The application of such techniques is the effect of reflection upon the educational conditions which must be fulfilled in order to harmonise the educational discourse with the pupil's discourse, which is rooted in the world of individual experiences.

Data collection methods

In the course of this research, the following basic methods of qualitative data collection were applied: participant observation (Tunnicliffe & Reiss 1999), and questioning of secondary sources – the product of children's creativity. The structure of the research required the implementor to take the role of an interpretatively engaged observer-participant (Angrosino 2007). Observations focused on both the actions and their effects on the pupils, and the recorded insights were juxtaposed with graphic representation of the pupils' creativity and digital recordings of their extensive statements and utterances – revealing processes of reconceptualization of the term *the family*.

Participants

The research focused on specifically selected groups of pupils and research areas. The participants were children aged 8–9 (46 second graders, including 24 girls and 22 boys) and aged 9–10 (44 third graders, including 23 girls and 21 boys). The studies were conducted in the school year 2018/2019 in selected primary schools of a large city (Łódź). The research was not restricted to a small and carefully selected group of pupils. Instead, it focused on a typical group with a variety of opinions, attitudes, and experiences.

Research results

Firstly, the analysed pupils were asked to generate an associogram (a map of associations). The association-based approach allows us, in a way much easier than through an interview, to reveal elements which constitute the semantic *univerisum* of the given term. This method is particularly valuable when those being surveyed do not wish to, or have no ability to express their opinions directly, or when they are not sufficiently cognisant of their views (Ferrara & Friant 2015). Thus, participants were asked to separately write down all family-related associations that came to mind, and the written material was later used to construct a collective map of associations for the researched group.

The study of the material created indicates that children conceptualise *the family* in line with the first entry of the dictionary definition for the term (from the Dictionary of the Polish Language), which describes it as a married couple and their offspring, siblings, and those who are related by kinship and affinity. The surveyed pupils claimed that *the family* consists of the following people: *mum, dad, grandparents, great grandparents, siblings, aunts and uncles, cousins*, and of such representatives of other groups as *neighbours*, *friends* and *playground buddies*, as well as: *godparents, friends, classmates,* and *Santa Claus*. Children declared that parents were the most important people, which confirms that *the family* is a group whose central positions are occupied by the roles of mother and father. In other words, parents are of special importance to children, who perceive them as guardians, love them dearly and see them as role models. Even though the role played by the male and female parent (seen as authority figures) differs and is still linked to the traditional roles they play, both parents are equally important to their children.

The researched pupils recognise that *the family* is an emotional community in which, for its whole existence, there has been a mutual convergence of views and opinions, to the highest possible extent. For many, the home will become an emotional mainstay, and a place of mental wellbeing. *The family* members are united by relationships (*taking care of one another, looking after and helping each other, assistance, friendship, we are together*) and feelings (*love, amity, joy, laughter, pleasure, trust, sadness, anger, strength, happiness, hearth and home*). Notably, the highest position is occupied by love, which confirms that *the family* is a nuclear group, specifically organised and bonded by affection and acceptance of one another.

Children's associations go beyond the dictionary definition however, expanding the concept of *the family* to animals (*dog, cat, hamster, goldfish, dwarf rabbit, guinea pig*), places (*house, room, backyard, garage, garden, summer house, sea, workplace,*

school), objects (*bed, pillow, bicycle, car, stars, flowers, tree, photos, shell, the family heirloom, computer, TV set, phone, book, games, toys, teddy bear, clock, calendar*), activities (*eating, cooking, baking a cake, sleeping, waking up, resting, hugging, tickling, playing, reading, making a snowman, doing homework, trips and outings, shopping, tidying up, taking the rubbish out*), and festive events (*Christmas, Easter, birthday*).

Further exploration of the children's experiences continued once appropriate conditions for interrogative thinking were created. The surveyed group was asked to think about what they would like to ask their family and to note down actual questions addressed to relatives. The technique applied stems from a conviction that questions posed by children deepen the understanding of their personal ways of thinking and facilitate their emergence. Below are the questions formulated by the surveyed children:

Who is the youngest/oldest in the family? Who is the smartest? Who is the bravest? Who is your dad? Who likes eating the most? Who is kind? Who likes you? Who loves you?

What do you like? What do you like doing together? What do you do on Sundays?

Where do you live? Where did you use to live before? Where do you work? Where is your family home? Where do you go on holiday? Where do you have fun together? Where is your brother? Where do you have your aunt/uncle?

When were you born? When did you come here? When will you be going on holiday?

How do your siblings play? How do you get on? How do you find time for everything? How do you get to school or work? How were you created? How do you eat? How do you spend your summer vacations?

Why are you together? Why do you have a large family? Why do you live together? Why do you like each other? Why do you help one another? Why did you choose England for your home? Why is the family so peaceful? Why did you buy a tree? Why did you buy a dog?

Who do you hang out with? Who are you friends with? Who do you go on holiday with? Who are you in a relationship with?

How did your parents meet? What is your surname? How do you spend your free time? What will the next member of your family be called? What do you look like?

Are you from here? Do you like/respect each other? Are you nice to your kids? Do the kids disturb you when you have important things to do? Are you happy? Are you kind to one another? Do you listen to music? Do you like going for a walk/to the park/to the swimming pool? Do you live together? Do you live in a block of flats? Do you have a big house? Do you have a garden? Do you have a car/a campervan? Do you have

a grandma/a grandpa? Do you have a turtle or a tortoise? Are you rich? Do you like fruit and veggies?

What habits do you have? What pets do you have? What family members do you have?

Questions formulated by children show that *the family* is not only diverse: *Who is the youngest in the family?, Who is the oldest in the family?, Who is the smartest?, Who likes eating the most?*, but also a collective that is dynamic and undergoes changes. It is a group which forms a relatively stable entirety, while being subject to dynamic transformations related mainly to the course of its individual members' lives. It also has its own past: *When were you born?, When did you come here?, How did your parents meet?, Where did you use to live before?*, present: *What is your surname?, Where is your family home?, What do you look like?, Are you rich?*, and future: *When will you be going on holiday?*

The family is a collective, working on its own shared goals and objectives, and characterised by a specific organisation and a clearly-defined system of roles assigned to its individual members: *How do you find time for everything?, How do you get to school or work?, Do the kids disturb you when you have important things to do?* It is a community which finds its own place in the world, aware of its own individuality, including all constituents of its tradition, i.e., values important for a given group of people and passed from generation to generation. Based on existing traditions, it develops its own ways: *What habits do you have?, What do you like doing?, What do you do on Sundays?, Where do you go on holiday?, How do you spend your free time?, How do you eat?* It also allows for participation in the world of arts and culture, which enables its members to develop their own talents and abilities: *Do you listen to music?*

Family members are united by multidimensional, legally, religiously and customarily sanctioned and changeable relationships, since it is an inner world exposed to external influences that reach it through various channels and shape its social and individual system of values and standards of behaviour: *What do you like?, How do you get on?*, *Are you kind to one another?*, *Why do you help one another?, Are you happy?* Not only do the children recognise the complexity of family relationships, but also their ambiguousness. Informal relationships, single-parenthood or childless marriages become more and more common and are perceived as manifestations of family life, which explains the following questions: *Do you live together?, Who are in a relationship with?*

Analysis of the questions allows us to conclude that the surveyed pupils perceive *the family* as a community that is diverse, changes dynamically, is united

by numerous connections, and has its own traditions and habits. They are aware of the fact that *the family* can expand and generations change, which means that the pupils conceptualise *the family* in line with the second entry of the dictionary definition, thus perceiving it also as lineage.

Drawing analogies was another activity which activated the children's imagination and creativity and opened up an opportunity to discover the meanings they give to *the family*. Analogy is the relationship between two objects, based on the similarity of their external structures. Through analogy, a person may use their knowledge and experience in new circumstances on condition that the new problem is somewhat similar to what they have experienced before. Analogy consists of the compared component, known as the object, and the comparing component, called the medium, and it utilises the commonality of the two, facilitating a shift from one object to another, and allowing comprehension of difficult content, and finding desired and original comparisons.

Analogies drawn by the pupils supplemented the content of images of *the family* within their awareness. And they did so by presenting *the family* as a diverse collectivity: *The family is like the cosmos, because the cosmos has a lot of planets and the family a lot of members., The family is like a tree – some are old, others are young, just like members of the same family are older and younger*, which is characterised by specific dynamics: *The family is like a tree, because it grows and expands, just like the family expands*, and has its own history: *The family is like a tree, because it has roots*, *The family is like a tree, because it has a lot of leaves, and the family has a lot of memories.*

Analogies allowed for *the family* to be perceived as an emotional community: *The family is like the cosmos, because its planets are together, just like people in the family*, as a group characterised by a specific organisation and a specified system of roles assigned to its individual members: *The family is like a bee hive, because sometimes there is a lot of turmoil there.*, *The family is like a bus, because somebody controls it – on the bus, it's the driver and in the family, mum or dad*, as a collective aware of its own individuality: *The family is like a sock, because everybody has his own*, as a group whose members cannot always be together: *The family is like the cosmos, because some planets are far away from one another, just like some families are far away from each other*, or who – at times – do not even know one another: *The family is like a bus, because you can meet a lot of people, but we don't always know everybody in the family*, and yet they remain connected by positive relationships and can always count on one another: *The family is like a bus, because – just like on the bus you can help somebody, e.g., give up your seat – in the family you can also help others*.

The family enables a child's most basic emotional needs – love, affiliation and safety – to be satisfied. Each person desires to have someone dear and trustworthy. The satisfaction of such needs results in a sense of personal happiness and impacts the development of personality. *The family is like the cosmos, because the family is beautiful and so are the planets., The family is like a heart, because you can't live without it., The family is like water, because it's equally necessary., The family is like the sun, because when we have it, we shine.*

The metaphors created by children confirmed the range and diversity of family-related associations, and showed the pupils' potential, not only in fluency and flexibility, but also in originality of thought.

Conclusions

The designed didactic scenario, which applied techniques of creative thinking, generated favourable conditions for pupils to interpret a complex social term. A comparative analysis of the dictionary definition and the children's descriptions of *the family* shows differences between those features that are important for adult language users and the properties significant for children. Dictionary definitions do not provide comprehensive content when describing the meaning of the researched term and provide a limited selection of its identifying features. The definitions provided by the children are more abundant and original than their lexicographical counterparts, since they offer a more comprehensive picture on the subject matter by recording individual ideas and images related to it. Such images are diverse and indicate the enquiring and interrogative nature of their knowledge, which is now even more justified, since modern society has not yet created a type of *the family* that would reflect it the most. Instead, we are now facing a broad repertoire for family types. Undoubtedly, it is crucial to satisfy children's emotional needs of intimacy and safety, and to take care of them, e.g., by introducing them to the world of culture.

Analysis of the material allows us to grasp what is personal/ordinary/natural, to formulate postulates, and to generate a map of 'directions' which indicate the best methods of incorporating children's points of view in their perception of the reality in which they grow up. When free of a reductionist attitude, observation and reflection create an invaluable possibility to grasp surprising and non-stereotypical reactions, which should be considered as valuable (but not necessarily representative) in the whole picture of the phenomena being researched. They also make it possible to recognise pupils' precognition, to which teachers should

refer in the process of education, and which ought to be taken into consideration when planning classes.

The abundance and diversity of the collected material also confirms the potential of creative-thinking techniques as an approach to extract meanings given to reality by pupils. Even if the knowledge related to the realm of creativity psychodidactics is more accepted and methods of creative activity are beginning to be applied more frequently in educational practice, they are still not used often enough as a tool to encourage children to interpret the world, and to extract its personal and original representations.

References

Angrosino, M.V. (2007). *Doing Ethnographic and Observational Research*. London: Uwe Flick.

Craft A. (2000). *Creativity Across the Primary Curriculum: Framing and Developing Practice,* London: Routledge.

Cropey A. J. (2001). *Creativity in Education and Learning. A Guide for Teachers and Educators*, London: Kogan Page.

Denzin, N.K., Lincoln, Y.S. (eds.) (2005). *The Sage Handbook of Qualitative Research.* Los Angeles: Sage Publications.

Donaldson M. (1978). *Children's Minds*. Glasgow: Fontana/Collins.

Ferrara, M., & Friant, N. (2016). The application of a multi-methodology approach to a corpus of social representations. *Quality & Quantity*, *50*(3), 1253–1271. DOI 10.1007/s11135–015–0203–3 (accessed: 20.04. 2018).

Klus-Stańska D. (2010). *Dydaktyka wobec chaosu pojęć i zdarzeń* (*Didactics versus the Chaos of Concepts and Events).* Warszawa: Wydawnictwo Akademickie Żak.

Novak J.D. & Musonda D. (1991). A Twelve-Year Longitudinal Study of Science Concept Learning. *American Educational Research Journal, 28* (1), 117–153.

Reason P., Bradbury H. (eds.) (2008). *The Sage Handbook of Action Research. Participative Inquiry and Practice.* Los Angeles: Sage Publications.

Schaffer H. R. (1996). *Social Development.* Oxford: Blackwell.

Seale C., Gobo G., Gubrium J. (eds.) (2004). *Qualitative Research Practice*, London: Sage.

Siebert H. (1999). *Pädagogischer Konstruktivismus. Eine Bilanz der Konstruktivismusdiskussion für die Bildungspraxis*. Neuwied – Kriftel: Luchterhand.

Silverman D. (2005). *Doing Qualitative Research. A Practical Handbook.* London: Sage.

Sungur S., Tekkaya C. & Ömer G. (2001). The Contribution of Conceptual Change Texts Accompanied by Concept Mapping to Students' Understanding of the Human Circulatory System. *School Science and Mathematics* 101(2), 91–101.

Tatarkiewicz W. (1975). *Dzieje sześciu pojęć (The Story of Six Concepts).* Warszawa: PWN.

Touraine, A. (1973). *Production de la Société*. Paris: Editions du Seuil.

Tunnicliffe S.D. & Reiss M.J. (1999). Building a Model of the Environment: How Do Children See Animals? *Journal of Biological Education*, 33 (3), 142–148.

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The New Educational Review

Adapting an Anthropomorphized Robot for Enhancing EFL Learning Motivation and Performance at an Elementary School in Taiwan

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Abstract

This study introduced an anthropomorphized robot-assisted instructional tool that we developed for English as a foreign language (EFL) learning and assessed the effectiveness of robot-assisted English learning. An experimental design was adopted in this study and a total of 53 Taiwanese students in the third grade of elementary school participated in the experiment, including: one class consisting of 28 students, which was labeled as the experimental group, while another class of 25 students was labeled as the control group. There were two kinds of data collection that were used in this study: two tests (listening-and-acting as well as questioning-and-answering tests) and a questionnaire (learning material motivation scale). On the whole, the experimental group performed better than the control group on the listening-and-acting as well as on the questioning-and-answering tests. Additionally, the experimental group had higher learning material motivation than the control group, inclusive of attention, relevance, confidence, and satisfaction domains. The overall results suggest a new paradigm about our applications in teaching and learning English for Taiwanese EFL elementary school students.

Keywords: *educational robot, English learning, learning motivation*

Introduction

At present artificial intelligence is used in various fields, including speech understanding, computer vision, and robotic application. The earliest thinking about the integration of information into teaching and learning is the use of computer-assisted instruction helping students practice and repeat by means of computer simulations. Shortly after research on artificial intelligence began, some people began to think about whether they could make computers act like people with the ability to teach peers. Making computers wise can assist us in teaching and learning (Mubin et al., 2013). Artificial intelligence applied to study currently has two relatively large research areas . The first is Artificial Intelligence in Education (AI-ED), and the other is the Intelligent Tutoring System (ITS) (Benitti, 2012). Regardless of the area, it can be traced back to the earliest use of artificial intelligence in education, starting approximately in the 1970s, but only for some specific researchers engaged in such research. Until 1990, the continuous enhancement of network technology made it possible for many artificial intelligence applications to be used in technology and it began to flourish (Slangen et al., 2011).

In the past nine years, with the increasing development of network technology, robotics theory and application have been gradually incorporated into education in Taiwan. Researchers considered the related research on robots and education, and so applied their research on robotics development to the issue concerning the application of robots to education (Chang et al., 2010). Learning outcomes have become an extremely significant issue in the research on robot-assisted education. After analyzing robot-assisted education research conducted in recent years, it has been discovered that there has been a gradual increase in the amount of research in this, which shows that robot-assisted education has become gradually more valued over the last few years (Chen et al., 2011). In recent years, with the increasing popularity of technology products, many children have been exposed to mobile phones, tablet computers, and even the latest robot-related interactive products during their school years. As a result, some schools have gradually incorporated robotics technology into the education curriculum for schoolchildren. It is hoped that through the combination of science and technology, students can develop digital coding and other knowledge in the process of learning. Educational robots are an important application in the entire smart robot industry (Chang et al., 2010; Chen et al., 2011). This is a learning experience that cannot be achieved in the traditional way using paper and pencils as tools. Teaching robots have been widely used in the UK, the United States, Japan, and South Korea (Bers et al., 2014), whereas their application to English teaching is still in its infancy (Chen et al.,

2011). The cross-domain combination of robot teaching assistants with elementary school English teaching is actually a trend of digital learning. It is expected that this combination can improve elementary school students' English learning outcomes and increase their motivation for learning English.

In Taiwan, the goal of English teaching in the elementary school education stage gives first priority to both the skills of "listening" and "reading". However, at present, there are about 20 to 30 students in an average elementary class in Taiwanese schools, and the learners have a large gap in their English proficiency. Thus, English teaching is difficult to carry out. In addition, students lose motivation and their interest in learning; it is difficult for teachers to take care of students' individual learning status. Furthermore, considering not only the learning progress, but also providing learners with sufficient practice time with limited class time is often a thorny issue for English teachers. With the development of information technology, this study intends to integrate the researched and developed scheme of learning partners as a medium of instruction into the English teaching curriculum via the concept of learning partners maturely developed day by day. It is hoped that the idea of learning partners can be carried out in English practice and interactions to reduce learners' fear and anxiety of English learning which is caused by their differences in ability. It is also hoped it that will increase the interest of learners who have different learning achievements. The purpose of this study is to explore the effectiveness of an anthropomorphized robot in improving elementary school children's English ability and learning motivation.

To understand the above research purpose, this study addresses the following research questions:

1. Is there any significant difference in English listening-and-acting performances between elementary schoolchildren who use an anthropomorphized robot and those who do not?
2. Is there any significant difference in English questioning-and-answering performances between the elementary schoolchildren who use an anthropomorphized robot and those who do not?
3. What is the difference in attitude toward English learning material motivation (inclusive of attention, confidence, satisfaction, and relevance) between the elementary schoolchildren who use an anthropomorphized robot and those who do not ?

Literature Review

The Current Trend of Robot-Assisted Language Learning

Due to rapid development of technology, one of the cutting-edge technologies likely to be adopted is robotics. A variety of robots such as pet-robots, home-robots, and education-robots have been invented and used for various purposes (Han, 2012). Educational service robots refer to intelligent robots employed in the instructional and learning setting. When educational service robots are adopted for language learning, this is called robot-assisted language learning (RALL) (In & Han, 2015). Some studies stated that RALL not only triggered learning motivation, but also increased the effectiveness of learning outcomes, particularly in English learning (Han, 2012; Lee et al., 2011). In addition, some studies which examined students' learning effectiveness and the roles of robots in various countries, such as the UK, the USA, Canada, Korea, and Japan, have found that children's learning outcomes with robots might be more successful in second and foreign language learning and effective (Han et al., 2008). Besides, Lee et al. (2011) employed robots in English classrooms to carry on conversation with learners during language learning. Papert (1993) confirmed that interaction between robots and humans not only improves teaching effectiveness, but also learning motivation because learners are less anxious and more cheerful.

People's learning is often not an individual learning process. It also refers to interactions with peers and teachers, because teaching is learning. Applying artificial intelligence to learning is a very important research topic, exploring whether students can process their learning with not only textbooks and teachers, but also with learning partners via computer simulations. The term, learning companion, was first proposed by Chan and Baskin (1988). With properly designed learning companions, students' motivation and attention can be boosted. The concept, "Zone of Proximal Development" (ZPD) was developed by the Russian psychologist and social constructivist Lev Vygotsky. The ZPD refers to the difference between what a learner can do without help and what he or she can achieve with guidance and encouragement from a skilled partner (DeVries, 2000). The zone of proximal development (ZPD) has been defined as:

> the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance, or in collaboration with more capable peers (Vygotsky, 1978, p. 86).

In Vygotsky's theory, social interaction plays an important role in the learner's cognitive process. Vygotsky's zone of proximal development (ZPD) describes this phenomenon. The phenomenon of learning companions has existed for a long time. In the learning companion system, there are three roles, teacher, student, and learning companion respectively. The roles that the learning companions can play are competitors to the students, cooperators with the students, or problem solvers for the students (DeVries, 2000).

The Influence of Robot-Assisted English Learning on Students' Learning Motivation and Achievement

In the study conducted by Chang et al. (2010), an anthropomorphized robot was adopted to teach English at an elementary school in Taiwan. Findings identified that robots could create interactive and positive learning experiences because the learners responded with high learning motivation. The anthropomorphized appearance of the robot attracted attention, even for lower level learners, and it might provide motivation for learners to practice more in the English class. In the study by Young et al. (2010), the researchers investigated children's perception of robots as learning companions in an elementary school in Taiwan. The findings showed that 95% have a positive attitude towards using tangible learning companions and the children were active in practicing English conversation with the robot. According to Chen et al. (2011), the researcher used the robot to teach English to five elementary school students. Through observations and interviews, the results showed that the use of the robot alongside computers and books increased learners' concentration in their learning of English, together with their interest, and motivation. Wang et al. (2013) used 'tangible companions' for enhancing learning English conversation, and the results revealed that this had positive effects on participants' learning motivation, confidence, and engagement, particularly for the lower-achieving learners. Both English teachers and students agreed that uses of the tangible learning companions effectively improved the class learning atmosphere, too.

Research Methods

Participants

The experiment was conducted at an elementary school in Taiwan. The participants were two classes of third-grade students and one school teacher. The English proficiencies of the students in both classes were basically similar. These

participants were divided into two groups: an experimental group and a control group. One class consisting of 28 students was labeled as the experimental group, while another class of 25 students was labeled as the control group. The teacher did not inform participants of the special experimental nature of the instruction that was used because the learning material was just like the regular classes on the campus. A total of 53 elementary students were enrolled in English lessons two hours per week, and this activity lasted for one month during the regular semester. Prior to the experiment, the teacher was asked to take three-hours of training to learn how to control and display the robot system.

Teaching Activity Design

In terms of teaching activities, both groups of participants learned the same contents from their English textbooks. In the experimental group, the learning contents were presented by a display system with a robot, while in the control group the contents were presented by the teacher without a robot. The Shinbobo robot was adopted as a learning companion (Figure 1 and Figure 2)



Figure 1. Shinbobo robot



Figure 2. Shinbobo robot interacting with students

Shinbobo's specifications are as follows: A Wi-Fi controlled security robot with two-way communication functionality. The robot can remotely record 720p security video in low light environments and provide total access to every corner with video streaming solutions that enable monitoring anywhere in the world through a mobile phone or tablet.

Due to the imperfect development of technical voices and sounds, we are still far away from high quality robotic human-like interaction and communication. Generally speaking, the sound of human voices are the most natural method of interaction and communication input and output. Therefore, two English teachers participated in the teaching experiment. One teacher observed the students to assess their responses and actions in the classroom, and the other teacher used a cellular phone to control the movement of the robot as well as speak out commands from another classroom. Basically, two kinds of teaching activities were applied in the both classrooms, including a listening/acting activity, and a questioning /answering activity. The listening and acting activity was based on Total Physical Response theory (TPR) which is a teaching method used in teaching various languages. Based on the human language learning model, the TPR method adopts physical movements similar to those used in games, enabling children to listen more and do more, so that they can precisely comprehend words and phrases and then speak out after becoming familiar with them. In this experiment, the teacher in the control group asked students in English to respond with physical movements to commands such as "stand up," "sit down," "turn right," "turn left," and so forth. The same activity was also conducted for the experimental group, but these commands were given by the robot. Then, the teacher could observe the students' physical movements and try to give corrective feedback to help the students understand the robot's commands if they responded with incorrect actions. By using this method, not only is the stress and anxiety existing in language learning reduced, but also young children's mental health is taken into account. Owing to its friendly operation and its clearly visible outcome, teachers and learners can easily obtain a sense of accomplishment.

The questioning-and-answering activity was based on the communicative approach. The communicative approach is based on the idea that language learning becomes successful through having to communicate real meaning. When learners are involved in real communication, their natural strategies for language acquisition will be used, and this will allow them to learn to use the language. The communicative approach emphasizes interaction as the major goal of increasing speaking ability. For instance, the robot in the experimental group was designed to ask questions or to greet, with questions like " How are you? ", "How's the weather?"

, "What time do you get up", and so on. In the control group, the teacher asked the same questions herself to the students.

Data Collection

There were two kinds of data collection used in this study: two tests and a questionnaire. The tests adopted were an oral examination designed by the teacher. The listening-and-acting and questioning-and-answering tests were each made up of 10 questions, and the total score of the overall test was 100 points. Students needed to listen to a command from the teacher and do the correct action in the listening-and-acting test. The students were also required to answer short questions from the teacher. Then the teacher scored students' responses based on their use of the vocabulary, pronunciation, grammar and sentence structure in the questioning-and-answering test.

The questionnaire used in this project was based on the Instructional Materials Motivation Survey proposed by Keller (1987). The instrument used for measuring learning motivation was IMMS which includes four scales: attention, relevance, confidence, and satisfaction, followed by a total of 29 questions, shown in Appendix A. The answer options are: *Strongly Agree* (5 points), *Agree* (4 points), *Neutral* (3 points), *Disagree* (2 points), and *Strongly Disagree* (1 point).

The teacher administered the survey in the classroom. The teacher first briefly explained to the participants the main purpose of this study and provided instructions on how to answer the questionnaire. Then the participants were informed that there were no right or wrong answers to the questions. They just answered the questionnaire according to their learning motivation. They were given thirty minutes to fill in the questionnaire. When the participants completed the survey, their answers were collected for statistical analysis. Both groups of students responded to the questionnaire, and the final response rate was 100%.

Data Analysis

The researcher used the SPSS 11.0 statistical package to compute the collected data. Internal consistency reliability (Cronbach alpha) was analyzed to show how well a group of items measured the same concept, and the overall Cronbach alpha reliability was 0.86. An independent-samples t-test was conducted to determine whether there was a significant difference in the listening-and-acting and ques-

tioning-and-answering tests, between the experimental and control groups. An independent-samples t-test was also performed to examine the experimental and control groups in view of their learning material motivation (attention, relevance, confidence, and satisfaction).

Results

According to the independent-samples t-test analysis, the result showed significant differences between the experimental and the control group in the listening-and-acting tests, (t(52)=5.97, p<0.0001). That is, there were mean differences between the experimental and the control group in terms of listening-and- acting tests. On the whole, the experimental group (M=86.07, SD=11.97) performed better than the control group (M=66.80, SD=11.45) (See Table 1). By contrast, according to the independent-samples t-test analysis, the result showed significant differences between the experimental and the control group in the questioning-and-answering tests, (t(52)=9.04, p <0.0001).That is, there were mean differences between the experimental and the control group in terms of the questioning-and-answering tests. On the whole, the experimental group (M=87.14, SD= 10.49) performed better than the control group (M=60.40, SD= 10.98) (See Table 2).

Table 1. A comparison between the listening-and-acting test using an independent t-test in the control and experimental groups

Group	N	Mean	Standard Deviation	95% Confidence Interval	*p*-value	t-value
LAC	25	66.80	11.45	(62.08,71.52)	<0.0001	5.97
LAE	28	86.07	11.97	(81.43,90.71)		

Note: LAC refers to the listening-and-acting test in the control group.
LAE refers to the listening-and-acting test in the experimental group.

Table 2. A comparison between the questioning-and-answering test for an independent t-test in the control and experimental groups

Group	N	Mean	Standard Deviation	95% Confidence Interval	*p*-value	t-value
QAC	25	60.40	10.98	(55.87,64.93)	<0.0001	9.04
QAE	28	87.14	10.49	(83.08,91.21)		

Note: QAC refers to the questioning-and-answering test in the control group.
QAE refers to the questioning-and-answering test in the experimental group.

Based on the independent-samples t-test analysis, there were significant differences in the overall learning material motivation in the experimental and the control groups. The results show that the experimental group (M=3.92, SD=0.15) had higher learning material motivation than the control group (M=1.81, SD=0.17), (t(52)=45.6, p<0.0001) (See Table 3). To be specific, the independent-samples t-test analysis also showed that the experimental group had higher learning material motivation than the control group inclusive of the attention, relevance, confidence, and satisfaction domains. The t-value for each sub-dimension was 29.77, 23.28, 14.54., and 16.03, respectively, at p<0.0001 (See Tables 4–7).

Table 3. A comparison between the control and experimental groups in overall learning material motivation for an independent t- test

Group	N	Mean	Standard Deviation	95% Confidence Interval	*p*-value	t-value
C	25	1.81	0.17	(1.73,1.88)	<0.0001	45.6
E	28	3.92	0.15	(3.86,3.98)		

Note: C refers to the control group.
E refers to the experimental group.

Table 4. A comparison between the control and experimental groups in learning material motivation of attention domain for an independent t-test

Group	N	Mean	Standard Deviation	95% Confidence Interval	*p*-value	t-value
C	25	1.80	0.26	(1.69,1.90)	<0.0001	29.77
E	28	3.87	0.24	(3.77,3.97)		

Note: C refers to the control group.
E refers to the experimental group.

Table 5. A comparison between the control and experimental groups in learning material motivation of confidence domain for an independent t-test

Group	N	Mean	Standard Deviation	95% Confidence Interval	*p*-value	t-value
C	25	1.66	0.36	(1.51,1.81)	<0.0001	23.28
E	28	3.95	0.34	(3.81,4.08)		

Note:C refers to the control group.
E refers to the experimental group.

Table 6. A comparison between the control and experimental groups in learning material motivation of satisfaction domain for an independent t-test

Group	N	Mean	Standard Deviation	95% Confidence Interval	*p*-value	t-value
C	25	1.97	0.53	(1.75,2.19)	<0.0001	14.54
E	28	3.83	0.39	(3.68,3.98)		

Note: C refers to the control group.
E refers to the experimental group.

Table 7. A comparison between the control and experimental groups in learning material motivation of relevance domain for an independent t-test

Group	N	Mean	Standard Deviation	95% Confidence Interval	*p*-value	t-value
C	25	1.84	0.59	(1.59,2.09)	<0.0001	16.03
E	28	4.11	0.43	(3.95,4.28)		

Note: C refers to the control group.
E refers to the experimental group.

Conclusions and Discussions

The results of these findings are consistent with the findings of Hong et al. (2016). The results revealed that the experimental group outperformed the control group in the listening-and-acting tests and questioning-and-answering tests. In addition, the results also identified that the experimental group yielded significantly higher mean scores than the control group in their learning material motivation scale (including attention, relevance, confidence, and satisfaction domains)

There is no denying that the AI robot is a trend that will overwhelmingly change our future lives. Soon we will coexist with robots. In various workplaces, robotic colleagues and assistants will gradually appear in different fields, such as medical treatment, disaster relief, and greeting and reception. At present, robot-assisted education has entered the university curriculum and has been integrated into artificial intelligence, automation, and other related professional courses. Besides, it has gradually moved from curriculum theory to instructional practice. In the future, the popularity of robot-assisted education in elementary school will become a general trend. People have been constantly learning since they were born; children are constantly exploring the unknown world while playing. Toys can directly influence their learning motivation as well as interest and preference.

Educational robots are used as toys which enhance children's learning motivation and interest.

Motivation is not only the basis of all learning behaviors but also a requirement which enables students to effectively engage in meaningful learning (Molaee & Dortaj, 2015). The theory of ARCS (Attention, Relevance, Confidence, Satisfaction) contains four elements - attention, relevance, confidence, and satisfaction, often used in the student-centered instructional design and learning activity design (Molaee & Dortaj, 2015). In robotic foreign language learning, motivation is also an important factor affecting learning. To enable students to effectively carry out meaningful learning, the trigger of motivation is the primary condition. If we can apply the ARCS motivation theory to arouse students' motivation and interest through the elements of attention, relevance and confidence and make students satisfied with robotic foreign language learning; it is believed that the effect of robot foreign language learning will be greatly improved.

References

Benitti, F.B.V. (2012). Exploring the educational potential of robotics in schools: A systematic review. *Computers & Education, 58*(3), 978–988.

Bers, M.U., Flannery, L., Kazakoff, E.R., & Sullivan, A. (2014). Computational thinking and tinkering: Exploration of an early childhood robotics curriculum. *Computers & Education*, 72, 145–157.

Chan, T.W., & Baskin, A.B. (1988). Studying with the principle: The computer as a learning companion. *The Proceedings of the International Conference of Intelligent Tutoring Systems, ITS'88*, Montreal, Canada, 194–200.

Chang, C.W., Lee, J, H., Wang, C.Y., & Chen, G.D. (2010). Improving the authentic learning experience by integrating robots into the mixed-reality environment. *Computer & Education, 55*(4), 1572–1578.

Chen, N.S., Quadir, B., & Teng, D.C. (2011). Integrating book, digital content and robot for enhancing elementary school students' learning of English. *Australasian Journal of Educational Technology, 27*(3), 546–561.

DeVries, R. (2000). Vygotsky, Piaget, and education: A reciprocal assimilation theories and educational practices. *New Ideas in Psychology, 18,* 187–213.

Han, J. (2012). Emerging technologies: Robot assisted language learning. *Language Learning & Technology, 16*(3), 1–9.

Han, J.H., Jo, M.H., Jones, V. & Jo, J.H. (2008). Comparative study on the educational use of home robots for children, *Journal of Information Processing Systems, 4*(4), 159–168.

Hong, Z.W., Huang, Y.M., Hsu, M., & Shen, W.W. (2016). Authoring robot-assisted instructional materials for improving learning performance and motivation in EFL Classrooms. *Educational Technology & Society 19* (1), 337–349.

In, J., & Han, J (2015). The prosodic conditions in robot's TTS for children as beginners in English Learning. *Indian Journal of Science and Technology,8* (S5), 48–51.
Keller, J.M. (1987). Development and use of the ARCS model of instruction design. *Journal of Instructional Development, 10*(3), 2–10.
Lee, S., Noh, H., Lee, J., Lee, K., Lee, G.G., Sagong, S., & Kim, M. (2011). On the effectiveness of robot-assisted language learning. *ReCALL, 23*(01), 25–58.
Molaee, Z., & Dortaj, F. (2015). Improving L2 learning: An ARCS instructional motivational approach. *Procedia-Social and Behavioral Sciences, 171*, 1214–1222.
Mubin, O., Shahid, S., & Bartneck, C. (2013). Robot assisted language learning through games: A Comparison of two case studies. *Australian Journal of Intelligent Information Processing Systems*, *13*(3), 9–13.
Papert, S. (1993). *Mindstroms: Children, computers, and powerful ideas (2nd ed.)*. New York, NY: ACM.
Slangen, L., Keulen, H.V., & Gravemeijer, K. (2011). What pupils can learn from working with robotic direct manipulation environments. *International Journal of Technology and Design Education, 21*, 449–469.
Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological process* (M. Cole,V. John-Steiner, S. Scribner and E. Souberman, eds.). Cambridge, MA: Harvard University Press.
Wang, Y.H., Young, S.S.C., & Jang, J.S.R. (2013). Using tangible companions for enhancing learning English conversation. *Educational Technology & Society, 16*(2), 296–309.
Young, S.S.C., Wang, Y.S., & Jang, J.S.R. (2010). Exploring perceptions of integrating tangible learning companions in learning English conversation. *British Journal of Educational Technology, 41*(5), 78–83.

Appendix A

The Instructional Materials Motivation Survey
1. The learning materials can draw my attention.
2. The materials used in class are more difficult than I originally imagined.
3. After learning from the materials, I have sense of achievement.
4. I know very well that the learning materials are quite relevant to the English lessons I have learned.
5. I do not know or remember what I have learned in class.
6. The learning materials used in class make me engaged.
7. I think that the contents in the learning materials are worthwhile learning for students.
8. The learning materials are very important to me when I learn English.
9. It is very difficult for me to keep focusing on the learning materials because they are abstract.

10. I am confident because I feel that I can learn the lessons taught in class.
11. I look forward to learning the forthcoming materials.
12. The learning materials are quite boring and cannot draw my attention.
13. The learning materials used in class match my interest.
14. The learning materials help me pay attention in class.
15. The learning materials are too difficult for me.
16. I am very curious about the learning materials.
17. I really enjoy learning the materials in this class.
18. Sometimes the learning materials bore me.
19. Sometimes I am amazed at what I have learned from the learning materials; I learn more than I can imagine.
20. After attending the class for a period of time, I find myself more confident.
21. In class, I feel I was motivated and I can have more sense of achievement.
22. The ways the materials were taught in class help keep me focused.
23. The ways the materials were taught make me bored.
24. The learning materials and the teaching make me feel fun and interesting.
25. I feel good about the learning materials.
26. The learning materials are useful for me.
27. There are many places in the learning materials I do not understand.
28. The learning materials help me learn in class and develop more confidence.
29. I enjoy the materials chosen by my teacher so much.

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The New Educational Review

The Affordances of Augmented Reality in Delivering the Science Curriculum to Elementary Grades

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Abstract

The current science books for Palestinian elementary schools essentially consist of picture-based activities. Each lesson features images which students are asked to reflect on, and provide oral and written answers to questions linked to each image. This rich curriculum is being delivered in traditional methods, and few teachers have to date ventured into utilizing modern technologies that can be easily accessible. The present research effort measures the affordances of augmented reality in delivering the science curriculum to elementary grades in the West Bank. An interaction analysis study was used, in which activities from the third grade science textbook were demonstrated using AR technologies to identify their role in enhancing learners' interaction with pictures in the science school books. A sample of 50 third grade female students, from a West Bank basic school for girls, was drawn from the study population (all third grade students in the West Bank). The 50 students were divided evenly into homogeneous control and intervention groups. Seven activities were delivered conventionally for the former and with augmented reality technologies for the latter. The findings suggest that students taught with augmented reality-enhanced procedures were particularly engaged and effectively responsive, both orally and in written tasks.

Key words: *Augmented Reality, Science Curriculum, Videotaping*

Introduction

Textbooks have for centuries remained the bedrock of the teaching-learning process in all educational systems around the world. Yet the structure and content of these schoolbooks have revolutionarily evolved in the past few decades, such that the experiences students are now exposed to are very different. The purpose is very clear: the way information is presented to students is integral to how much interaction with a textbook's material learners show. And thanks to today's technological advances– with more digital content being infused into curriculum materials, more learner–textbook interaction has characterized much of what is happening inside classrooms.

With national educational systems looking ahead for aligning learning materials with today's academic standards, policymakers have started to question the relevance of the rigid traditional paper-and-ink textbooks. The assumption is that the learners' performance that was assessed by exams at the end of each unit/chapter/module in the textbook should now be measured by how well learners have acquired the preset learning objectives, be it through exams, by means of in-classroom interaction or in any other possible method of assessment (Abualrob & Al-Saadi, 2019). This has given rise to educational digital content, including augmented reality technologies.

At the Local Level

The first Palestinian curriculum saw the light only in 2001(before which Palestinian school students would study the Jordanian curriculum). It then became apparent that the new curriculum fell short of preparing the learners to acquire 21st century skills. In an effort to address the gaps, the Ministry of Education formed in 2015 a team of academics, supervisors and educators to analyze the curriculum and identify its shortcomings. The team reached the conclusion that a new curriculum was needed, a recommendation that the Ministry responded to positively (Ministry of Education and Higher Education, 2017).

Keeping up with global trends with respect to technological advances that many countries have introduced into their school systems was made a priority by the Ministry of Education. Accordingly, a plan was drafted to build curricula that allow teachers, whenever possible, to integrate technological sources that can support student learning. Right away, the Ministry commissioned its Curriculum Development Center to build a new curriculum. Soon the Center picked up steam and by July 2016 it had built the new curriculum and delivered it to schools. In designing the new textbooks, the planners acknowledged the imperative of

allowing the infusion of technology into each individual unit. The planners might have envisioned a curriculum with portions offered by digitized aids, including augmented reality technologies, which would make it possible to supplement the traditional curriculum with virtual world applications.

The premise behind the initiative was that the best form of learning is that which generates a sense of knowledge, making the process a more enjoyable experience – with little traditional content and much more practice. The current science books for Palestinian elementary schools essentially consist of picture – based activities. Each lesson features images which students are asked to reflect on, and provide oral and written answers to questions linked to each image. The curriculum also incorporates components designed in a way which ensures that students are learning what they are supposed to know at each grade level. Those who drafted the schoolbooks have, it appears, assumed that schools are supposed to tap all the possibly-implemented education-related modern technologies to augment the print books. The new textbooks created wide room for integrating technology into the curriculum, which was envisioned as a tool to hone critical analysis – one of the most important targets of educational activities in the Palestinian third grade science curriculum (Abualrob & Abu-Alrub, 2018).

Literature Review

AR technology in education is a form of e-learning which is grounded in a number of theories, the most important of which is constructivism. Literature in the field shows that demonstrating the learning material using multimedia-enhanced activities supports the process of building learners' skills and competences in interactive environments, which in turn leads to better learning. According to Kukla (2000), reality is constructed by human activities.

The term "Augmented Reality" was first introduced by Thomas Caudell and David Mizell in the early 1990s (Caudell and Mizell, 1992). The notion applies when people use the 3D virtual world to simulate the real-time world. Given its potential to provide dynamic learning experiences and discovery-based learning, AR has easily found its way into education. Through practice, discovery-based learning, according to Jerome Bruner (1961), allows learners to acquire information by themselves "in a way that makes that information more readily viable in problem solving" (p. 26). By means of AR, the real environment is enhanced by digitally-generated material tied to specific activities (Yuen, 2011).

For learners, perhaps there is nothing as conductive as combining classical print books with virtual reality technologies, such as moving images displayed on a computer screen via an overhead projector. This newly-created world can construct more productive experiences that are hard to forge with classical methods of teaching. In some accounts, AR empowers learners by providing interactive methods, thus allowing learners to live a "unique discovery path with rich content from computer-generated three dimensional environments and models" (Lee, 2012: 18).

Literature in the field signals many positive outcomes of AR. It helps students engage in first-hand, authentic discovery of the real world (Dunleavy et al, 2009); it facilitates understanding of printed materials (Wu et al, 2013); it fosters learners' engagements (Sotiriou & Bogner, 2008); it assists in designing immersive hybrid learning environments that combine digital objects and conventional material (Dunleavy et al, 2009); and it builds learners' positive attitudes toward school (Akçayır & Akçayır, 2017).

Existing literature also shows that learners are happy using AR applications in the classroom (Cai et al, 2013). Not only do learners acquire realistic knowledge, they also find such an enhanced atmosphere capable of helping them overcome common misconceptions about the real world (Shelton & Hedley, 2004). Learners are enabled to construct mental patterns that guide their learning, making it easy for them to understand the world around. With such patterns, it is possible for learners to handle virtual input, which will then be projected onto real life environments, thus giving learners more skills and greater knowledge. This way, AR technologies translate rigid materials into a practical process of constructing reality – a strategy that has proved functional and motivating (Liu & Chu, 2010).

In Palestine, a small number of studies on AR application have so far been carried out. Three months into introducing the new Palestinian curriculum, Ahmed (2016) conducted a study to examine the relationship between the use of AR technologies and the development of visual thinking strategies for ninth grade science students in Gaza. Ahmed used a field method with 43 students. The material was presented to the students in a classical way. A test was then conducted and the results were recorded. The same lesson was then presented to the students using AR technologies. The students then did a post-test, and the difference in performance was significant.

A later study by Aqel and Azzam (2017) targeted seventh grade chemistry pupils in Gaza. The authors drew a sample of 93 students in two separate homogeneous sections: the first was taken as a control group, and the second as an intervention group. A lesson in chemistry was then demonstrated to both sections: one with

traditional instruction, and the other with AR audiovisual materials. The two groups then did the same exam. The researchers found very significant differences in performance. Qeshta (2018) followed suit (targeting seventh graders), adopting the same methodology and reaching similar results.

Rationale

Palestinian pupils start learning science in the third grade. For the purpose of this study, I have chosen the third grade because the textbook features many picture-based activities that encourage pupils to contemplate and link what they see to their knowledge of the real world around them. Nevertheless, the rich curriculum is currently being delivered in traditional methods, and few teachers have ventured into utilizing modern technologies that can be easily accessible (Abualrob, 2019). This is attributed to a wide array of factors, including a relative failure of delivering education through AR. In many of the schools, the teachers' attitudes toward using digital content remain as barriers to proper implementation of augmented reality technologies.

In some personal interviews I conducted with elementary science teachers in the West Bank, teachers reported difficulties students have in dealing with the activities in the print textbooks, particularly analyzing pictures, which teachers said are rigid and of little use if taught in a traditional way without the help of digital supplementary material. Teachers also said it is important to use teaching aids, definitely the talk here is about AR technologies, that motivate learners and develop their thinking patterns as well as their self-reliance. These observations came to support reports by the Ministry of Education which voiced concerns about the below-expectation performance of science students in standardized tests, as well as the reluctance of college students to pursue a degree in science education (Ministry of Education and Higher Education, 2017).

This paper is an interaction analysis study of the affordances of applying AR technology in delivering science education to third graders in West Bank schools. The assumption is that the textbook environment can be enhanced by adding additional layers of information through supporting digitized materials– in our case AR technologies. The textbook would thus provide written material that can be further enhanced by such technologies, creating an environment where the student becomes an active learner who helps serve the objectives of the learning process. This way, the material is presented through dynamic, interactive simulations, making the process easy and interactive– features that print books alone cannot provide.

Methodology

This is an interaction analysis study in which activities from the third grade science textbook were demonstrated using AR technologies to identify their role in enhancing learners' interaction with pictures in the science school books. A sample of 50 third grade female students from a Khadija Khuwailed Basic School for Girls, was drawn from the study population (all third grade students in the West Bank). The 50 students were divided evenly into homogeneous control and intervention groups. The division was based on the marks record from the school.

All the activities in the third grade science book were digitized, whereby the still pictures were turned into 3D animations using AR platforms (specifically Vuforia AR application development platform and Aurasma platform). Pupils of the intervention group were asked to bring their or their parents' smart phones, to which the AR content was transferred and saved in a file on the home screen to allow for easy access by the pupils (pupils who brought smart phones shared their devices with those who could not). The teacher of the two groups was then trained on using those technologies. For some activities, the teacher's smart phone was used for demonstration via an overhead projector: questions and instructions in the book would be projected together with animated images corresponding to those in the textbook. For example, together with the question "How do snakes in the desert hide from hot temperature?", a moving image appeared in which a snake burrows in dens to hide from hot temperatures. Or, to the question "How do chameleons protect themselves from predators or other enemies?", a moving image is displayed on the screen showing a chameleon changing its color to mimic its background. See Figure 1.

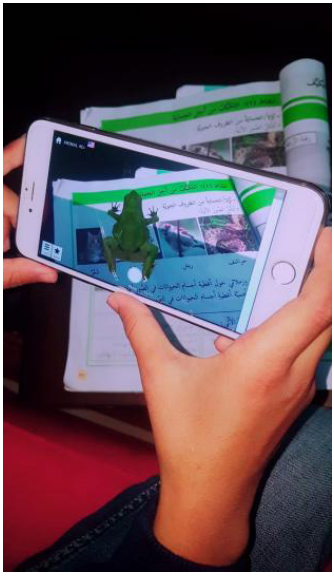


Figure 1. A sample of Textbook Activities

The AR-enhanced curriculum was delivered by the same teacher over the Spring Semester in parallel with traditional teaching methods for the control group. For the purpose of the study, seven activities were chosen for both groups and demonstrated in the regular time of the period. See Figure 2 below. The seven activities were delivered in fourteen sporadic days (seven sessions for each group), the dates of which were coordinated by the teacher and the researcher.

A picture on the cover page of a unit in the third-grade science book
Reflect on the pictures below.
What do we call the places where these creatures live?
How can these creatures live in such places?



I Adapt
Identify the creatures that can adapt to all environments: Cooperate with your classmates in interpretation



Adaptation
Think about the pictures below: snake, bird, frog, cat You and your classmates discuss the animal body coverings in the picture above
Write about the importance of these animal body coverings



Protection from enemies
Think about the pictures below. Answer the questions in collaboration with classmates:
Is it easy for an eagle in the sky to see this snake? Why? What is the purpose of adaptation camouflage? In your opinion, can humans use this camouflage strategy? How?



A picture of a kitchen
Think about the picture above:
What similarities/differences do the items in the picture have?



Aquatic environment
What are the elements of the environment pictured?



Solid? Liquid?
Describe the picture in two statements.

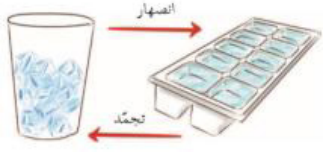


Figure 2. A sample of Textbook Activities Demonstrated by AR Technology

An interactive assessment module– with ready-made drills– was designed to allow students to simultaneously respond to questions. After each session, a worksheet (with the same questions) was given to both groups. Answers were collected and analyzed. In parallel, videotaped responses were also sorted out. This way allowed for drawing realistic comparisons between answers from the AR-intervention group and those from the control group. The demonstrations of the target activities (given to both groups) were videotaped by the researcher for the purpose of the study. Videotaping is essential when human behavior cannot be adequately described using only live observation. In analyzing the content of the videos, a Framework proposed by Creswell (2019) was used. First, all the videotaped data were extracted and transcribed on paper. Second, the transcribed data were coded for their relevance to six themes: oral and written responses; idea generation; time of interacting with images; making inquiries; concentration and participation. For validity of the procedure, two experts in education were given a sample of the transcription and asked to assess the relevance of the themes. For reliability purposes, the researcher asked a second rater to make codings for 33 percent of the videotaped material as well as for the written responses. To measure interrater agreement, the Kappa statistic was used, and results showed an acceptable level (0.6–0.75).

Discussion

While analyzing written answers was a straightforward, easy process, sorting out videotaped material took a lot of time and effort. However, videotaped data were found to be relevant and quite helpful, since I had the opportunity to play the recorded materials several times and compare them to the transcriptions, thus gaining more insights that informed the analysis. According to Garcez et al, "the proper use of the moving image, coupled with the audio, allows capturing aspects that may go unnoticed when other resources are used"(2011: 250). The analysis of the collected data focused on six aspects:

Oral and written responses

In analyzing the videotaped material, it has been found that the students of the intervention group were more capable than those in the control group in responding orally to the questions. This comes as no surprise, since students are familiar with technology: they use their smart phones at home and wherever they go (Table 1 and Table 2).

Table 1. Oral Expression: Animals Adaptation to Their Habitat

	Intervention Group				Control Group			
Activity 2: Animals Adaptation to Their Habitat	**No. of Students**	**No. of students with correct answers**	**Duration of responses**	**Duration average**	**No. of Students**	**No. of students with correct answers**	**Duration of responses**	**Duration average**
Description of snakes' skin scales	7	3	S1=20 sec S2=17 sec S6=21 sec	**16 sec**	7	2	S1=7 sec S5=10 sec	**8.5 sec**
Description of snakes' adaptation	5	4	S7=12 sec S3=8 sec S9=12 sec S10=10 sec	**10.5 sec**	5	3	S9=5 sec S11=8 sec S12=6 sec	**6.33 sec**
Explaining the purpose of adaptation	5	3	S13=10 sec S14=11 sec S15=14 sec	**11.66 sec**	5	2	S14=10 sec S16=4 sec	**7 sec**
Explaining how humans can use snake strategies of adaptation	8	4	S19=12 sec S20=11 sec S21=10 sec S22=11 sec	**11 sec**	8	2	S1=9 sec S22=6 sec	**7.5 sec**
Average response	25	14			25	9		

When asked to reflect on the images orally, the group with the digitized content was much more responsive than the other group. For example, one of the instructions asks learners to say whether humans can use the strategies of camouflage that chameleons use to hide from predators. Students in the AR group described orally how soldiers use clothes that mimic the physical environment background for lurking. At the body language level, the same group students used hand movements, gestures and face expressions to show their surprise the moment they saw the snake burrowing in dens to hide in the sand. In this last encounter, the students in the control group showed no particular reaction looking at a static picture in the textbook. Out of 25 students within the AR group, 14 students provided correct answers, and the average duration of their responses to all questions within the activity had a range of 10.5–16 seconds (against 6.33–8.5 for the control group).

Table 2. Written Responses: Animals Adaptation to Their Habitat

Activity 2: Animals Adaptation to Their Habitat	**Intervention Group No. of students with correct answers**	**Control Group No. of students with correct answers**
Writing the type of adaptation	14	10
Explaining the purpose of adaptation	15	10
Writing description of the snake's environment	18	12
Explaining how humans can use snake strategies of adaptation	15	7
Organizing ideas	16	7
Clarity of language	14	15
Average No. of students with correct answers	**13**	**9**

Worksheets were designed to test the written performance of the target students. For example, one activity involved 6 items- those same activities that were used for oral expression. The average number of students who provided correct answers to the items within the activity was 13, compared with 9 students from the control group, as shown in Table 2.

Idea Generation

The interaction with the moving images that AR platforms provide can help learners connect with the lesson and engage on a deeper level. The AR-supported images allow learners to look at the pictures (which come alive right in front of them) and think about many things at a time, while generating ideas from different

angles. For example, with the help of digital technologies, the student can zoom through the face of a lion, thinking about how it captures its prey; or the limbs of a deer to show how fast it can run and hide from big cats. Animated, vibrant and life-like images can also generate ideas regarding the habitat of an animal, as well as its relationship with other species in the same environment. By contrast, the pictures in the textbook are lifeless images that allow for little reasoning and minimal interaction.

Helped by AR-enhanced learning, the students in the intervention group outperformed their counterparts within the control group. For example, when asked to describe the cover picture of Unit Three in the science textbook (which features animals in different environments with different adaptation strategies), the description of the control group students was brief, general and minimal: "Different animals in different places." By comparison, responses from the intervention groups were more detailed, yet more specific: "Fish have streamlined body shape which allows them to move easily in water. Horses eat grass thanks to their strong teeth."

More time interacting with images

The use of AR technology increased the time of interaction with the images featured in the activities. This is natural because students are familiar with–and they prefer– using virtual world technologies such as smart phones and tablets. With such identification (which, it appears, echoed well with students' attitudes), students were found to be happy spending more time on an activity compared with students in the traditional classroom setting. For each activity, students in the intervention group spent 7 minutes on average more than the time spent on the same activities in the control group– which meant more interaction and more effective communication. For example, students with AR-enhanced demonstrations spent 15 minutes discussing the unit's cover picture, compared to only 4 minutes by the students in the control group (See Table 4 below).

Table 3. Time spent on describing pictures

Activity	Time spent (in minutes): Control group	Time spent (in minutes): Intervention group
Unit 3 cover picture: Animals' strategies of adapting to different environments	4	15
Activity 1 pictures: I adapt	6	13
Activity 2 pictures: Protection from harsh weather conditions	3	10

Activity	Time spent (in minutes): Control group	Time spent (in minutes): Intervention group
Activity 3 pictures: Protection from enemies	2	8
A picture of an aquatic environment	2	7
Unit 4 cover picture: Matter and temperature	4	11
Activity 2 pictures: solid, liquid	2	6

Making Inquiries

The AR aids provided the learners with links to their real world, making the experience appealing and urging learners to ask questions proactively. The questions focused on exploring things right in front of them. Hearing answers from other students and student-student discussion were found to be productive, as they created a learning-friendly classroom. In his model about experience and learning, Edgar Dale (1969) observed that while people generally remember 10 percent of what they read, they tend to remember 70 percent of what they say and write, as in this way they simulate a real-life experience.

Table 4 below shows the number, type and nature of questions raised by the intervention and control groups. Students in the intervention group were found to raise more questions. As well, the questions by the intervention group were more probing and relevant.

Table 4. Number, type and nature of questions raised by the intervention and control groups

	Control Group			Intervention Group		
Activities	Number of questions	Type of questions: (probing, simple)	Nature of questions: relevant/ irrelevant	Number of questions	Type of questions: (probing, simple)	Nature of questions: relevant/ irrelevant
Unit 3 cover picture: Animals strategies of adapting to different environments	8	2, 6	1, 7	18	6, 12	8, 10
Activity 1 pictures: I adapt	10	4, 6	3, 7	14	6, 8	7, 7
Activity 2 pictures: Protection from harsh weather conditions	11	2, 9	4, 7	14	8, 6	4, 10

Activities	Control Group			Intervention Group		
	Number of questions	Type of questions: (probing, simple)	Nature of questions: relevant/ irrelevant	Number of questions	Type of questions: (probing, simple)	Nature of questions: relevant/ irrelevant
Activity 3 pictures: Protection from enemies	8	3, 5	4, 4	13	4, 9	8, 5
A picture of an aquatic environment	7	2, 5	2, 5	11	6, 5	7, 4
Unit 4 cover picture: Matter and temperature	8	3, 5	4, 4	12	6, 6	7, 5
Activity 2 pictures: solid, liquid, gas	6	1, 5	2, 4	8	3, 5	3, 5
Average No. of inquiries	**58**	**17, 41**	**20, 38**	**90**	**39, 51**	**44, 46**

Looking at the figures above in detail, one can notice that the average number of inquiries raised by the intervention group (90) was much higher than the figure for the control group (58), which supports the assumption that AR technologies not only enhance learners' responses, but also encourage such learners to ask more questions. This is also true for the types and nature of the questions, with those from the intervention group being more relevant (with an average of 44 vs. 20 for the control group) and more probing (39 vs. 17 for the control group).

Concentration

Regardless of how intelligent learners are, they still need adequate concentration/listening skills. Learners who pay attention during lesson demonstration are more likely to be prepared for productive in-class discussion. The use of the digitized content increased the concentration of students a lot. The novel strategy, where static pictures were turned into moving images, could explain the identifiable attention students have shown. By contrast, we noticed that many pupils within the control group seemed to be distracted. It is plausible to assume that concentration is key to effective learning. Concentrating students seemed to release their thought from all other things, instead focusing on the activity they were dealing with. Paying attention is found to be indispensible to acquire construct knowledge and respond whenever a response is needed. According to Theron Dumont, "the person that is able to concentrate utilizes all constructive thoughts and shuts out all destructive ones." (2012: 2).

Three pieces from the video (1 minute from the beginning of the recording, 1 minute from the middle and 1 from the last part) were played several times to give credence to the assumptions derived from observation. The focus was particularly on engagement of different types (visual, auditory, kinesthetic). With the AR group, the learners looked more engaged, as evidenced by the face expressions and body language during demonstration. The AR students were also more heavily immersed in terms of time, as learners maintained their engagement all the time the lesson was running. The affordances of combining learning, playing and watching at a time, it appears, have positively affected the way the AR students identified with the activities.

Participation

Watching the video of the AR-enhanced lesson, it was crystal clear that the technology used helped learners become more engaged. The revolutionary way of presenting content enhanced interaction and led to more active participation. In the demonstration of the lesson on animals, the pupils only needed to point the curser towards the textbook image of the animal, and an interactive 3D model of that animal came forth on the smart phone screen, allowing pupils to visualize animals as though they were in the real world, therefore activating the senses of hearing and seeing, as well as marked kinesthetic engagement. With learners gaining deeper, live information– with the textbook becoming interactive– the level of participation increased and the learners became eager to participate, now that they feel they have something to share with their classmates and the teacher.

Table 5. Students' Participation

	Intervention Group							
Item \ Activity	1	2	3	4	5	6	7	Average
Students participated	14	22	14	25	23	12	11	17.3
Students linked what they learned to their own real-life experiences (movies, videogames, 3D TV)	11	10	9	12	10	4	10	9.42
Student-student interaction about the lesson	12	22	14	25	18	12	8	15.86

	Control Group							
	1	2	3	4	5	6	7	**Average**
Students participated	13	10	10	18	11	8	8	11.14
Students linked what they learned to their own real-life experiences (movies, videogames, 3D TV)	0	1	2	0	0	0	0	0.43
Student-student interaction about the lesson	10	6	8	10	8	6	6	7.71

As shown in the Table above, the participation level for the AR group was much higher than that of the control group 17.3 and 11.14, respectively). This was also the case for linking learned material to real-life experiences (an average of 9.42 students within the AR group against an anemic 0.43) figure for the control group). Finally, students–student interaction within the AR group was more pronounced compared to the control group (an average of 15.86 students against 7.71 students).

Conclusion

Many of the most important forms of e-learning are AR technologies, a present-day response to the awkwardness, boredom and monotony of traditional learning. AR was found to foster interaction, dialogue and in-classroom discussions, and learners have the opportunity to avail themselves of collaborative learning and motivate one another in an exciting atmosphere. When AR applications are integrated into classroom learning, and when teachers nurture the culture of exploration in learners (e.g., encouraging them to use smart phones for didactic purposes), students can engage in an effective world which stirs up the use of their imagination to explore the potentials of the new world. All this takes place in an interactive way, which will keep learners' eyes peeled for finding out how their reality will develop during the lesson, so that in each meeting there is a new journey of discovering a new world.

Technology-enhanced reality is not a new notion, but in Palestine it started to make its way into classrooms only in 2016. Our results suggested a positive correlation between the use of AR and the performance of students in classroom. Teachers should not spend too much time thinking about how much knowledge learners need to acquire; rather they should know how to have highly-motivated, active learners. Today, AR applications have made the school books content more

interactive with the help of a smart phone and a projection screen. Such technologies have made it possible for teachers to convert a still textbook picture into a real-life moving image, which enriches the learners' experience and unleashes their potentials. This process of transforming the content can effectively make things easier. Reading about how big cats chase their prey might not be particularly appealing, but watching the prides of lions moving around in the plains can be much more perceivable.

The results of the intervention study have also shown many positive aspects, including increased verbal and written expression, effective idea generation, more interaction with images, more inquiries on the part of the learners, greater concentration, and better participation. When students are effectively involved and adequately satisfied, deep learning becomes possible, and the knowledge acquired is more likely to remain alive in the student's long-term memory. It is easy then for the learner to retrieve information when it is needed.

What is more, the use of AR technologies is particularly effective when it comes to enhanced learner participation. The pupils in the intervention group seemed to better understand the materials presented to them, which created an interactive atmosphere where pupils started to ask questions, and respond to questions raised by their teacher and by other students, as well. This comes as no surprise, as AR-enhanced demonstration offers the privilege of seeing and feeling at the same time, which increases learners' sensory responses, thus taking the experience to a higher level of engagement.

When students are more engaged, the process of learning becomes faster as students' vigor is focused on the AR-enhanced materials. By supporting the learning experience and enriching it with interactive content, learners become more curious to investigate, and technology is always there to meet their instructional needs and create a hands-on experience, which can be possible only through real life situations or their virtual life simulations. In boosting engagement, pupils were found to evoke different experiences and link them to what they learn, which stirs their curiosity and sets their imagination free. Ultimately, this creates an environment where learners are able to generate ideas and know more about the world.

References

Abualrob, M., & Abu-Alrub, E. (2018). An Analysis of the Palestinian Old and New Third Grade Science Textbooks' Activities, *Journal of the Arab American University*, 4 (2), 49–68.

Abualrob, M., Al-Saadi, S. (2019). Performance-Based Assessment: Approach and Obstacles

by Higher-Elementary Science Teachers in Palestine. *Journal of Education and Learning,* 8, (2). https://doi.org/10.5539/jel.v8n2p198

Abualrob, M. (2019). Determinants of Building 21st Century Skills in Palestinian Elementary Schools, *Higher Education Studies Journal*, 9(2). https://doi.org/10.5539/hes.v9n2p108

Ahmad, I. (2016). *The role of augmented reality in developing visual thinking skills in science for ninth grade male students in Gaza* (Master's Thesis). Gaza: Al Azhar University.

Akçayır, M., & Akçayır, G. (2017). Advantages and challenges associated with augmented reality for education: A systematic review of the literature. *Educational Research Review*, *20*, 1–11.

Aqel, M., & Azzam, S. (2017). Role of augmented reality technologies in enhancing performance of chemistry seventh grade students in the Gaza Strip. *International Journal of Learning Management Systems, 6*(1), 27–42.

Bruner, J. (1961). The Act of Discovery. *Harvard Educational Review*, *31*, 21–32.

Caudell, T., & Mizell, D. (1992, February, 9). Augmented reality: An application of heads-up display technology to manual manufacturing processes. *Proc. Hawaii Intl Conf. System Sciences*, *2*, 659–669. Retrieved from https://tweakimg.net/files/upload/329676148-Augmented-Reality-An-Application-of-Heads-Up-Display-Technology-to-Manual-Manufacturing-Processes.pdf

Cai, S., Chiang, F.K., & Wang, X. (2013). Using the augmented reality 3D technique for a convex imaging experiment in a physics course. *International Journal of Engineering Education*, *29*(4), 856–865.

Creswell, J.W. (2019). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*, 6th Ed. Harlow: Pearson.

Dale, E. (1969). *Audiovisual Methods in Teaching*. NY: Dryden Press.

Dunleavy, M., Dede, C., & Mitchell, R. (2009). Affordances and Limitations of Immersive Participatory Augmented Reality Simulations for Teaching and Learning. *Journal of Science Education and Technology*, *18*, 7–22.

Garcez, A., Duarte, R., & Eisenberg, Z. (2011). Production and analysis of video recordings in qualitative research. *Educação. Pesquisa*. *37*(2), 249–260.

Kukla, A. (2000). *Social Constructivism and the Philosophy of Science*. London: Routledge.

Lee, K. (2012). Augmented Reality in education and training, *TechTrends: Linking Research & Practice to Improve Learning*, *56*(2), 13–21. https://doi.org/10.1007/s11528-012-0559-3

Liu, T.Y., & Chu, Y.L. (2010). Using ubiquitous games in an English listening and speaking course: Impact on learning outcomes and motivation. *Computers and Education*, *55*, 630–643.

Ministry of Education and Higher Education. (2017). Monitoring and Evaluating Report, Ramallah, Palestine. Retrieved from http://www.lacs.ps/documentsShow.aspx?ATT_ID=34117.%20

Qeshta, A. (2018). *The Impact of Using Two Patterns of Augmented Reality in Improving the*

Scientific Concept and Scientific Sense in Science among Female Seventh Grade (Master's Thesis). Gaza: The Islamic University of Gaza.

Shelton, B.E., & Hedley, N.R. (2004). Exploring a cognitive basis for learning spatial relationships with augmented reality. *Technology, Instruction, Cognition and Learning*, *1*(4), 323–357.

Sotiriou, S., & Bogner, F. (2008). Visualizing the Invisible: Augmented Reality as an Innovative Science Education Scheme. *Journal of Computational and Theoretical Nanoscience 1*(1), 114–122. https://doi.org/10.1166/asl.2008.012

Theron, D. (2012). *The power of concentration.* Massachusetts: Hampton Roads Publishing.

Wu, H., Lee, S., Chang, H., & Liang, J. (2013). Current status, opportunities and challenges of augmented reality in education. *Computers & Education*, *62*, 41–49.

Yuen, S., Yaoyune, G., & Johnson, E. (2011). Augmented reality: An overview and five directions for AR in education. *Journal of Educational Technology Development and Exchange*, *4*(1), 119–140.

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The Issue of Homeschooling in Poland, the Czech Republic and Slovakia from the Perspective of Parents of Homeschooled Children

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Abstract

This research addresses the opinions of parents of homeschooled children on the issue of homeschooling. Through both quantitative and qualitative research – a questionnaire with 78 parents of homeschooled children from Poland, the Czech Republic and Slovakia, their opinions on the selection of a school for their children, problems in compulsory examination, and the selection of teaching methods and forms were found out. On the basis of the research findings, it was possible to state that criteria for school selection was not related to problems in the compulsory examination of the children, and the pedagogical education of the respondents (parents) did not influence the selection of didactic methods or forms.

Key words: *homeschooling, individual (home) education, methods and forms of homeschooling, parents of homeschooled children, unschooling.*

Introduction

Poland, the Czech Republic and Slovakia are European countries with a similar tradition of the education system, where education is considered to be an institutionalized process. However, in these countries an increasing number of parents

wish to homeschool their children. Homeschooling has gradually become rooted in the legislation of European countries and education is no longer acquired or takes place only at school, but also outside of the school, on the grounds that the concept of *compulsory school attendance* is replaced by the concept of *compulsory education*. In all European countries, except Germany, individual education in the home (or other conditions) is legal, at least for children of a certain age group.

According to Rochovská, Mazur & Dolinská (2019), in Poland, since 1991 it has been legally possible to implement homeschooling in a public or a non-public nursery school (ISCED 0), a primary school (ISCED 1, 2), a grammar school, or a secondary school (ISCED 3). In the Czech Republic, homeschooling has become an equivalent form of fulfilling the compulsory school attendance requirement at the first stage of primary school (ISCED 1) since 2005, later also at the second stage of primary school (ISCED 2) since 2016 and it should be permitted at all elementary schools. In Slovakia, homeschooling has been enacted from 2008 and yet it is allowed only at the first stage of primary school level (ISCED 1).

For comparison, in Russia, the legal possibility for homeschooling to exist was already established in 1992. In Estonia, the 1992 Educational Act allowed compulsory schooling to be carried out at home and in Hungary, the 1993 Educational Act introduced the status of a "private student" who can be educated individually, out of school (Kostelecká, 2010).

Homeschooling in Poland, the Czech Republic and Slovakia still appears to be an option for a minority, up to date it concerns about 0.3% of all pupils in each country, however, the trend is rising. To compare, Ray (2019) estimated that about 2.3 million students were home-educated in the United States, and that the homeschool population had been continuing to grow at an estimated 2% to 8% per annum over the previous few years.

Researchers in the United States of America found out that *"homeschooled students score as well as or better than their public school peers on college entrance examinations"* (Murphy, 2014, p. 21; Cogan, 2010; Ray & Weller, 2003).

The most commonly used term in relation to the research issue is *homeschooling*. In Slovakia and the Czech Republic, there is the concept of *individual education* rooted in legislation, while homeschooling is one of its forms. In Polish legislative documents, the term *home education* is used (Rochovská, Mazur & Dolinská, 2019). In other countries, Lithuanian law speaks about *self- education* or *independent studies*, while Russian law about *family education* (Kostelecká, 2010).

Unschooling is often considered to be a branch of homeschooling. While other homeschoolers may do "school at home" and follow a set curriculum, unschoolers learn primarily through everyday life experiences – experiences that they choose

and that therefore automatically match their abilities, interests, and learning styles (Wheatley, 2009).

In research conducted by psychologists Gray & Riley (2013) on a sample of 232 families who practiced unschooling, they found out that as many as 83% of children continued their studies at universities and had no difficulty getting involved in classical education.

According to Gray & Riley (2015) the great majority of adults who had been unschooled, are very happy with their unschooling. Nearly all of them valued the freedom it gave them to pursue their own interests in their own ways, and many of them reported that unschooling promoted their capacities for self-motivation, self-direction, personal responsibility and continued learning.

In practice, the Polish, Czech and Slovak homeschooling was quite varied, ranging from unschooling to the strict pursuit of the official school curriculum in the home environment (Kašparová, 2015). Methods and ways of teaching were less important to them than the thoughts themselves. Once they found some interesting ideas they wanted to test, they used an unlimited number of methods for how to implement them (Rochovská, Mazur & Dolinská, 2019).

Problem of the Research

Stemming from the research results by Rochovská & Mazur (2019) the conditions for the provision of individual (home) education in Slovakia, the Czech Republic and Poland are similar. It differs mainly in the age category of learners, the requirements for a guarantor with qualification for (primary) teaching, and the recommendation from pedagogical and psychological counseling (compulsory in Poland). According to Rochovská, Mazur & Dolinská (2019), and also Kostelecká (2012, 2015), an education following the philosophy of unschooling is not legally rooted in any of these countries. However, many parents are already experimenting with unschooling of their children and they would welcome the possibility of this form of education being legalized.

If an unschooled child succeeds in the final examination at the end of the school year, there is no problem for parents, or for school where he/she is enrolled. Therefore, the parents often take care of the selection of a school for their child and prefer a school that is "homeschool friendly", and has rich experience in home education.

The question to gather the opinions of parents of homeschooled children in Poland, the Czech Republic and Slovakia, on the process of homeschooling, became the topic of this research.

The aim of the research was to find out, if the selection of school (where a child is enrolled) is influenced by problems in compulsory examination, and if the

pedagogical education of parents influences the selection of teaching methods and forms of homeschooling.

Three hypotheses have been formulated as a result of field experience and previous empirical findings (Rochovská & Mazur, 2019; Rochovská, Mazur & Dolinská, 2019):

H1: Respondents who select a school for their children based on the experience of schools with individual education, and the form of compulsory examination, mention fewer problems in compulsory examination than respondents who select a school for their children according to other criteria.

H2: Respondents with no pedagogical education prefer unschooling more than respondents with pedagogical education.

H3: Respondents with pedagogical education prefer classical methods and forms (working with textbooks, workbooks, reading and writing) more than respondents with no pedagogical education.

Methodology of Research

General Background of Research

This research was carried out between January 2019 and September 2019. It was a part of the larger project entitled *"Individual Education in the V4 Countries – A Comparative Research Study"*. In this larger research project, quantitative and qualitative research methods (an unstructured interview, a method of examining documents, a questionnaire) were used to find out the conditions for homeschooling in the V4 countries.

Sample of Research

78 parents of homeschooled children were involved in the research: 30 from Poland (PL), 27 from the Czech Republic (CZ), and 21 from Slovakia (SK). The respondents were briefed on the aim of the research, they voluntarily participated in the research, and they were promised to remain anonymous.

The research sample consisted of 10.26% men and 89.74% women. In accordance with Stevens (2001) it can be stated that mothers primarily assume responsibility for the work of homeschooling in families, or in the larger homeschooling supporting structure.

The data related to the number of respondents' children in home education are presented in Table 1, and the data related to the age of the home educated children are presented in Table 2.

Table 1. Number of respondents' children in home education

Number of children	PL		CZ		SK		Total	
	n	%	*n*	%	*n*	%	*n*	%
1	23	76.67	16	59.26	13	61.90	52	66.67
2	4	13.33	7	25.93	7	33.33	18	23.08
3	1	3.33	4	14.81	0	0.00	5	6.41
4	1	3.33	0	0.00	0	0.00	1	1.28
No answer	1	3.33	0	0.00	1	4.76	2	2.56
Total	30	100	27	100	21	100.00	78	100

Table 2. The age of the home educated children

Age of children (years)	5	6	7	8	9	10	11	12	13	14	18	19
PL	0	2	8	2	3	6	4	5	2	1	2	1
CZ	2	4	9	3	8	6	4	3	1	2	0	0
SK	0	5	8	6	4	3	0	1	1	0	0	0
Total	2	11	25	11	15	15	8	9	4	3	2	1

Note: In Poland, compulsory school attendance starts from 6 years of age, while children aged 7 years are enrolled in Primary School after Pre-primary School education. In the Czech Republic, compulsory school attendance starts from 5 years of age, while in Slovakia from 6 years of age. In Table 2, the age of homeschooled children in Slovakia is from 6 to 13 years. Because in Slovakia homeschooling is allowed only for children in Primary School – ISCED 1, two respondents, with children aged 12 and 13, reported enrollment of their children in a school in the Czech Republic, where home education is also approved for this age category.

More than half of the respondents from each country answered they had no pedagogical education. 34.67% of them answered they had pedagogical education (Table 3). The majority of them had less than 5 years' teaching practice (Table 4). Some of them, living in Poland, answered they have taught Theology, Preschool Teaching, Primary Teaching, Educational Therapy, Arts, History, Religious Education, Psychology, Speech Therapy, and Music. Others from the Czech Republic answered they have taught Czech language, Special Education, Primary Teaching,

Secondary Teaching, Philosophy, and Theology. Respondents from Slovakia answered they have taught Social Pedagogy, Special Pedagogy, foreign languages, Philosophy, Preschool Teaching, Primary Teaching, and Montessori Teaching.

Table 3. Pedagogical education of the respondents (%)

Pedagogical education	PL		CZ		SK		Total	
	n	%	*n*	%	*n*	%	*n*	%
Yes	9	30.00	7	25.93	10	47.62	26	33.33
No	19	63.33	19	70.37	10	47.62	48	61.54
Unfinished	1	3.33	1	3.70	0	0.00	2	2.56
Other response	1	3.33	0	0.00	1	4.76	2	2.56

Note: In Poland, the pedagogical education of parents is not a requirement for permission for the home education of their children. In the Czech Republic parents of homeschooled children must meet the condition of having completed at least secondary education (it does not have to be pedagogical) with a maturity exam (ISCED 3) (in the case of a learner at the first stage of Primary School, ISCED 1), or higher education (ISCED 5) (in the case of a learner at the second stage, ISCED 2). In Slovakia, individual education is allowed to be conducted only by a person (a parent or a guarantor), who meets the qualification requirements of higher education of the second stage (ISCED 5), established for teachers on the first stage of Primary School.

Table 4. The length of the teaching practice of the respondents (%)

Work experience (years)	No work experience	up to 5	6–10	11–15	16–20	21–25	26–30
% resp.	66.67	16.67	5.13	6.41	1.28	2.56	1.28
PL	70.00	16.67	3.33	3.33	0.00	3.33	3.33
CZ	74.07	18.52	3.70	3.70	0.00	0.00	0.00
SK	52.38	14.29	9.52	14.29	4.76	4.76	0.00

Instrument and Procedures

During the research, an online structured questionnaire was used, which contained 10 open-ended questions, 7 of which were relevant to this research. The responses concerned the number of children in home (individual) education, their age, the selection of school for their child, methods and forms of education of their child, the compulsory examination of their child, potential difficulties in the examination, and other opinions related to the issue of homeschooling.

The questions were designed by the researchers for the purposes of this research, so expert opinion and pilot testing were necessary. Five respondents with extensive experience of home (individual) education commented on each question in order to assess its constructive and content validity. Each question was assessed on a scale of 5 (relevant) – 0 (irrelevant). The result was expressed as a percentage (94.8%).

In the main study the respondents answered the questions electronically (online, through social groups related to home education)[1].

Data Analysis

The data analysis was both quantitative and qualitative (descriptive). Respondents' responses obtained through the questionnaire were categorized and described. The hypotheses were statistically tested. To evaluate the data, Pearson's chi-square test of independence was used.

Research Results and Discussion

H1: Respondents who select a school for their children based on the experience of the school with individual education, and on the form of the compulsory examination, mention fewer problems in compulsory examination than respondents who select a school for their children according to other criteria.

Independent variable: criterion of the selection of school (experiences of the school with individual (home) education and form of compulsory examination; other criteria).
Dependent variable: problems mentioned when examining children.

According to respondents' responses (Table 5), the choice of school depended mainly on the school's experience with home education (36.45%), and the form of the compulsory examination (16.82%). As Rochovská, Mazur & Dolinská (2019) stated, in all the countries mentioned, homeschooled children are examined by the school where they are enrolled to check whether the prescribed curricula is being

[1] Social groups *Edukacja Domowa* (Home Education), *Edukacja domowa w praktyce* (Home Education in Practice), *Domáce a komunitné vzdelávanie alebo homeschooling & unschooling* (Home and Community Education or Homeschooling & Unschooling), *Domácí a komunitní vzdělávání* (Home and Community Education).

fulfilled. This is the state requirement. While in Slovakia and the Czech Republic this took place twice a year, in Poland it was only once a year.

Among other criteria (9.35%), the respondents mentioned for example, respect for the child's opinion, the possibility of teaching through Skype, practicing Waldorf pedagogy, etc.

Table 5. School selection criteria (Rochovská, Mazur & Dolinská, 2019)

Respondents' responses	PL		CZ		SK		Total	
	n	%	*n*	%	*n*	%	*n*	%
School's experience with home education	20	42.55	10	27.78	9	37.50	39	36.45
Form of compulsory examination	7	14.89	4	11.11	7	29.17	18	16.82
Director and school approach	5	10.64	3	8.33	1	4.17	9	8.41
Recommendation of family and acquaintances	3	6.38	6	16.67	0	0.00	9	8.41
Place of residence	1	2.13	5	13.89	0	0.00	6	5.61
Flexibility of testing dates	3	6.38	2	5.56	1	4.17	6	5.61
Access to children	2	4.26	0	0.00	2	8.33	4	3.74
Recommendation of parents of other children in home education	0	0.00	3	8.33	0	0.00	3	2.80
Other recommendations (e.g. Home Education Associations, Home Education Coordinators)	3	6.38	0	0.00	0	0.00	3	2.80
Others	3	6.38	3	8.33	4	16.67	10	9.35

The literal wording of some of the respondents' statements:

"I selected a school for my child according to the method of examination and the opportunity to learn what the child wants and not the school". (a respondent from the Czech Republic)

"We wanted it to be a specialized school friendly to home education, with a wide range of extra hours in the morning, for mixed age groups, with excellent teachers and friendly exams that truly assess students' knowledge, with the possibilities to be examined near home, with effective secretarial services by phone and email". (a respondent from Poland)

"We wanted to cooperate with the school if possible (participation in events, clubs ...), but we were not accepted anywhere in the area, so we chose a school well-established for homeschooled children, even though it was far away". (a respondent from Slovakia)

"We chose the school in Březová (the Czech Republic) because it provides all the necessary information to study and on the examination on the school Internet Moodle. We have an overview of what is going on at school at the time and what to focus on". (a respondent from Slovakia)

According to the research findings by Rochovská, Mazur & Dolinská (2019), parents of homeschooled children mostly said that the compulsory examination was done to their satisfaction, without problems and in a pleasant atmosphere (41.96%). Most respondents from Poland replied that a written examination, and then an oral interview with the child, were used in their country. Only some of the respondents from the Czech Republic and Slovakia answered that the examination consisted of presenting the child's portfolio (7.14%). Among other problems with the examination (3.57%), a stressful environment, an examination led by the teacher, individual agreement with the teacher, etc. were mentioned. One child from Poland was enrolled abroad, in a UK school, and there was no compulsory examination.

The literal wording of some of the respondents' statements:

"The examination was just a formality. My child's level of knowledge is two years higher than in a regular school". (a respondent from Poland)

"We were sent the main school subject tests to do at home. After the tests we discussed with the teachers at school. The children in the discussion reviewed what they had learned, and what they needed to work on. The main part of the examination was the presentation of the portfolio". (a respondent from Slovakia)

Most respondents replied they did not encounter difficulties when their children were examined. Therefore, this was as predicted in hypothesis H1 where difficulties with the examination were expected to be related to the selection criteria for enrollment in the school. These respondents probably chose the school based on the school´s experience with individual (home) education, and according to the form of the compulsory examination (Table 5).

Respondents encountering difficulties with the examination (Table 6) reported mainly misunderstanding of homeschooling by some teachers (22.58%). This was

probably a group of respondents who educated children with the application of the philosophy of unschooling (Table 8).

Relating to the examination, respondents also mentioned bad timing, long waiting, and lack of time (19.35%). Among other problems mentioned (38.71%), there were, for example, parent´s fear, exhausting and nearly inhuman examinations, teachers' unprofessionalism, the child not wanting to attend exams, test errors, tests incompatible with the curriculum, teacher-driven exams, no interest in the child's portfolio, challenging travel, etc.

The literal wording of some of the respondents' statements:

"The nonsensical adherence of the teacher to the literal text of the answers given by the textbooks, and no possibility to choose your own textbooks". (a respondent from the Czech Republic)

"It was difficult to be examined in a mainstream school because they demanded the full accuracy of the curriculum. In a free school it worked without any problems". (a respondent from the Czech Republic)

„After writing the test we received only grades without comments. We were waiting a long time for the result but we were not given any comments. (a respondent from Poland)

"I wasn't satisfied. We agreed on something else with the teacher and the reality was different". (a respondent from Slovakia)

Table 6. Problems in compulsory examination of the child (Rochovská, Mazur & Dolinská, 2019)

Respondents' responses	PL		CZ		SK		Total	
	n	**%**	***n***	**%**	***n***	**%**	***n***	**%**
Misunderstanding of homeschooling by some teachers	1	7.14	2	22.22	4	50.00	7	22.58
Bad timing / long waiting / lack of time	4	28.57	2	22.22	0	0.00	6	19.35
Nervousness of the child	1	7.14	1	11.11	2	25.00	4	12.90
Dissatisfaction with the examiner	2	14.29	0	0.00	0	0.00	2	6.45
Others	6	42.86	4	44.44	2	25.00	12	38.71

In this research the learning outcomes of pupils were not studied. The reason was, according to Lines (1995), there was no evidence whether the same children would perform better or worse in a public classroom or in the homeschooling arrangement. Even when homeschooled children tested well, it was not possible to establish that the homeschooling intervention was responsible for the results (Reich, 2005). Besides this researchers rejected *"the notion of the primacy of achievement scores in understanding the impact of homeschooling"* (Murphy, 2014, p. 11).

The data about the school selection criteria and problems in compulsory child examination given by the respondents are presented in the contingency table (Table 7).

Table 7. School selection criteria and problems in compulsory child examination from the respondents´ point of view

	Actual frequency			**Expected frequency**	
	Problems when examining children (31)	Without problems when examining children (47)		Problems when examining children	Without problems when examining children
Criteria: experiences of school with individual (home) education, and form of compulsory examination (57)	24	33	Criteria: experiences of school with individual (home) education, and form of compulsory examination	22.65	34.35
Other criteria* (21)	7	14	Other criteria*	8.35	12.65

*except experiences of school with individual (home) education, and form of compulsory examination

Among respondents who selected a school for their children based on the experience of school with individual education, and the form of the compulsory examination, 24 (42.11%) mentioned problems in the children's examination, and 57.89% mentioned no problems in the children's examination. Among the respondents who chose a school for their children based on other criteria,

7 (33.33%) mentioned problems in the children's examination, and 14 (66.67%) mentioned no problems in the children's examination.

To evaluate the data, Pearson's chi-square test of independence was used. There was not a statistically significant difference ($\chi^2(1) = 0.493$, $p = 0.483$) between the respondents in the number of problems in the compulsory examination.

Respondents who selected a school for their children based on the school's experience with individual (home) education, and on the form of the compulsory examination, did not mention fewer problems when the children were examined than the respondents who selected a school for their children according to other criteria. *Hypothesis H1 was rejected.*

H2: Respondents with no pedagogical education prefer unschooling more than respondents with pedagogical education.

Independent variable: pedagogical education of a parent (yes, no).
Dependent variable: preferred methods and forms of teaching (unschooling; other methods and forms).

The methods and forms of education mentioned by the respondents were grouped into categories, with no didactic method and form structure applied, but retained as reported by respondents (Table 8). According to the respondents, most of them answered that they practiced unschooling (14.12%), mainly in the Czech Republic and Slovakia.

The literal wording of some of the respondents' statements:

"We are dedicated to topics that children open themselves or topics that somehow arise from the same life situations (family experiences, experience outside, normal functioning, opening a new book ...)." (a respondent from Slovakia)

"The child learns itself." (a respondent from Slovakia)

"Natural and intuitive or none." (a respondent from Slovakia)

"None, I mean natural education. The child learns itself. My husband and I only suggest the topics. We follow the child instead of teach the child." (a respondent from Poland)

More respondents from Poland mentioned mainly working with a textbook (12.68%), reading and speaking (11.27%). Among other methods and forms (13.53%), the respondents mentioned, for example, workshops, demonstrations, teaching with a private teacher, etc.

The literal wording of some of the respondents' statements:

"We learn at home according to textbooks and school requirements, rather in a classic way. We watch movies on the subject, talk a lot, and learn outside. We write less in the workbook and practice more on the internet." (a respondent from the Czech Republic)
"Lapbooks, excursions, classic workbooks, playing the piano..." (a respondent from Slovakia)

"Various. Projects, lapbooks, textbooks, Pinterest work cards, aids inspired by Montessori pedagogy, games and educational toys..." (a respondent from Poland)

Table 8. Methods and forms selection (Rochovská, Mazur & Dolinská, 2019)

Respondents' responses	PL		CZ		SK		Total	
	n	**%**	***n***	**%**	***n***	**%**	***n***	**%**
Unschooling	7	9.86	9	18.75	8	15.69	24	14.12
Working with a textbook	9	12.68	4	8.33	2	3.92	15	8.82
Reading and speaking	8	11.27	1	2.08	5	9.80	14	8.24
Projects	6	8.45	2	4.17	4	7.84	12	7.06
Working with a workbook	3	4.23	3	6.25	3	5.88	9	5.29
Montessori	2	2.82	2	4.17	5	9.80	9	5.29
Excursions	6	8.45	1	2.08	2	3.92	9	5.29
Plays	4	5.63	2	4.17	2	3.92	8	4.71
Online form (e.g. Khan Academy)	3	4.23	3	6.25	2	3.92	8	4.71
Experiential learning	3	4.23	1	2.08	4	7.84	8	4.71
Learning outside	3	4.23	1	2.08	2	3.92	6	3.53
Experiments, discovering	2	2.82	2	4.17	2	3.92	6	3.53
Internet	3	4.23	0	0.00	1	1.96	4	2.35
Interest activities	2	2.82	1	2.08	1	1.96	4	2.35
Watching movies, videos	2	2.82	2	4.17	0	0.00	4	2.35
Community schools, groups	1	1.41	0	0.00	2	3.92	3	1.76
Portfolio creation	0	0.00	2	4.17	0	0.00	2	1.18
Lapbooks	1	1.41	1	2.08	0	0.00	2	1.18
Others	6	8.45	11	22.92	6	11.76	23	13.53

The data about pedagogical practice of the respondents and selection of methods and forms given by the respondents are presented in the contingency table (Table 9).

Table 9. Pedagogical practice of the respondents and selection of methods and forms from the point of view of respondents

	Actual frequency			Expected frequency	
	Practicing unschooling (24)	Practicing other methods and forms* (54)		Practicing unschooling	Practicing other methods*
Pedagogical education (26)	9	17	Pedagogical education	8	18
With no pedagogical education (52)	15	37	With no pedagogical education	16	36

* except unschooling

Among the respondents with pedagogical education, 9 (34.62%) mentioned practicing unschooling, and 17 (65.38%) mentioned other methods and forms of education. From the respondents with no pedagogical education, 15 (28.85%) mentioned practicing unschooling, and 37 (71.15%) mentioned other methods and forms of education.

To evaluate the data, Pearson's chi-square test of independence was used. There was not a statistically significant difference ($\chi^2(1) = 0.271$, $p = 0.603$) between the respondents in the preference for unschooling compared to other methods and forms of education. Respondents with no pedagogical education did not prefer unschooling more than respondents with pedagogical education. *Hypothesis H2 was rejected.*

H3: Respondents with pedagogical education prefer classical methods and forms (working with textbooks, workbooks, reading and writing) more than respondents with no pedagogical education.

Independent variable: pedagogical education of a parent (yes, no).

Dependent variable: preferred methods and forms of teaching (working with textbooks, workbooks, reading and writing; other methods and forms).

The data about pedagogical practice of the respondents and selection of methods and forms given by the respondents are presented in the contingency table (Table 9).

Table 10. Pedagogical practice of the respondents and selection of methods and forms from the respondents´ point of view

	Actual frequency			Expected frequency	
	Working with textbooks, workbooks, reading and speaking (38)	Practicing others methods and forms* (40)		Working with textbooks, workbooks, reading and speaking	Practicing others methods and forms*
Pedagogical education (26)	12	14	Pedagogical education	12.67	13.33
With no pedagogical education (52)	26	26	With no pedagogical education	25.33	26.67

* except working with workbooks, reading and speaking

Among the respondents with pedagogical education, 12 (46.15%) mentioned practicing classical methods and forms of education (working with textbooks, workbooks, reading and speaking), and 14 (53.85%) mentioned other methods and forms of education. From the respondents with no pedagogical education, 26 (50%) mentioned practicing classical methods and forms of education (working with textbooks, workbooks, reading and speaking), and 26 (50%) mentioned other methods and forms of education.

To evaluate the data, Pearson's chi-square test of independence was used. There was not a statistically significant difference ($\chi^2(1) = 0.103, p = 0.749$) between the respondents in the preference of classical methods and forms of education compared to other methods and forms of education. Respondents with pedagogical education did not prefer classical methods and forms (working with textbooks, workbooks, reading and writing) more than respondents with no pedagogical education. *Hypothesis H3 was rejected.*

Respondents also had the opportunity to comment on the issue of individual (home) education. 56.66% of the respondents from Poland used this option. They mentioned this form of education as more effective and very suitable for children who had a hobby (e.g., dedicated to music), as improving family relationships, with the remark that children were happier. They recommended this form of learning to everyone. Some respondents also reported that they encountered misunderstanding among teachers who did not know and did not understand alternative forms of education. The respondents also complained about their child's learning style and interests being limiting by the compulsory curriculum.

The respondents from the Czech Republic (25.93%) reported that individual (home) education had a pleasant course, and it was an enrichment for the whole family. One respondent stated that for their child compulsory examination was very stressful, therefore, they were forced to transfer their child from one school to another school. Another respondent noted that if they had an alternative school with free access to education in the neighborhood, they would rather enroll their child there.

Respondents from Slovakia (28.57%) stated that home education was a very good decision for them because their children had very positive results and, in addition, it enriched their family relationships. As negatives, they put the administrative burden in dealing with the application for individual (home) education, and the restriction of the compulsory curriculum. They would also like to be able to educate children in this form in the second stage of primary school in Slovakia.

Respondents from each country similarly mentioned that homeschooling enriched their family relationships. This compared with research results by Murphy (2014, p. 10), *"building healthy families was one of the four driving motives for homeschooling"*. Homeschooling prevented the generational gap between children and parents; built healthy relationships among siblings; and established a nurturing family environment (Murphy, 2014; Farris & Woodruff, 2000; Mayberry, 1993; Webb, 1989).

According to Huľová, Rochovská, & Klein (2018), in Slovakia, the Czech Republic and Poland, the trend in education was for an inclusive education, supporting heterogeneity and development of the child's personality without comparison with other children, which is in accordance with the idea of homeschooling.

Many parents were experimenting with unschooling (Table 8). According to research results by Kašparová (2012), there were families in the Czech Republic who were already practicing the unschooling life strategy and did not separate the world of children from the world of adults, educating their children at home. The situation in Slovakia and Poland is similar (Rochovská, Mazur & Dolinská, 2019).

In these countries, unschooling as a teaching strategy is not rooted in the legislation. However, if learners educated in this way succeeded in the half-year and end-of-year examinations at the school they were enrolled in, it was not a problem for any party involved. These parents and pedagogues admitted that it was not possible to formulate any set of "best practices" for learning. Rather, they learnt with their children, and they also considered it as positive if they did not know how to explain something to the children immediately.

Conclusions

The findings of this research have important implications for the parents of homeschooled children as well as for professionals dealing with the issue of homeschooling. It has been found that the criteria for school selection was not related to problems in the compulsory examination of the children. It has also been found that the pedagogical education of the respondents (parents) did not influence the selection of didactic methods and forms.

However, a limitation of the research is the awareness that the research sample is non-representative. This is due to the fact that researchers usually have limited opportunities to require homeschooling families to participate in the research.

According to the research results, the parents were experimenting with unschooling. However, they understood the term unschooling in highly variable ways. The results of the research encourage us to continue to study this issue and to extend the research also to qualitative investigation of the practice of unschooling in families with homeschooled children in Poland, the Czech Republic and Slovakia, and the problems they encountered in the compulsory examination.

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References

Cogan, M.F. (2010). Exploring academic outcomes of homeschooled students. *Journal of College Admission, 208,* 18–25.

Farris, M., & Woodruff, S. (2000). The future of home schooling. *Peabody Journal of Education, 75*(1/2), 233–255.

Gray, P. & Riley, G. (2013). The challenges and benefits of unschooling, according to 232 families who have chosen that route. *Journal of Unschooling and Alternative Learning, 7*(14), 1–27.

Gray, P. & Riley, G. (2015). Grown Unschoolers' Evaluations of Their Unschooling Experiences: Report I on a Survey of 75 Unschooled Adults. *Other Education: The Journal of Educational Alternatives*, *4*(2), 8–32.

Huľová, Z., Rochovská, I., & Klein, V. (2018). The issue of age homogeneity in groups from the kindergarten teacher's perspective. *The New Educational Review*, *53*(3), 203–215.

Kašparová, I. (2012). Children, work and education: first steps to unschooling as a result of current institutional child-care crisis in the Czech Republic. In *Proceedings of Belgrade International Conference on Education* (pp. 31–42). Belgrade, Serbia: Tomorrow People Organization.

Kašparová, I. (2015). Homeschooling: Freedom and control in Czech education. *Global Dialogue*, *5*(3), 31–32.

Kostelecká, Y. (2010). Home education in the post-communist countries: Case study of the Czech Republic. *International Electronic Journal of Elementary Education*, *3*(1), 29–44.

Lines, P.M. (1995). *Home Schooling (ERIC Digest, Number 95)*. Eugene, OR: ERIC Clearinghouse on Educational Management, University of Oregon.

Mayberry, M. (1993). Effective learning environments in action: The case of home schools. *The School Community Journal, 3*(1), 61–68.

Murphy, J. (2014). The Social and Educational Outcomes of Homeschooling. *Sociological Spectrum, 34*(3), 1–33.

Ray, B.D. (2019). Research facts on homeschooling. Homeschool fast facts. In *National Home Education Research Institute*, January 7, 2019. Retrieved 15/07/2019 from https://www.nheri.org/research-facts-on-homeschooling/

Ray, B. & Weller, N. (2003). Homeschooling: An overview and financial implications for public schools. *School Business Affairs, 69*(5), 22–26.

Reich, R. (2005). Why homeschooling should be regulated. In B.S. Cooper (Ed.), *Home schooling in full view* (pp. 109–120). Greenwich, CT: Information Age Publishing.

Rochovská, I. & Mazur, P. 2019. Theoretical Basis of Individual (Home) Education in Slovakia, the Czech Republic and Poland. *Pedagogika.sk. Slovak Journal for Educational Sciences*, *10*(4), 254–273.

Rochovská, I., Mazur, P., & Dolinská, E. (2019). Homeschooling in Poland, the Czech Republic and Slovakia. *Education Policy, Management and Quality*, *11*(2).

Stevens, M. (2001). *Kingdom of children: Culture and controversy in the homeschooling movement.* Princeton, NJ: Princeton University Press.

Webb, J. (1989). The outcomes of home-based education: Employment and other issues. *Educational Review, 41*(2), 121–133.

Wheatley, K. (2009). Unschooling: An oasis for development and democracy. *Encounter*, *22*, 27–32.

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Peculiarities of Perception of Teaching Style and Motivation of Students' Learning

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Abstract

The objective of the article is to study the peculiarities of students' perception of teaching style and to determine the correlation between such perception and motivation of students' learning. The group of respondents included 254 future social and 156 technical specialists (a total of 410 students), methods of research were questioning and testing; Pearson correlation coefficient was used for statistical analysis. Students perceived the democratic teaching style as the most positive, and its use is associated with educational and cognitive motives. Authoritarian and laissez faire styles are seen as undesirable. The first is related to the motives of avoidance, and the second has feedback from professional motives of students. Comparison of the results of the survey of future social and technical specialists allowed us to determine that the latter perceive the authoritarian style more positively than students of social specializations.

Key words: *teacher leadership style, style of pedagogical communication, motivation of student learning.*

Introduction

Students' perception of teachers is important to learning outcomes (Nabaho, Oonyu & Aguti, 2017) and can impact students' motivation (Noels, Clement, &

Pelletier, 1999). In our study, we focus on students' perception of teaching style and analyze its relation to students' learning motivation. It is important that teachers understand how students perceive teaching style, because it will help to improve teaching and the learning achievements of students (Hanaa, Atyat, & Heba, 2018).

The analysis of the style of a teacher through the prism of leadership is associated in particular with the management of an educational group of students (Barni, Russo, & Danioni, 2018; Bota & Tulbure, 2017; Sadik, 2016). Different authors classify teaching style in different ways: authoritarian, authoritative, and permissive styles (Barni et al., 2018; Thijs & Verkuyten, 2009); authoritarian, democratic, indulgent/populist, passive/minimal, median (Bota & Tulbure, 2017); authoritarian, democratic, laissez faire and indifferent (Hanaa et al., 2018; Munir & Rehman, 2016); autocratic, democratic, laissez faire (Dahar, Faize, Niwaz, Hussain, & Zaman, 2010; Doll, 1947; Sadik, 2016); authoritarian, democratic (Sobkin & Kalashinikova, 2016). Analysis of these works allows us to note that, despite the different classifications, the criteria for determining the leadership style of the teacher are often control of and attitude to (interest in) students. The democratic (authoritative) style is characterized as maximum control and interest, attention, warmth to the students; the authoritarian (autocratic) style is characterized as a manifestation of maximum, strict control and detachment from the students; the laissez faire (permissive, passive) style – a minimum of control and indifference to the students. In our research we used the authoritarian, democratic, laissez faire classification of teacher leadership styles.

To better understand the peculiarities of students' perception of teaching style, we decided to analyze the relationship between students' perception of teacher leadership styles and the styles of pedagogical communication defined by Kan-Kalik (1987). He identified five styles of pedagogical communication: based on interest in joint activities (this style is based on high professionalism of the teacher, the ability to interest the student, to attract him/her to cooperate and be active), on the basis of amiability (characterized by communication based on a friendly, warm attitude towards students), communication-distance (associated with the status, age, experience, and knowledge of the teacher, which define a certain distance between him/her and students), communication-intimidation (characterized in communication by an emphasis on the negative consequences for students of undesirable behavior in academic work or discipline), communication-flirtation (meaning trying to gain credibility using unlawful, unethical means, being over-familiar, conniving with students over errors, being condescending as a result of uncertainty and lack of professionalism of the teacher). The first two styles are the most positive and productive for the results of teaching; the last two

are undesirable and negative, while the style communication-distance can be both positive and negative (Kan-Kalik, 1987).

The purpose of the research is:

1. Study of features of students' perception of the teaching style of educators, based on analysis of the relationship between styles of pedagogical communication and leadership styles of teachers.
2. Determining the correlation between students' perception of teaching style and their learning motivation.
3. Comparison of features of perception of the teaching style of educators and the relationship of this perception with the learning motivation of future social and technical specialists.

Methodology

The study was conducted at the National Technical University "Kharkiv Polytechnic Institute" (Ukraine), the structure of which includes five educational and scientific institutions, a military institute and 4 faculties. Students were sent 754 letters with an invitation to participate in the survey and testing, 433 answers were received, some of which were incomplete, that is, some questions of the questionnaire or test were not answered. Thus, in general, the statistical analysis and interpretation covered answers of 410 students, including 254 from future social specialists (future teachers, psychologists, managers), and 156 from future technical specialists (future engineers of various specialties).

To study features of the perception of teaching style, a questionnaire was developed, which included two questions. The first provided an assessment by students of how common styles of pedagogical communication according to the classification of Kan-Kalik (1987) are. Students were asked to assess each style as a percentage from 0 to 100, according to their idea about which communication styles were used by teachers to a greater or lesser extent in their training in the higher educational institution.. Students were also asked to rate the prevalence among their teachers of the authoritarian, democratic, and laissez faire teaching styles as a percentage from 0 to 100.

For the evaluation of motivation a technique developed by Rean and Yakunin, a modification of Badmaeva (2004), was used to diagnose the educational motivation of students. The methodology consists of seven scales:

- communicative motives, which include the desire to gain new knowledge, as it helps the student to communicate better and work with interesting people, and gives more confidence and authority in the team;
- educational and cognitive motives which suggest the student's urge to obtain new knowledge, the desire to learn successfully, because they like the learning process;
- professional motives which are based on the propensity for a particular profession, the student learns because they like the chosen profession;
- social motives which mean learning to obtain a certain status in society or material well-being, the desire to benefit society or to do a duty to other people;
- the motives of avoidance which include the desire to avoid negative marks, fear of being among the lagging students, showing themselves in an unfavorable light, being academic losers;
- motives of creative self-realization which are based on the desire to engage in creative activity;
- prestige motives which mean the need to be among the best students, to gain approval, to have a good reputation as a capable, successful student, to have advantages among others due to academic performance.

Educational motivation was rated using 34 statements. These are a description of a certain motive of educational activity, each of which students were asked to rate on a 5-point scale: where 1 point corresponded to the motive being of minimum significance and 5 – to its being of maximum significance. When processing the results of each motivational scale, the arithmetic mean of students' scores was determined (Badmaeva, 2004).

Since the results of the student survey were measured using ratio and interval scales, Pearson's correlation coefficient was used for statistical analysis.

Results

The results of the correlation analysis concerning the peculiarities of students' perception of the teaching style are presented in Table 1.

Table 1. Students' perception of teaching style: correlation between pedagogical communication styles and teachers' teaching styles

Teaching style	Based on the interest in joint activities	Amiability	Communication-distance	Communication—intimidation	Communication-flirtation	Authoritarian	Democratic	Laissez faire
based on the interest in joint activities	1	.427**	.247**	-.045	-.049	.179**	.351**	-.086
amiability		1	.194**	-.042	.139**	.050	.405**	.005
communication-distance			1	.307**	.237**	.359**	.035	.264**
communication-intimidation				1	.302**	.313**	-.231**	.312**
communication-flirtation					1	.103*	-.099*	.231**
authoritarian						1	-.351**	.190**
democratic							1	-.183**
laissez faire								1

*indicates $p < .05$; ** indicates $p < .01$.

As can be seen from Table 1, according to the perception of students, the democratic style of teaching correlates with the styles of communication based on interest in joint activities ($r = 0.351$, $p<0.01$) and on the basis of amiability ($r = 0.405$, $p < 0.01$), but negatively correlates with communication-intimidation ($r = -0.231$, $p < 0.01$) and communication-flirtation ($r = -0.099$, $p < 0.05$).

Table 2 shows the results of the correlation analysis of the relationship between the peculiarities of students' perception of teaching style and their motivation for learning.

Table 2. Correlation between students' perception of teaching style and their learning motivation.

Teaching style	Motives of students						
	communicative	avoiding	prestige	professional	creative self-realization	educational and cognitive	social
based on the interest in joint activities	.207**	.034	.097*	.057	.051	.149**	.138**
amiability	.101*	.028	.089	-.024	.066	.092	.095
communication-distance	.103*	.092	.098*	.016	.056	.039	.018
communication-intimidation	.087	.113*	.061	-.023	.068	.016	.011
communication-flirtation	-.046	.088	.005	-.098*	.070	-.053	-.073
authoritarian	.100*	.136**	.120*	-.048	.084	.026	.067
democratic	.133**	-.053	.022	.054	.031	.103*	.098*
laissez faire	-.076	.021	-.059	-.116*	.084	-.091	-.188**

*indicates $p < .05$; ** indicates $p < .01$.

As Table 2 shows, the democratic teaching style correlates with communicative ($r = 0.133$, $p < 0.01$), social ($r = 0.098$, $p < 0.05$) and educational-cognitive ($r = 0.102$, $p < 0.05$) motivation of students.

Peculiarities of perception of teaching style by future social and technical specialists are given in tables 3 and 4.

Table 3. Perception of teaching style by future social specialists (N = 254)

Teaching style	based on the interest in joint activities	amiability	communication-distance	communication-intimidation	communication-flirtation	authoritarian	democratic	laissez faire
based on the interest in joint activities	1	.412**	.169**	-.064	-.081	.119	.414**	-.122
amiability		1	.156*	-.038	.143*	.072	.383**	.007
communication-distance			1	.368**	.252**	.403**	.036	.297**
communication-intimidation				1	.336**	.378**	-.265**	.421**
communication-flirtation					1	.160*	-.118	.238**
authoritarian						1	-.358**	.330**
democratic							1	-.182**
laissez faire								1

*indicates $p < .05$; ** indicates $p < .01$.

Table 4. Perception of teaching style by future technical specialists (N = 254)

Teaching style	based on the interest in joint activities	amiability	communication-distance	communication-intimidation	communication-flirtation	authoritarian	democratic	laissez faire
based on the interest in joint activities	1	.454**	.378**	-.015	.010	.288**	.266**	-.027
amiability		1	.264**	-.052	.135	.008	.445**	.003
communication-distance			1	.206**	.204*	.276**	.050	.204*
communication-intimidation				1	.245**	.194*	-.194*	.129
communication-flirtation					1	-.014	-.046	.213**
authoritarian						1	-.354**	-.074
democratic							1	-.175*
laissez faire								1

*indicates $p < .05$; ** indicates $p < .01$.

As can be seen from Tables 3 and 4, students of both social and technical specializations associated the democratic style of teaching with styles of pedagogical communication based on interest in joint activities, and on the basis of amiability, while they felt it has a negative correlation with communication-intimidation. Both groups perceived the authoritarian style as associated with communication-distance, and communication-intimidation, but there are differences in the fact that students of social specializations associate it even with communication-flirtation, while students of technical specializations associate it with communication based on interest in joint activities. Perception of the laissez faire style is different, because students of social specializations associate it with communication-intimidation, and students of technical specializations do not.

The results of the analysis of the correlation between future social and technical specialists' perception of teaching style and their motivation for learning are shown in Tables 5 and 6.

Table 5. Correlation between the future social specialists' perception of teaching style and their motivation for learning (N = 254)

Teaching style	Motives of students						
	communicative	avoiding	prestige	professional	creative self-realization	educational and cognitive	social
based on the interest in joint activities	.196**	.093	.088	.029	-.041	.123*	.073
amiability	.058	.053	.085	-.081	-.002	.082	.088
communication-distance	.156*	.194**	.137*	.060	.084	.068	.040
communication-intimidation	.078	.076	-.030	-.052	.063	-.051	-.076
communication-flirtation	-.075	.119	.021	-.122	.085	-.031	-.022
authoritarian	.067	.225**	.087	-.092	.085	-.014	.023
democratic	.133*	-.081	.008	.022	-.018	.090	.083
laissez faire	-.047	.040	-.087	-.202**	.096	-.146*	-.209**

*indicates $p < .05$; ** indicates $p < .01$.

Table 6. Correlation between the future specialists in technical fields perception of teaching style and their motivation for learning (N = 254)

Teaching style	Motives of students						
	communicative	avoiding	prestige	professional	creative self-realization	educational and cognitive	social
based on the interest in joint activities	.225**	-.023	.111	.096	.185*	.186*	.237**
amiability	.165*	.005	.096	.053	.164*	.104	.103
communication-distance	.039	-.012	.033	-.033	.046	.005	-.010
communication-intimidation	.096	.160*	.216**	.010	.065	.109	.145
communication-flirtation	.020	.057	-.021	-.040	.102	-.072	-.150
authoritarian	.160*	.046	.183*	.020	.092	.093	.145
democratic	.094	-.022	.034	.047	.002	.088	.097
laissez faire	-.109	.001	-.007	.023	.104	.001	-.148

*indicates $p < .05$; ** indicates $p < .01$.

As Tables 5 and 6 show, the future social specialists' perception of teachers using the authoritarian style is associated with motives of avoidance, and the future technical specialists' perception is associated with communicative motives and motives of prestige.

Discussion

According to the results obtained in the research, students perceive the democratic teaching style most positively, because they associate it with productive styles of pedagogical communication and, by contrast, negatively consider association with undesirable styles of teaching behavior, such as communication-intimidation and communication-flirtation. The authoritarian pedagogical style has both positive (communication based on interest in joint activities) and negative associations. Students assess the laissez faire teacher style as the worst, because they associate it solely with such forms of behavior as communication-distance, communication-intimidation and communication-flirtation.

The results confirm other research, according to which the democratic (authoritative) style of teachers is the most acceptable (Bota & Tulbure, 2017; Doll, 1947; Hanaa et al., 2018; Munir & Rehman, 2016; Thijs & Verkuyten, 2009), and laissez-faire (passive, permissive) is regarded the most negatively (Bota & Tulbure, 2017; Dahar et al., 2010; Thijs & Verkuyten, 2009).

In addition, the results of our study confirm the representation of Kan-Kalik's (1987) style of communication-distance as the most common, because we revealed its relationship with all other teaching styles, except the democratic. It should be noted that communication-distance can be a natural phenomenon and is observed even in amiable communication, because it is based on the experience, knowledge, and status of the teacher, but in its extreme manifestations distance means detachment and closeness of the teacher, which, we assume, may be characteristic of such teaching styles as authoritarian, laissez faire, communication-intimidation and communication-flirtation.

Badmaeva (2004) points out that the most favorable motivations for academic performance are educational and cognitive, professional and motivation for creative self-realization. Exactly these motives belong to the inner ones. The least favorable is the motivation of avoidance, because it leads to negative emotions and students' inability to study independently. Communicative, social and prestige motives can be effective, but they are external in nature, and therefore it is desirable that they are combined with educational and professional motives of students (Badmaeva, 2004).

We are particularly interested in the results that educational and cognitive motives are interrelated with the democratic teaching style and communication based on interest in joint activities. Professional motives have a negative correlation with the laissez faire teaching style and communication-flirtation and the avoidance motives correlate with authoritarian teaching style and communication-intimidation.

The results indirectly confirm the research according to which the democratic (authoritative) style of the teacher is the most effective for the educational activities of students (Bota & Tulbure, 2017; Dahar et al., 2010; Hanaa et al., 2018; Thijs & Verkuyten, 2009). However, when analyzing the results of research showing that the authoritarian (autocratic) teaching style can be quite effective (Bota & Tulbure, 2017; Dahar et al., 2010; Thijs & Verkuyten, 2009), in our opinion, some clarification is required. According to our research, the preference for the authoritarian style may be related to the students' motivation of avoiding. Of course, this motivation also affects academic performance and other results of students, but it is negative, does not promote interest in learning and acts only under the threat

of failure, mistakes, or failing marks (Badmaeva, 2004). In pedagogical practice, teachers need to take these factors into account, because, despite the fact that thatan authoritarian teaching style has some effect on the educational success of students (Bota & Tulbure, 2017; Dahar et al., 2010), its use is undesirable in terms of students' motivation, as is the use of the laissez faire teaching style, and the styles of communication-intimidation and communication-flirtation.

Comparison of the peculiarities of the perception of the teaching style of teachers by future social and technical specialists showed that both groups regard the democratic teaching style equally positively. At the same time, while the students of social specializations perceived authoritarian and laissez faire styles as unambiguously negative, because they associate them with communication-distance, communication-intimidation and communication-flirtation, students of technical specializations did not. They perceive the authoritarian pedagogical style more positively and associate it with the style of pedagogical communication on the basis of interest in joint activities.

In addition, for specialists of social fields, the authoritarian teacher style correlates with motives of avoidance, and the laissez faire style negatively affects professional, academic, cognitive and social motives of the students. That is, these two teaching styles are not effective and not appropriate from the point of view of educational motivation of students of social specializations. For students of technical specializations, only the authoritarian pedagogical style relates to the motivation of learning (although these are external, they are positive motives – correlation with communicative motives and motives of prestige), not the other leadership teaching styles. That is, the authoritarian style is not only more positively perceived by students of technical fields, but also is the only style effective in terms of influencing the motivation of learning, unlike students of the other group.

As for the styles of pedagogical communication, communication on the basis of interest in joint activities and amiability has the greatest influence on the motivation of future technical specialists, in particular the first style which is associated with such important motives as educational and cognitive. Both styles are correlated with the motive of creative self-realization. It is interesting that these two styles in the perception of students are associated with a democratic teaching style, but we found no influence of democratic style on the motivation of students of technical fields. It can be assumed that among the students' perception of these styles of pedagogical communication, democratic style and motivation of learning, there are additional factors that affect the manifestation of certain motives of students, but this requires additional research, as does determination of the reason

why the students of technical specializations perceived the authoritarian pedagogical style quite positively in contrast to the students of social specializations.

Conclusions

The most appropriate teaching style is democratic, especially when combined with a style based on interest in joint activities with students. Students' perception of democratic style is the most positive. They associate it with communication based on interest in joint activities and amiable communication, while they have the opposite view of communication-flirtation and communication-intimidation. Students' perception of the teaching style is important for their learning motivation. In particular, the democratic teaching style and the style based on interest in joint activities are associated with such important motives of students as educational and cognitive. Undesirable teaching styles are authoritarian and ignoring ones. In particular, the first relates to the motives of avoidance, and the second has feedback from professional motives of students.

Comparison of the results of the survey of future specialists of social and technical fields allowed us to determine that both groups of students perceived a democratic style equally positively, and the laissez faire style negatively, whereas students of technical specializations consider the authoritarian style as more acceptable and positive than the students of social specializations. For students of social specializations, a style based on interest in joint activities and the democratic style are effective for learning motivation, while authoritarian and laissez faire styles are ineffective, whereas for students of technical specializations, the authoritarian style is the only style which is connected with positive motivations in the students. The results we obtained can be used by teachers in pedagogical interaction with students and could be a subject for further discussion regarding the perception of teachers by students and effective ways of motivation.

References

Badmaeva, N.Ts. (2004). *Vliyanie motivatsionnogo faktora na razvitie umstvennyih sposobnostey [The influence of motivational factors on the development of mental abilities]*. Ulan-Ude: Izdatelstvo VSGTU.

Barni, D., Russo, C., & Danioni, F. (2018). Teachers' Values as Predictors of Classroom Management Styles: A Relative Weight Analysis. *Frontiers in Psychology, 9: 1970.* doi: 10.3389/fpsyg.2018.01970

Bota, O.A., & Tulbure, C. (2017). The Relationship Between Leadership Styles and Pupils' School Results. *European Proceedings of Social and Behavioural Sciences*, *23*, 460–467. doi: 10.15405/epsbs.2017.05.02.56

Dahar, M.A., Faize, F.A., Niwaz, A., Hussain, M.A., & Zaman, A. (2010). Relationship between the Leadership Styles and Academic Achievement at the Secondary Stage in Punjab. *International Journal of Academic Research, 2*(6), 459–462.

Doll, R.C. (1947). High-School Pupils' Attitudes toward Teaching Procedures. *The School Review, 55*(4), 222–227. doi: 10.1086/441390

Hanaa, E.S., Atyat, M.H., & Heba, M.M. (2018). Relation between Students' Perception of Teaching Styles and Students' Academic Engagement in South Valley and Assiut Universities. *Egyptian Journal of Health Care*, *9*(1), 187–204.

Kan-Kalik, V.A. (1987). *Uchitelyu o pedagogicheskom obschenii [To the teacher about pedagogical communication]*. Moscow: Prosveschenie.

Munir, F., & Rehman, A. (2016). Most frequent teaching styles and students' learning strategies in public high schools of Lahore. *Science International, 28*(2), 1669–1674.

Nabaho, L., Oonyu, J., & Aguti, J.N. (2017). Good teaching: Aligning student and administrator perceptions and expectations. *Higher Learning Research Communications, 7*(1). doi: 10.18870/hlrc.v7i1.321

Noels, K.A., Clément, R., & Pelletier, L.G. (1999). Perceptions of Teachers' Communicative Style and Students' Intrinsic and Extrinsic Motivation. *The Modern Language Journal, 83,* 23–34.

Sadik, F. (2016). Investigating primary school teachers' views about their classroom management behavior. *Journal of Advances in Humanities and Social Sciences*, *2*(2), 76–84. doi:: 10.20474/jahss-2.2.2

Sobkin, V.S., & Kalashinikova, E.A. (2016). On the Issue of Pedagogical Authority. *Social Psychology And Society. 7*(1), 88–107. doi: 10.17759/sps.2016070107

Thijs, J., & Verkuyten, M. (2009). Students' Anticipated Situational Engagement: The Roles of Teacher Behavior, Personal Engagement, and Gender. *The Journal of Genetic Psychology, 170*(3), 268–286. doi: 10.1080/00221320903218323.

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The New Educational Review

Basic Schools Learning Resources and Effectiveness in Egbeda Local Government Area, Oyo State, Nigeria

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Abstract

The place of school learning resources in supporting effectiveness in basic schools cannot be underestimated. It was against this backdrop that this study was conducted to examine basic schools learning resources and effectiveness in Egbeda Local Government Area, Oyo State, Nigeria. The study adopted a descriptive research design. The population of the study comprised of all the 36 basic schools in Egbeda Local Government. Twelve basic schools were selected using a stratified sampling technique. The same sampling technique was used to select 15 teachers in the each school. Researcher-designed instruments titled "School Learning Resources Questionnaire" (SLRQ) and "Basic School Effectiveness Questionnaire" (BSEQ) were used for data collection in this study. The validity and the reliability of the instruments were ascertained and the co-efficient of reliability was 0.88. Findings showed that there was a significant relationship between basic schools learning resources and effectiveness in Egbeda Local Government Area, Oyo State, Nigeria. ($r = .402$; $p < .05$). Based on the findings, it was recommended, among other things, that learning resources (human, material, physical and financial) should be adequately supplied to basic schools for effectiveness to be achieved.

Key words: *Basic School, Learning Resources, Effectiveness, Human Resources, Material Resources*

Introduction

Resources are the infrastructural facilities needed for the effective performance of operations for goals and objectives to be achieved. One of the major problems of every society in the world is scarcity and the reason for this is of utmost importance to the economist. Scarcity of school learning resources has affected the progress and development of all activities that take place in school. In the words of Awolola (2000), resources with respect to teaching and learning are those human and material inputs necessary for achieving the objectives of the concepts to be taught.

School learning resources include human, physical, material and financial components which are needed for effective and meaningful teaching and learning. The success of every society is to a large extent predicated on its educational system, which is sometimes hinged on the learning resources available. School learning resources as perceived by many educationists are the veritable factor that promote qualitative education. The importance of learning resources in the teaching and learning process cannot be ignored. School is an institution of learning that is primarily designed for effective teaching of students by teachers, so the availability of learning resources will go a long way to determine its success or failure. Meaningful learning can take place only when learning resources are made available. The absence of learning resources in schools is inimical for school effectiveness. This assertion was supported by Robin (2005), that any school without efficient and effective learning resources is comparable to a car without an engine.

This is in agreement with Blunt's (1990) opinion that it is not the availability of learning resources alone that guarantees effective performance of a school, but also their adequacy and utilization. No matter how well packaged a school administration or a school system is at any level of education, without adequate and efficient usage of the resources available, the system may not achieve the desired results. Adequate provisions of learning resources are vital in the administration of a school, while shortage or inadequacy of these resources is inimical to school goals and objectives. Ogunsaju (2000) asserted that adequately qualified staff must be employed, and a proper monitoring system for developing these human resources should be fully in place to guarantee school effectiveness. He further stressed that the situation whereby unqualified and less experienced teachers are made to teach students should be discouraged, and the need for recruitment of teachers with relevant teaching experience intensified.

The concept of school effectiveness is not easy to define, as there is no universally accepted definition that is all embracing. School effectiveness is the extent

to which the set goals or objectives of a school programme are accomplished. A school would be regarded as effective if "school processes result in observable positive outcomes among its students, consistently over a period of time" (Iyer, 2011, p.4). The indices for ascertaining effectiveness in any level of education include, but are not limited to, the level of the discipline tone of the school, school climate, students' performance and their behavior after school.

Schools need to be effective so as to be able to ensure students' attainment in other domains of learning (the affective and the psychomotor domains). Nwankwo (2004) stated that the features of schools which have educational effectiveness include: powerful educational leadership, the expectation of student success, an orderly but not oppressive school climate, and taking into account the students' acquisition of fundamental educational skills. Ajayi (2005) believed that a school administrator can be regarded as effective if he/she has achieved the accepted objectives of the school, using the available resources at his/her disposal.

According to Ijaiya (2008), two parameters that are commonly used to determine school effectiveness are students' results, especially in standardized tests, and their behavior, or performance after school.

Akinsolu (2012) conducted a correlational study of resource utilization and internal efficiency in public secondary schools in Nigeria. It was revealed that resource utilization is statistically significantly related to internal efficiency. This shows that effective teaching of students is connected with resources.

Research on the impact of instructional materials in the teaching and learning of Biology by SS II students in the Yakurr local government area of Cross River state was undertaken by Effiong and Igiri (2015). The findings revealed that there is positive achievement in students taught by highly qualified biology teachers and those exposed to instructional materials during lessons.

Osarenren-Osaghae and Irabor (2012) carried out a study to assess the availability and adequacy of human and material resources for the teaching of and learning on skill-based courses in Nigerian Public Universities. Findings from the study showed that the human and material resources on the ground for the teaching of and learning on skill-based courses in Nigerian Public Universities did not match the minimum standard requirement recommended by the National Universities Commission.

Olelewe, Nzeadibe and Nzeadibe (2014) investigated the availability and utilization of educational resources among rural communities in Enugu State and its effects on the achievement of millennium development goal No2 in Nigeria. Their study showed that there was adequate staff (human resources) for the successful

implementation of the UBE programme, but discovered gross inadequacy of material resources in the area.

A study that investigated the availability and utilization of school library resources by Secondary School Students in Rivers State was carried out by Owate and Okpa (2013). The study found that many library services were lacking and not in place in most secondary schools.

Makori and Onderi (2014) conducted a quantitative research survey regarding the challenges related to the teaching and learning resources affecting small and medium sized public secondary schools in Kenya. The study revealed that 14.4 and 4.8% of small and medium sized secondary schools respectively lack a library resource; 8.4 and 2.4% of small and medium sized secondary schools respectively lack a laboratory resource and one small school lacked a sports facility. Apart from this, 16.8 and 19.2% of small and medium sized secondary schools respectively assessed their library as poor or average; 26.4 and 21.6% of small and medium sized secondary schools respectively assessed the laboratory resource as poor or average; 21.6 and 15.6% small and medium sized secondary schools respectively assessed classrooms as poor or average; 27.6 and 14.4% of small and medium sized secondary schools respectively assessed furniture as poor or average; 27.6 and 19.2% of small and medium sized schools respectively assessed the staffing level as poor or average and 27.6 and 18% of small and medium sized secondary schools respectively assessed workshops as poor or average. Other resources assessed as poor or average include playgrounds and sports facilities.

Chukwu, Eze and Agada (2016) conducted a study which examined the availability of instructional materials at the basic education level in Enugu Education Zone of Enugu State, Nigeria. One research question and one hypothesis guided the study. Descriptive survey research design was adopted for the study, using a researcher-developed tagged instrument, the Availability of Instructional Materials at the Basic Education Level Questionnaire (AIMBELQ). Results of data analysis indicated low availability of instructional materials at the basic education level in the Enugu Education Zone of Enugu State.

This study was therefore carried out to investigate the relationship between school learning resources and effectiveness in basic schools in Oyo State, Nigeria.

Research Problem

School learning resources are a serious matter for educational stakeholders in Oyo State, Nigeria. Different scholars have observed massive reduction in

the academic performance of pupils in public examinations. The poor academic achievement of pupils has been attributed to the absence of learning resources that could facilitate effective teaching and learning. The inadequacies of human, physical, material and financial learning resources in most basic schools have really hampered their effectiveness. Furthermore, it is quite unfortunate that despite the huge amount of research conducted on educational resources the results are inconclusive. It is based on this background that the researcher conducted this study in Oyo State, Nigeria.

Research Focus

The objective of this study was to examine basic schools learning resources as correlates of effectiveness in Oyo State, Nigeria.

Research Questions

1. What are the constituents of effectiveness in basic schools in Egbeda Local Government Area, Oyo State, Nigeria?
2. What is the level of availability of learning resources in basic schools in Oyo State, Nigeria?
3. How adequate are learning resources in basic schools in Oyo State, Nigeria?

Research Hypothesis

Ho: Learning resources in basic schools have no significant relationship with effectiveness in Oyo State, Nigeria.

Methodology of Research

The study adopted a survey research design of correlational type. The justification for the adoption of survey research design was because it allowed for gathering of information from a large pool of participants on the major variables of the study.

Research Sample

The study was carried out in Oyo State, Nigeria. The state was formed in 1976. Oyo State has 33 Local Government Areas, one of which is Egbeda Local Government, which is the focus of this study. Egbeda Local Government was carved out of Lagelu Local Government in 1989 with the administrative headquarters at Egbeda. The Local Government Area shares boundaries with Osun State to the East, Lagelu Local Government to the North, Ibadan North East Local Government to the West and Ona Ara Local Government to the South. The Local Government Education Authority was established in November 1991, through decree 3. The Local Government Education Authority is now called the Universal Basic Education Authority (UBEC). It comprises both teaching and non-teaching staff in 36 public basic schools with a population of 40,336 pupils within the Local Government Area.

Out of the 36 public basic schools, a stratified sampling technique was used to select 12 public primary schools based on years of establishment. The six basic schools first established and the last six established were selected for this study. The teachers served as respondents for the study. The teachers were stratified into two groups, male and female; fifteen teachers were selected from each school, giving a total of 180 teachers who participated in this study.

Instrument and Procedures

Two sets of questionnaires were developed by the researcher for data collection. The questionnaires were titled "School Learning Resources Questionnaire" (SLRQ) and "Basic School Effectiveness Questionnaire" (BSEQ). The SLRQ was made up of two parts; part 'A' and 'B'. Part 'A' contained information about the years of establishment of the schools and gender of the teachers. The second part of the questionnaire contained items on learning resources which are structured along the major sub-constructs of human, material, physical and financial. The BSEQ contained 8 items on the constituents of effectiveness. The questionnaire was validated by experts in the field of Educational Management and the reliability co-efficient of 0.88 was obtained through test-re-test method.

Data Analysis

Descriptive statistics of percentages and inferential statistics of Pearson product-moment correlation was used to test the formulated hypothesis at a 0.05 level of significance.

Results of Research

Research Question 1: What are the constituents of effectiveness in basic schools in Egbeda Local Government Area, Oyo State, Nigeria?

Table 1. Constituents of Effectiveness in Basic Schools

S/N	Constituents of Effectiveness in basic schools are:	Mean	Decision
1.	level of discipline	3.53	Agree
2.	moderate class size	3.70	Agree
3.	quality leadership	3.67	Agree
4.	safe conducive learning environment	3.27	Agree
5.	positive students outcome	3.37	Agree
6.	effective classroom management	3.10	Agree
7.	an orderly school climate	3.03	Agree
8.	behavior after school	3.33	Agree
N= 180		Grand Mean = 3.38	

Table 1 shows the mean responses of teachers on the constituents of effectiveness in basic schools in Egbeda local government area of Oyo State, Nigeria. All the eight items of basic school effectiveness were positive and they had a grand mean of 3.38, which is above the decision rule of 2.5. Moderate class size has the highest mean score of 3.70 which indicates that effectiveness of basic schools is contingent on the number of pupils placed in a class. This was followed by quality leadership, which has a mean score of 3.67. This shows that effectiveness of basic schools depends on quality leadership.

Research Question 2: What is the level of availability of learning resources in basic schools in Oyo State, Nigeria?

Table 2. Level of Availability of learning resources in basic schools

S/N	Learning Resources	Highly Available	%	Fairly Available	%	Not Available	%	Decision
1.	Human Resources	180	100	–	0	–	0	High
2.	Material Resources	108	60	54	30	18	10	High
3.	Physical Resources	84	46.7	52	28.9	44	24.4	Moderate
4.	Financial Resources	40	22.2	68	37.8	72	40.0	Low

Source: Fieldwork, 2019

Table 2 shows the level of availability of basic school learning resources in Egbeda Local Government Area of Oyo State, Nigeria. The table revealed that the human resource in basic schools in Egbeda Local Government Area of Oyo State, Nigeria is perceived as high, with 180 (100%) of the respondents attesting to it. The level of availability of material resources in basic school is also high with 108 (60%) of the respondents saying that material resources are highly available, 54 (30%) of the respondents saying they are fairly available, while 18 (10%) of the respondents said they are not available. On the level of the availability of physical resources, 84 (46.7%) were of the opinion that they are highly available, 52 (28.9%) were of the opinion that they are fairly available, while 44 (24.4%) of the respondents was of the opinion that they are not available. The responses indicate moderate availability of physical resources. The financial resource to basic schools in Egbeda Local Government is low as indicated in table 2.

Research Question 3: How adequate are learning resources in basic schools in Oyo State, Nigeria?

Table 3. Adequacy of basic school learning resources

S/N	Learning Resources	Highly Adequate	%	Fairly Adequate	%	Not Adequate	%	Decision
1.	Human Resources	114	63.3	43	23.9	23	12.8	HA
2.	Material Resources	75	41.7	83	46.1	22	12.2	FA
3.	Physical Resources	45	25.0	75	41.7	60	33.3	FA
4.	Financial Resources	25	13.9	57	31.7	98	54.4	NA

Source: Fieldwork, 2019

Table 3 reveals the adequacy of basic school learning resources in Egbeda Local Government Area of Oyo State, Nigeria. The table reveals that human resources in basic schools in Egbeda Local Government Area of Oyo State, Nigeria are highly adequate with 114 (63.3%) of the respondents attesting to it, 43 (23.9%) were of the opinion that they were fairly adequate, while 23 (12.8%) chose the option 'not adequate '. On the adequacy of material resources in basic school, 75 (41.7%) of the respondents were of the view that they are highly adequate, 83 (46.1%) of the respondents ticked fairly adequate, while 22 (12.2%) of the respondents said they were not adequate. 45 (25.0%) of the respondents were of the view that physical resources were highly adequate, 75 (41.7%) were of the opinion that they are fairly adequate, while 60 (33.3%) of the respondents was of the opinion that they are not adequate. The financial resource to basic schools in Egbeda Local Government is not adequate, as indicated in table 2.

Hypothesis Testing

Ho: Learning resources in basic schools have no significant relationship with effectiveness in Oyo State, Nigeria.

Table 4. School Learning Resources and Effectiveness

Variables	N	Mean	SD	Cal. r-value	p-value	Decision
School learning resources	180	12.71	4.42			
				.402	0.00	**Ho Rejected**
School effectiveness	180	10.26	4.85			

*Significant P>.05

Table 4 shows the result of the Pearson product-moment correlation for the relationship between school learning resources and effectiveness of basic schools in Egbeda Local Government Area Oyo State, Nigeria. The result revealed a moderate, positive relationship between the two variables (r=0.402) which was significant at p>.05. This result revealed that school learning resources and effectiveness are statistically related. Therefore, the null hypothesis was rejected.

Discussion

Table 1 showed the constituents of effectiveness of basic schools. The table showed that for effectiveness to be achieved in basic schools, all the items listed must be taken into consideration. It also revealed that the presence of school learning resources brings about effectiveness in schools. The findings of this study agreed with the views of past researchers such as Ajayi (2005), Ijaiya (2008), Iyer (2011) and Nwankwo (2004) who gave the features of school effectiveness as powerful educational leadership, the expectation of student success, an orderly school climate, students' results especially in standardized tests, and their behaviour or performance after school among others.

Research question two, as reflected on table 2, focused on the level of availability of school learning resources in basic schools in Egbeda Local Government Area of Oyo State, Nigeria. The table revealed that the human resource in basic schools in Egbeda Local Government Area of Oyo State, Nigeria is high with 180 (100%) of the respondents attesting to it. The finding was in consonance with that of Olelewe, Nzeadibe and Nzeadibe (2014), whose study showed that there was adequate staff (human resources) for the successful implementation of the UBE programme. The finding in table 2 on the level of availability of material resources showed that in basic school they are highly available. However, the finding disagreed with that of Olelewe, Nzeadibe and Nzeadibe (2014), which revealed a gross inadequacy of material resources among rural schools in Enugu State, Nigeria. The finding from this study revealed a moderate availability of physical resources in basic schools in Egbeda Local Government Area of Oyo State, Nigeria. This finding is contrary to that of Makori and Onderi (2014), whose study showed poor availability of physical resources in public secondary schools in Kenya. The findings showed that financial resources were low.

Research question three, as shown in table 3, revealed that the human resource in basic schools in Egbeda Local Government Area of Oyo State, Nigeria is highly adequate. The finding was in consonance with that of Akinsolu (2012) and Effiong and Igiri (2015), whose study showed that there were adequate human resources in schools. It however disagreed with the finding of Osarenren-Osaghae and Irabor (2012), who revealed that human and material resources on the ground for the teaching and learning in schools did not match the minimum standard requirement recommended by the government.

The finding in Table 3 on the level of availability of material resources in basic school is fairly adequate. However, the finding disagreed with that of Olelewe, Nzeadibe and Nzeadibe (2014), which revealed a gross inadequacy of material

resources among rural schools in Enugu State, Nigeria. The finding from this present study revealed fairly adequate physical resources in basic schools in Egbeda Local Government Area of Oyo State, Nigeria. The finding is contrary to that of Makori and Onderi (2014), whose study showed that there were few physical resources in public secondary schools in Kenya. The finding of this study on financial resource revealed that it was not adequate.

The finding in Table 4 showed that a positive significant relationship exists between school learning resources and effectiveness. This shows that the availability and adequacy of school learning resources is associated with effectiveness. Effectiveness of basic schools is dependent on the availability of school learning resources. The finding of this study agreed with earlier findings by researchers such as Akinsolu (2012), Osarenren-Osaghae and Irabor (2012) and Chukwu, Eze and Agada (2016), whose studies showed that there was a significant relationship between learning resources and school effectiveness.

Conclusions

Learning resources are a very important variable in the functioning of the educational system, as the success of the system depends on their availability and adequacy. Also, learning resources are without doubt important in the development of a conducive teaching-learning environment, which ultimately results in the effectiveness of schools. A school would be regarded as effective if the pupils are disciplined, when a conducive atmosphere for learning is created, when there are positive student outcomes in their examination and when quality leadership is provided for the pupils and the teachers. Therefore, for all these to happen in basic schools in Egbeda Local Government Area of Oyo State Nigeria, school learning resources are a prerequisite.

Recommendations

Based on the findings of this study, the following were recommended for improvement:

1. An orderly school climate should be created by providing the necessary learning resources, so as to improve the level of effectiveness of basic schools in the local government under study.

2. Those tasked with the responsibilities of providing learning resources to schools should make available all the resources (human, material, physical and financial) that can aid effectiveness of basic schools.
3. Learning resources (human, material, physical and financial) should be adequately supplied to basic schools for effectiveness to be achieved.

References

Akinsolu, A.O. (2012). Resource utilization and internal efficiency in Nigerian secondary schools: Implications for socio problems of education. *International Journal of Sociology and Anthropology* 4(1), 23–30.

Ajayi, I.A. (2005). *Issues in school management*. Lagos: Bolabay publications.

Blunt, P. (1990). *Strategies for enhancing organizational effectiveness in Third World*. Public Administration and Development: London.

Chukwu, L.C., Eze, T.A.Y. and Agada, F.C. (2016). Availability of instructional materials at the basic education level in Enugu Education Zone of Enugu State, Nigeria. *Journal of Education and Practice*. 7(12), 7–10.

Effiong, O. E and Igiri, C.E. (2015). Impact of instructional materials in teaching and learning of biology in senior secondary schools in Yakurr L.G.A. *International Letters of Social and Humanistic Sciences. 62,* 27–33.

Ijaiya, N.Y.S. (2008). Radicalizing educational supervision for sustainable social and political development through universal basic education. A paper presented at the 2008 international conference of Nigerian Association for Educational Administration and Planning (NAEPA) in Abuja.

Iyer, M.G. (2011). Current views of the characteristics of school effectiveness in the context of national secondary schools from the perception of principals, heads of department and teachers. Retrieved from www.icsei.net/icsei2011/Full%20Papers/0048.pdf

Makori, A and Onderi, H. (2014). Examining the teaching and learning resources related challenges facing small and medium-sized public secondary schools in Kenya: A comparative analysis. *African Educational Research Journal 2*(2), 72–84.

Nwankwo J.I. (2004). Effects of principal leadership styles on staff task performance in Imo state secondary schools. *African Journal of Educational Research, 2* (2) 51–58.

Olelewe, C.J.; Nzeadibe, C.A. & Nzeadibe, C. T (2014). Availability and Utilization of Educational Resources in Selected Rural Communities of Enugu State: Implications for Achieving Universal Primary Education of Millennium Development Goals (MDGs) in Nigeria. *Educational Research International, 3*(1)15–24

Owate, C.N.1 and Okpa I. (2013). The availability and utilization of school library resources in some selected Secondary Schools (High School) in Rivers State. *Academic Journal 8*(16), 1449–1460.

Osarenren-Osaghae, R. I and Irabor, Q.O. (2012). Availability and Adequacy of Human and Material Resources for the teaching and Learning of Skill-based Courses in Nigeria Public Universities. *Journal of Sociology Anthropology*, *3*(1): 15–27.

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The New Educational Review

The effect of peer tutoring for college students: Who benefits more from peer tutoring, tutors or tutees?

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Abstract

The objective of this study was to examine the effect of peer tutoring on college students' academic achievement and, as well, their competencies in communication and collaboration. In particular, we investigated whether or not the effect of peer tutoring depends on the role taken in peer tutoring. 373 Korean college students attending peer tutoring participated in this study. A pre-post design employing a self-report questionnaire was used. The results indicated that peer tutoring improved both academic achievement and communicative and collaborative skills. The findings also suggested that the effect of peer-tutoring on academic achievement and responsibility for teamwork was valid only with regard to those in the role of tutees. The implications of this study are discussed.

Key words: *peer tutoring, communication, collaboration, academic achievement, tutee, tutor*

Introduction

Peer tutoring, a type of collaborative learning, aims at the acquisition of knowledge and skills through active support by peers (Falchikov, 2001). Previous studies have suggested that peer tutoring is an effective intervention to enhance academic gains (e.g., Zeneli, Thurston, & Roseth, 2016); regulation skills (e.g., Backer, Keer, Moerkerke, & Valcke, 2016); psychological adjustment (e.g., Fan-

tuzzo, Riggio, Connelly, & Dimeff, 1989); affective aspects of learning such as self-concept, self-esteem, and autonomy; and aspects of conduct (Miller, Topping, & Thurston, 2010).

Despite growing consensus on the facilitative potential of peer tutoring (Backer et al., 2016), it is hard to find studies examining its influence on communication and collaboration. It is necessary to examine the effect of peer tutoring in these areas, given the process is based on interacting and communicating between tutors and tutees (Falchikov, 2001). In particular, the National Education Association has underscored the importance of these two competencies, along with critical thinking, problem solving, creativity, and innovation (World Economic Forum, 2015). Bowman-Perrott, Davis, Vannest, and Williams (2013) also suggested that, since most prior studies on peer tutoring have focused on academic gains thereby derived, it would be interesting to examine the benefit students receive from peer tutoring about behavior. Therefore, we aimed to probe the effect of peer tutoring not only on academic achievement, but also in skills relating to communication and collaboration; the population studied were college students.

Although many studies have investigated the efficacy of peer tutoring across a range of performance-related variables, most did not consider the role taken in peer tutoring. Unlike reciprocal peer tutoring which is characterized by exchange between the roles of tutor and tutee, in typical peer tutoring, the roles of tutors or tutees are fixed. Due to the nature of the tutoring, the role and responsibility of tutors are very different from those of tutees. Peer tutoring enables each tutor and tutee to experience the distinct benefits derived from providing and receiving academic guidance (e.g., Falchikov 2001). In order to understand the influence of peer tutoring in more detail, the effect of peer tutoring should be divided and analyzed depending on the role taken in peer tutoring. Therefore, the second purpose of the study is to investigate differences in the effects of peer tutoring on tutors vs tutees.

Problem of the Research

The objective of this study is to examine the effect of peer tutoring on academic achievement and the competencies of communication and collaboration of college students. Mainly, we verify whether or not the effect depends on the role taken in peer tutoring.

The hypotheses of this study were established as follows:

First, as a result of peer tutoring, there will be a significant improvement in college students' academic achievement and communicative and collaborative competencies.

Second, there will be a significant difference between tutors and tutees in the effects of peer tutoring on college students' academic achievement and communicative and collaborative competencies.

Methodology of Research

General Background of Research

Many recent investigations have examined the effect of peer tutoring in various settings; most have found positive results. A large number of studies have found that peer tutoring contributes to an improvement in academic achievement and cognitive functioning in a range of areas (Zeneli et al., 2016; Backer et al., 2016). Moreover, peer tutoring frequently produces socioemotional gains: tutees have been found to be more cooperative and respectful toward peers and teachers while also exhibiting higher self-esteem (Gensemer, 2000). Also, cooperative groupings provide social advantages: students exercise and learn collaborative skills such as disagreeing constructively, expressing appreciation and encouragement, communicating with others, making cooperatively-derived decisions, and managing conflicts (Johnson & Johnson, 1992). Students can also develop verbal communication skills, negotiation skills, and diplomacy (Topping, 1998).

Peer tutoring involves the utilization of academically successful tutors, advanced in their understanding of subject matter or academic skills, who provide learning assistance to less-advanced tutees. Peer tutoring studies have found positive, but differing, educational outcomes for tutors and tutees: while the former have reported an improvement in leadership and teaching skills as well as enhanced confidence, the latter have described increased satisfaction and enriched learning experience (Burgess, McGregor, & Mellis, 2014). In particular, studies have explored the effects of tutees' academic achievement (Leung, 2015), communication (Nomura, Onishi, & Kato, 2017), and collaboration (Kim & Kim, 2017). Peer tutoring settings are assumed to have a beneficial impact on the tutor's academic and personal levels, in addition to their developing positive social skills (Colvin, 2007). Tutors have also been found to acquire helpful experience in facilitation and communication skills (Nestel & Kidd, 2005).

Research Sample

Participants in the study were undergraduate students who attended a peer tutoring programme run by the center for teaching and learning (CTL) of a Korean university during the spring and fall semesters of 2018. Initially, 377 students

registered for the programme. Of those, 373 students agreed to participate in the study; they comprised the sample of this research. Participants were well informed about the study in advance. Among the participants, there were 104 tutors and 269 tutees; there were 196 (52.5%) men and 177 (47.5%) women. The distribution across grade levels was: 47 (12.6%) first-year students; 90 (24.1%) sophomores; 114 (30.6%) juniors; and 122 (32.7%) seniors. The participants represented a wide range of academic majors.

Instrument

In order to assess the competencies of communication and collaboration, this study used the Core Competency Test for College Students (Kim et al., 2019). Among the five competencies assessed by the instrument, we used competencies of communication (11 items, α = .91 on pretest and .93 on post-test) and collaboration (10 items, α = .91 on pretest and .94 on post-test). The competency of communication consists of two dimensions: listening ability (five items, α = .83 on pretest and .88 on post-test, e.g., 'I listen carefully to what others say') and speaking ability (six items, α=.88 on pretest and .91 on post-test, e.g., 'I am able to express my opinion clearly and logically'). The competency of collaboration was composed of two dimensions: Responsibility for teamwork (five items, α=.89 on pretest and .93 on post-test, e.g., 'I participate in teamwork in good faith') and mutual respect (five items, α = .85 on pretest and .88 on post-test, e.g., 'I respect other's perspectives or opinions while working together'). A five-point Likert-type scale (1 = *not at all true*, 5 = *very true*) was used as the response format for all items.

For students' academic achievement, data on the Grade Point Average (GPA) in the spring and fall semesters of 2018 were obtained with the consent of participants. The range of GPA was from 0.94 to 4.5 in the spring semester and from 1.00 to 4.5 in the fall semester of 2018.

Intervention

The CTL recruited applicants for peer tutoring at the beginning of the semester. The academic qualification for serving as a tutor is an A in the course which he/she will teach (the logic being that, if the tutor's academic ability is insufficient to understand the contents to be taught, the tutoring programme can be challenging; Robinson et al., 2005). Some tutors voluntarily paired up with tutees. Other tutors were matched with tutees by the CTL. Tutors were primarily responsible for the tutee's learning in a particular course. Content areas for study were not limited, since peer tutoring is an effective intervention regardless of the content area

(Bowman-Perrott et al., 2013). An orientation on peer tutoring was provided to the students to elaborate on the rules and requirements of peer tutoring (as peer tutoring has been found to ineffective if the tutor has a poor understanding of his/her role or does not perform it properly; Robinson et al., 2005). Participants were informed about their responsibilities as tutors and tutees and given examples of good practices of peer tutoring. Primarily, tutors were taught general teaching skills, including interacting with tutees, providing appropriate scaffolds, giving constructive feedback, and so on. Participants were expected to conduct more than eight successive face-to-face peer tutoring sessions. Tutors uploaded more than eight self-written journals recounting the activities they did in the learning management system (LMS) every two weeks. After the end of the term, tutors who had met the requirement of the peer tutoring won a scholarship, based on the research that peer tutoring interventions that used rewards had a larger effect size than those that did not (Bowman-Perrott et al., 2013).

Procedures

The study is based on a one group time-series, quasi-experimental design. The intervention period was 15 weeks, with the participants following a prescribed peer tutoring process. The self-reported questionnaire was implemented to assess participants' competencies of communication and collaboration through the LMS at the beginning and the end of the semester.

Data Analysis

The pre- and post-questionnaire data regarding students' self-reported competencies of communication and collaboration and GPA in the spring and fall semester of 2018 were analyzed quantitatively. First, Cronbach's α and descriptive statistics were computed. Paired t-tests were used to examine changes in academic achievement and communicative and collaborative competencies after the peer tutoring. Pretest and post-test scores of variables were compared through a paired t-test. An ANOVA (analysis of covariance) was conducted to verify the difference in the effect of peer tutoring between tutors and tutees.

Results of the Research

First, the descriptive information of each variable measured in the study was presented (see Table 1). The data show that students report relatively high levels of collaboration, both in the pre-test ($M = 4.30$, $SD = .47$) and post-test ($M = 4.45$, SD

= .53), as compared to other variables. All the means of variables in the post-test were higher than those of variables in the pre-test.

Table 1. Descriptive statistics for variables

Variables	Tutee		Tutor		Total	
	Pre *M*(*SD*)	Post *M*(*SD*)	Pre *M*(*SD*)	Post *M*(*SD*)	Pre *M*(*SD*)	Post *M*(*SD*)
Academic achievement	3.39(.66)	3.55(.62)	3.83(.45)	3.86(.50)	3.52(.64)	3.64(.60)
Communication skills	3.93(.55)	4.23(.58)	4.05(.53)	4.25(.57)	3.97(.54)	4.24(.57)
Listening skills	4.14(.56)	4.37(.59)	4.20(.52)	4.36(.57)	4.16(.55)	4.37(.58)
Speaking skill	3.72(.65)	4.10(.67)	3.90(.60)	4.14(.63)	3.78(.64)	4.11(.66)
Collaboration	4.26(.47)	4.42(.58)	4.38(.48)	4.53(.41)	4.30(.47)	4.45(.53)
Mutual respect	4.18(.52)	4.37(.62)	4.25(.58)	4.45(.48)	4.20(.54)	4.40(.57)
Responsibility for teamwork	4.33(.53)	4.45(.63)	4.52(.49)	4.61(.43)	4.40(.52)	4.51(.57)

The effect of peer tutoring

In order to examine the effect of peer tutoring, a paired t-test was employed. For all participants, difference in the GPA was found to be statistically significant (t = -4.41, p < .001). The results also showed that collaborative competency in the post-test was significantly higher than in the pre-test (t = -3.72, p < .001). There were positive pretest-to-post-test changes in both mutual respect (t = -2.50, p < .05), and responsibility for teamwork (t = -4.24, p < .001). The gap in communication skills was also statistically significant (t = -6.30, p < .001). The trend for speaking skills (t = -6.95, p < .001) was particularly notable; it was larger compared to other variables, including listening skills (t = -4.34, p < .001).

The difference in the effect of peer tutoring between tutors and tutees

In order to examine the effect of peer tutoring on tutors and tutees, a paired t-test was employed. The results showed that, for tutees, the change in GPA was statistically significant (t = -4.65, p < .001). Improvement in communication skills was also statistically significant (t = -5.46, p < .001). A pretest-to-post-test change was significantly positive in both speaking skills (t=-6.48, p<.001) and listening skills (t = -3.50, p < .01). The gap in collaboration was also statistically significant (t = -2.96, p < .01). There were significant pretest-to-post-test changes in both mutual respect (t = -2.10, p < .05) and responsibility for teamwork (t = -3.39, p < .01).

In the case of tutors, the change in GPA was not statistically significant (t = -.69, p > .05). The gap in communication skills between pre- and post-tests were statistically significant (t = -3.15, p < .01). Both speaking skill (t = -2.92, p < .01) and listening skill (t = -2.68, p < .05) became better than before. The gap in collaboration was also statistically significant (t = -2.27, p < .05). On the other hand, while there were no significant pretest-to-post-test changes in responsibility for teamwork (t = -1.35, p > .05), the gap of mutual respect was statistically significant (t = -2.53, p < .05).

In order to examine the difference of the effect of peer tutoring between tutors and tutees, an ANCOVA using the pre-test score as a covariate was employed. The finding showed that there was no statistically significant difference in improvement of academic achievement and competencies of communication and collaboration between tutors and tutees (academic achievement F = .78, p > .05; communication F = .28, p > .05; listening skill F = .09, p > .05; speaking skill F = .45, p > .05; collaboration F = .52, p > .05; mutual respect F = .33, p > .05; responsibility for teamwork F = .81, p > .05).

Discussion

The effect of peer tutoring on academic achievement and competencies of communication and collaboration for college students was analyzed in this study. Mainly, we explore whether or not the effect of tutoring depends on the role taken in peer tutoring.

Two significant findings emerged from this study. First, peer tutoring might have a positive influence on a student's academic achievement and communicative and collaborative competencies. The result indicated an apparent pretest-to-post-test improvement in these domains. This finding is consistent with prior studies documenting the effectiveness of peer tutoring in enhancing academic achievement (e.g., Zeneli et al., 2016); communication skills (e.g., Nestel & Kidd, 2005); and collaboration (e.g., Gensemer, 2000; Johnson & Johnson, 1992). Tutors and tutees explicitly felt the need to regulate their learning processes and their interactions with other students; they engaged in collaborative goal setting, checked cooperatively on learning strategies and outcomes, and controlled their own and each other's comprehension (Volet, Summers, & Thurman, 2009). This implies that peer tutoring might be a promising facilitator for higher communication and collaboration.

The interesting thing was that the overall grade point average of tutees, not the grade of the specific course connected to the peer tutoring, was improved. This

might be due to the fact that tutees not only learn *what* they learn but also *how* they learn during peer tutoring (Topping, 2005). Previous studies have suggested that, in such engagements, students share knowledge construction and practice metacognitive regulation – which is closely related to academic achievement through peer tutoring (Backer et al., 2016). It might, therefore, enhance their overall scores.

Second, while the positive influence of peer tutoring on communication competency was significant for both tutors and tutees, the effects of peer tutoring on academic achievement and collaborative competency of tutors might be distinct from those of tutees. Although the difference between tutors and tutees was not statistically significant, the effect of peer tutoring on academic achievement and responsibility for teamwork was valid only for tutees. This result supports prior studies (e.g., Burgess et al., 2014), which found that peer tutoring works differentially, depending on the participant's role. Though previous studies (e.g., Fantuzzo et al., 1989) found academic benefits associated with peer tutoring for both tutees and tutors, this study showed that, while academic achievement of tutees improved, this positive change could not be discerned in tutors. These findings can be interpreted as deriving from the fact that tutors are expected to take interest in the progress of their tutees, not their own. Therefore, peer tutoring might not contribute to the tutor's academic improvement; still this does not mean that tutors do poorly in their university course.

Regarding collaboration, contrary to expectations, responsibility for the teamwork on the part of tutors did not improve significantly, either. Although the post-responsibility for teamwork was improved compared to the prior condition, this was not statistically significant. This might be due to the fact that the existing level of responsibility for teamwork was quite high (4.52 out of 5); thus, it would have been challenging to improve it even more. It also suggests that students with high levels of cooperation may prefer the tutoring programme and tend to apply for it. Peer tutors' enhanced competence can occur rather naturally (Falchikov, 2001). Gaustad (1993) insisted that the tutoring programme can be challenging if the communication and cooperation of the tutor are not excellent. Van Berkel and Dolmans (2006) emphasized that the cooperative learning facilitation ability of tutors had a positive effect on the interaction of tutoring groups. In sum, although peer tutoring is effective in academic and affective aspects overall, different change patterns between tutors and tutees were observed in the domains of academic achievement and collaboration. While the pre- to post-test change for tutees was significantly positive in all dependent variables, that of tutors was only partially

positive. It was thus confirmed that tutees appear to derive more benefit from peer tutoring than do the tutors.

Despite interesting findings that add to the research on peer tutoring, the study has some limitations. First, the results need to be interpreted with caution, since the participant group might not be representative either of college students worldwide, or those in different peer tutoring settings. The lack of control group also remains a methodological challenge in the study. Further research is needed to examine the influence of peer tutoring in a rigorously controlled setting. A final limitation is that this study used a self-reported questionnaire to measure the competencies of communication and collaboration. It would be worthwhile to examine the effect of peer tutoring through objective observation of these two competencies.

Conclusion

Significant pre-post gains were noted in academic achievement and communicative and collaborative competencies through peer tutoring. Peer tutoring might be an especially effective intervention for tutees, rather than tutors. The study helps educators understand the characteristics of tutors and, further, appreciate that peer tutoring should be designed to support the unique needs of tutors as well as tutees.

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References

Backer, L.D., Keer, H.V., Moerkerke, B., & Valcke, M. (2016). Examining evolutions in the adoption of metacognitive regulation in reciprocal peer tutoring groups. *Metacognition Learning, 11* (2), 187–213.

Bowman-Perrott, L., Davis, H., Vannest, K., & Williams, L. (2013). Academic benefits of peer tutoring: A meta-analytic review of single-case research. *School Psychology Review, 42* (1), 39–55.

Burgess, A., McGregor, D., & Mellis, C. (2014). Medical students as peer tutors: a systematic review. *BMC Medical Education, 14* (1), 115–122.

Colvin, J.N. (2007). Peer tutoring and social dynamics in higher education. *Mentoring and Tutoring, 15* (2), 165–181.

Falchikov, N. (2001). *Learning together. Peer tutoring in higher education*. London: Routledge Falmer.

Fantuzzo, J.W., Dimeff, L.A., & Fox, S.L. (1989). Reciprocal peer tutoring: A multimodal assessment of effectiveness with college students. *Teaching of Psychology, 16* (3), 133–135.

Gaustad, J. (1993). Peer and cross-age tutoring. *ERIC Digest, 79*.

Gensemer, P. (2000). Effectiveness of cross-aged and peer mentoring programs. *Educational Researcher, 24*(2). 1–14.

Johnson, D.W., & Johnson, R. (1992). Positive interdependence: Key to effective cooperation. In R. Hertz-Lazarowitz & N. Miller (Eds.), *Interaction in cooperative groups: The theoretical anatomy of group learning* (pp. 174–200). New York: Cambridge University Press.

Kim, O., & Kim, H. (2017). Identifying predicting variables of the tutees learning flow in tutoring program. *Korean Journal of General Education 11* (2), 563–584.

Kim, E., Kang, S., Kim, J., No, W., Seo, E., Song, S., Won, Y., & Lim, H. (2019). *Core competency test for college student questionnaire manual*. Seoul: Inset.

Miller, D., Topping, K., & Thurston, A. (2010). Peer tutoring in reading: The effects of role and organization on two dimensions of self-esteem. *British Journal of Educational Psychology, 80* (3), 417–433.

Nestel, D., & Kidd, J. (2005). Peer assisted learning in patient-center interviewing: The impact on student tutors. *Medical teacher, 27* (5), 439–444.

Nomura, O., Onishi, H., & Kato, H. (2017). Medical students can teach communication skills–A mixed methods study of cross-year peer tutoring. *BMC Medical Education, 17* (1), 103.

Robinson, D.R., Schofield, J.W., & Steers-Wentzell, K.L. (2005). Peer and cross-age tutoring in math: Outcomes and their design implications. *Educational Psychology Review, 17* (4), 327–362.

Topping, K.J. (1998). Peer assessment between students in colleges and universities. *Review of Educational Research, 68* (3), 249–276.

Topping, K.J. (2005). Trends in peer learning. *Educational Psychology, 25* (6), 631–645.

Van Berkel, H.J., & Dolmans, D.H. (2006). The influence of tutoring competencies on problems, group functioning and student achievement in problem-based learning. *Medical Education, 40* (8), 730–736.

Volet, S., Summers, M., & Thurman, J. (2009). High-level co-regulation in collaborative learning: How does it emerge and how is it sustained?. *Learning and Instruction, 19* (2), 128–143.

World Economic Forum. (2015). *New vision for education: Unlocking the potential of technology.* British Columbia Teachers' Federation.

Zeneli, M., Thurston, A., & Roseth, C. (2016). The influence of experimental design on the magnitude of the effect size-peer tutoring for elementary, middle and high school settings: A meta-analysis. *International Journal of Educational Research, 76*, 211–223.

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Social Pedagogy

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Social Aspects of the Development of the Management Systems of Eastern European Universities in the Transformation Period

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Abstract

The article describes the principles of cultural conformity, environmentalism and homeostasis as organizational in relation to the cultural and educational space of the university as a complex social system. On the basis of the analysis of the systemic changes that accompanied the newest stage in the development of universities in Eastern Europe (from the mid 1980s up to now) a periodization of this stage was completed. Each of the stages is characterized by a description of the above-mentioned organizational principles of work, the transformations of key characteristics of social governance and the overall logic of their development. The forecast of transformational changes for the nearest future in the context of social aspects of the development management of universities in Eastern Europe is made.

Keywords: *Eastern Europe, social management, university, cultural and educational space, management, development, periodization, cultural conformity, environmentalism, homeostasis*

Introduction

Modern tendencies in social development are characterized, first of all, by a vagueness, a considerable degree of generalization, and the absence of specifically formulated goals, of which the main is to secure a way of existence for mankind

today, thanks to which the future will be possible and prosperous. Taking a triune concept of sustainable development, comprising economic, social and environmental factors, which together ensure sustainable development, a university is one of the institutions within higher education in which all three components operate simultaneously. The problem of implementing systemic approaches to managing the sustainable development of higher education can be viewed from both the subject/object and instrumental (both research and management) perspectives.

More people are going to university every year. There is a strong resistance to the notion that the university as a collegial and critical institution is dead, among academics as well as among the broader public. In the past, universities showed dissent, a civil courage conscience, but now instead they have become little more than pseudo-businesses, which render them incapable of remaining critical, or independent (Izak et al., 2017).

Higher education has been evolving rapidly to react to fast changing demands and needs. A new stage of institutional change in education usually begins with the adoption of new legal standards. Demographic changes affecting a large number of students have to be taken into consideration when designing higher education policies and goals. Many countries are concerned about the decreasing number of young people and how such changes will influence higher education participation and funding. The twentieth century aimed to outline the delineation of the national higher education systems of the post-communist period. This was linked in the post-Soviet states to the results of transformations within the Bologna Process, and in other post-communist countries, rather to its accompaniment and stabilization of national higher education systems. For example, this is happening in Poland, which is a leader in the field of higher education in Eastern Europe.

The components of the higher education system are elements that determine both the quality of the institution as a whole and its organization. This is in line with the concept of sustainable development, in particular its social component of human-centrism, as a key foundation of global education policy and the principle of educational activity. This approach is the key to achieving internal social and inter-generational justice, thus ensuring the stability of social and cultural systems on the basis of principles of pluralism and tenacity, and it defines the main features of social governance in higher education.

The transformations taking place in university education in Eastern European countries have several prerequisites: globalization processes, digitization and postmodern virtualization of social existence. For Ukraine, Belarus, Russia and Moldova, it is also possible to add the difficult socio-economic conditions that are underpinned by serious political crises. The uncertainty of circumstances, the

current social, economic and political situation in Eastern European countries, on the one hand, complicate the forecasting, and on the other actively stimulate it in order to find ways to solve urgent problems. Therefore, conducting multidisciplinary research using a systemic approach to the social management of higher education, including university education, is relevant.

It is noted above that the problem of the implementation/exploitation of the systemic approach is the problem of the subject / object. In addition, the key change of system elements in higher education and the principle of preserving the stability of the system are highlighted. Hence, the purpose of this study is to identify a possible object and to apply the systemic approach to carry out a retrospective analysis of its functioning and development, to identify a variant of further evolution, and to characterize the approaches of social management in higher education.

Status of Scientific Study of the Problem

The analysis of the scientific elaboration status of the problem shows that various scientific disciplines often determine authors' considerations on higher education; at the same time there are studies of integrated nature, as well as those whose results can be applied to the studied object. In particular, for the purposes of this article, the works of the following scientists were explored: V. Bekh, D. Bell, H. Boer, B. Clark, M. Czerepaniak-Walchzak, J. Freeman, M. Hannan, M. Izak, M. Kostera, D. Manuel-Navarrete, O. Smolinska and M. Zawadzki. Despite the authors' attention to the concept of university and university education, their understanding of the problem of systemic organizational analysis of the principles of Eastern European universities functioning during the latest period of transformation (1990–2018), from the philosophical, managerial, pedagogical, cultural, sociological positions, and application of the relevant principles of social management, remain unresolved.

Selecting the Object for System Analysis

The problem of the object and the study of the characteristics of the system, which will enable us (as efficiently as possible) to determine the forms, methods, and mechanisms of universities which function as elements of educational systems in Eastern Europe, can be solved in several ways. The first, and most obvious, is the

analysis of the university (classical or specialized) as an organization (institution). The second is the analysis of an organization in its cultural and educational space. Choosing the first analysis is more in line with the economic component of the concept of sustainable development, which is more predominant in social, political and scientific discourse. Choosing the second method is oriented more towards the social component and, in addition, concerns the internal mechanisms of activity, and therefore, it is of prognostic importance for management. For these reasons, as the object of systemic analysis the cultural and educational space of university was selected as a special type of local chronotype. This arose as a result of the activities of individual and collective subjects in acquiring professional engagement, and, in turn, defines the parameters of both as this reality, and so as an activity of subjects in its acquiring and organizing (Bekh, 2000). Structural reforms aim to change the landscape of higher education: incremental changes unfolding over longer periods of time and reforms targeting other aspects of higher education. Structural reforms aim at horizontal differentiation, that is, transformation of the function of different types of higher education institution (Boer et al., 2017).

Principles of the Organization of the Cultural and Educational Space of a University

Three leading principles of organizing the cultural and educational space of a university ensure effectiveness : the principle of cultural conformity, the principle of environmentalism and the principle of homeostasis (Clark, 2003). The separation of these principles is made for reasons of functionality: the principle of cultural correspondence defines and regulates the content of cultural patterns; it is a specific "shell" of the cultural and educational space and can be characterized as rigid or plastic, with varying levels of penetration and different configuration of apertures that, in fact, connect the environment with the internal content of the university, its system of values, transparency and so on. Ideally, the cultural environment of a modern university should be characterized as variable, dialogical, tolerant, reflexive, spiritually and culturally rich, capable of self-creation, self-genesis, self-reformation and self-denial (Bell, 1976).

The principle of environmentalism functionally links the cultural and educational space of the university with the external environment; it is a characteristic system that determines the type of university as an organization (closed, open, natural, artificial, etc.). If cultural conformity is, metaphorically, a shell, then environmentalism is the type of "input-output" to the system, which can, accordingly,

be stable and orderly (a closed system); with variable input-output parameters (an open system); or responsive, adaptive "input-output" (a natural system). It is governed by the principle of a quasi-natural object, which purposefully, evolutionarily and gradually develops and functions according to its own laws, which ensure its viability (survival). In this regard, there is a continuing scientific discussion about the contribution of educational institutions to artificial communities in the light of the purpose of creation, a center of control, hierarchical structure and vertical communications, lack of redundancy (outweighing the effort over the result) and purposefulness of activity. The question can indeed be discussed, since the approaches taken at the present stage are social approaches, aimed at creating the conditions for the transition of universities from artificial to natural organizations, which has been happening gradually since the 1980s.

Therefore, the cultural and educational space of the university can be analyzed as an ecosystem with a complex structure that resides in the system of population and ecological niches. A population-ecology perspective on organization-environment relations is proposed as an alternative to the dominant adaptation perspective (Hannan, 1977). Socio-cultural and ecological subsystems are not organizationally equivalent, because human agents shape social organization by making reflexive and relatively autonomous decisions about reproducing, or challenging social rules (Manuel-Navarrete, 2015).

The principle of homeostasis, which, in fact, characterizes the cultural and educational space of the university as a natural system, and is capable of preserving the relative dynamic constancy of the parameters of composition and functions, acts as a counterbalance mechanism to external influences. Partly by the effect of this principle can inertia in the university's cultural and educational space as regards change be explained; a tendency to increase in closeness, commensurate with the increase in the power of external influences; some "encapsulation" of values; the formation and consolidation of traditions which are not always productive but always strong. Balancing the effectiveness of the principle of homeostasis as a guarantor of the development of the organization, its collectiveness of goals (in the homeostatic mode) and the basis of formation and preservation in its own organic integrity (in the homeostatic mode), ensures the transformation of social (national, political, etc.) ideas into a phenotype of social organism, in our case – the cultural and educational space of the university.

Therefore, the cultural and educational space of the university can be characterized as a complex, active, natural open system, the key feature of which is the implementation of bilateral communications; for cultural conformity – its content, and environmentalism – a positive type of connection with a beneficial conno-

tation, which allows the possibility of external influence, and for the principle of homeostasis – a positive type of communication with a negative meaning.

Periodization of Systemic Changes in Higher Education in the Post-Soviet Countries in Eastern Europe

First of all, it should be noted that the formation of the cultural and educational space of universities in the latest stage of development is connected with formation and development in different periods, but for the analysis we take into account only the Soviet period and only those educational institutions that were functioning as institutions during this period. We put more emphasis on system characteristics than on the features of the current specialization of the university (pedagogical, medical, technical, etc.), which, after all, also affects the object, but is not the objective of this research. In order to characterize systemic changes in the organization of the cultural and educational space of the university, it is advisable to determine their stages. M. Czerepaniak-Walczak believes that the integrality/incompleteness of reforms and their typologies should be taken into account during the analysis, as well as the source of the reform initiative (whether they stem from transnational educational policies, etc. or are the result of national decisions) (Czerepaniak-Walczak, 2019). We agree with this, but let us add that the characteristics of the agents and the essence of the changes are also important.

Based on the analysis of documents and historical facts, we consider it appropriate to divide the period of development of profession-oriented universities in Eastern Europe in the twentieth century into four stages:

- Stage I – from the establishment (in fact – from the second half of the 1940s) of institutions to 1984 (the beginning of the last Soviet educational reform, which introduced a variable component in the curricula for both secondary and higher education). It is appropriate to call this a period of certainty;
- Stage II – the second half of the 80s – the first half of the 90s. Its key feature was the large number and variety of external influences. The "open door" metaphor is appropriate for this period;
- Stage III – mid 90s – early 2000s. The main process was institutional reorganization: institutes were transformed to the status of classical and specialized universities. This is the period of the university;

- Stage IV – from 1999 (state parties signing of the Bologna Declaration) until 2010, when the reform of national higher education systems was to be completed – a new period of stabilization and certainty, autonomisation of universities;
- Stage V – since 2010, still going on. Reinforcing external influences. The second period is the "door opening".

In this stage, the prognosis for the next period (re- or deinstitutionalization) is clearly visible, as well as the tendency for the length of the periods to reduce, which is peculiar for the evolutionary process. It is necessary to note that changes in legislation are not synchronous with managerial and meaningful changes in internal interactions within both the European educational space and within each national education system. Therefore, the chronological framework of periodization is conventional.

Characterization of the Effectiveness of the Cultural Conformity, Environmentalism and Homeostatic Principles at Different Stages of Development of the Cultural and Educational Space of Universities

In the beginning of the article we describe the way in which the principles of organizing the cultural and educational space of universities operate. In this section we describe their action at different stages of change.

The first stage (from the formation (in fact, from the second half of the 1940s) of institutions to 1984) occurred as a period of formation, stabilization and "solidification" of the system. Since we are also talking about the cultural aspect, it is appropriate to mention O. Spengler and his relation of culture and civilization as a transition from creativity to a mechanism. The cultural and educational space of the institutions of the time did indeed resemble a well-established mechanism by a type of efficiency. In particular, the principle of cultural responsibility, which functioned not at the level of institutions (especially – not at the level of establishments), but at the level of the education system, allowed only verified forms, clearly and definitively regulating the activities of its elements. Therefore, the style of government was authoritarian, both in the educational system and at the level of institution.

The principle of environmentalism could only work in certain configurations of the valve of admission of regulatory influence and release of its result. The principle of homeostasis also worked at the system-wide level, maintaining

certain configurations (forms, types, ways of interaction of the system with the surrounding environment). Consequently, the cultural and educational spaces of institutions of higher education did not exhibit features of the system; instead, all higher education could be metaphorically described as a nut with a solid, low-pass, non-plastic sheath. Some of the "protectors" of this system still exist and operate now in separate cultural and educational spaces partly as myths, sometimes as a specificity of management, but still, always, of bureaucracy. The educational reform of the USSR in 1984, through the introduction of the variational component in curricula, influenced the cultural context (its ethnic, regional, and other elements), which also led to a change of principle positions, both in the content of education and in the content of the subjectivity of culture (teachers innovators, new didactic and educational principles, etc.). At last, this led to the beginning of the second stage.

Changes in the second stage (the second half of the 80s - the first half of the 90s) in the organization of cultural and educational space of universities, which began with the opening of the system, using the nut metaphor, occurred as it split-simultaneously, in many places at the same time, and in a short time (compared to the previous period). Therefore, the principle of cultural conformity ceased to be a reliable shell and filter. The principle of environmentalism, which acted mainly as a tolerance of different influences on the system, was a point of breach. The principle of homeostasis functioned as a natural protection for elements that had lost their outer shells, managed internal integration relationships, and manifested itself, not as a power, but as an aggressive energy for change, its crushing criticism an active influence on agents of change in the cultural and educational space in order to eliminate them (often through discreditation, or squeezing). So, the second stage ended with the destruction of the previous system, within which the preconditions for several new stages took place (institutions capable of acting independently, building their own culture, which were in the future to become classical universities; institutions capable of functioning as elements of another system – universities with specialization; the so-called profession-oriented). At this stage, the role of leaders of educational change became noticeable, and the type of management became adaptive.

The third stage (the mid-90s – early 2000s) was in line with the changes which started in the previous stage: based on institutes classical, specialized universities appeared, and institutions such as institutes and academies remained. An appropriate effectiveness was also shown by organizational principles: as far as universities were concerned, cultural correspondence formed their own shell (history was written, internal traditions were formed). Because of this the prin-

ciple of environmentalism became selective (only those influences that were in conformity with the existing cultural and educational principles of activity were allowed, others were ignored). The principle of homeostasis operated from inside the cultural and educational space of a particular educational institution, often following the model of "trench warfare" to give the new system the opportunity and time for stabilization. This is the period of the emergence of new scientific schools, as well as other traditions that have increasingly given the educational and scientific culture of the characteristics of a clan. Criticism of this period must take into account the objective circumstances and conditions for the "closure" of new systems, which, in the next period, became the culturally determined basis for the autonomy of universities. A period of managing actions and people, not goals and social connections.

The fourth stage (from 1999 to 2010) can be called the stage of stable development of universities (despite the simultaneous reduction in the total number of universities). These "grew" during the second period, when the birth rate was still quite high (for example in Ukraine in 1988 – 1.7 per woman versus 1.0 in 1997 (*The population of Ukraine*), and was cherished by the education of the same second period. Traditional national and cultural values, including education, were of equal focus with the current declared values of the cultural and educational space of universities: increased availability of higher education through the introduction of equal conditions of entry by means of centralized testing in Belarus, a single state examination in the Russian Federation, and external, independent testing in Ukraine, and commercialization. The principles of organization of the system of the cultural and educational space acted in a similar way as in the first period, with the significant difference, not at the level of the educational system, but at the level of universities, (the system of which was formed in the previous stage), that they began to show self-destructive tendencies, due to overly rigid organization (at first periodically), a limited supply of "fresh blood" (they have the tendency to employ their own graduates who do not require enculturation efforts), and the "stitching" together of ambivalent values, e.g. education as a vocation and as a commodity, science as an intellectual and commercial activity, etc. If an open natural system allows such combinations to be manifested, for example, in the laws of evolution, then social systems that have arisen and formed in the conditions of limited time and material resources naturally come to the next stage, which is violation of sustainability and integrity.

We claim that the next stage, which is now underway, will be characterized, in the first place, by the destruction of the shell of cultural correspondence (despite its severity, this is not as massive a change as at the turn of the 80-90s, there-

fore, there is no need to be afraid of complete collapse of the whole system of higher education, the expectation of which is one of the myths of the cultural and educational space, generated by the action of the principle of homeostasis), and secondly, the effect of environmentalism is changing its orientation from being internally socially oriented (often ideologically, or politically conditioned) to being externally oriented (setting-up horizontal links with foreign universities). Again, very often this is generated by the action of the principle of homeostasis, a thesis about the destruction of national-cultural traditions in higher education, but without specification. At the same time, from the standpoints of the principles analyzed, the complexity of the current period lies in the subtlety, or absence, of the organizational "fat layer" of the profession-oriented universities (hence the weakness of the influence of cultural conformity), the need to generate new values and "stitch" them together with the existing ones (formed and established in previous periods), the simultaneity of the processes of the coming of subjectivity and their objectification in the new organizational configurations of the cultural and educational space of the university, etc.

Peculiarities of Social Management in Higher Educational Institutions in Forming the System of Student Values at the Current Stage

The social component of pedagogical technologies is the main link in social management, because the success of teachers' activity depends mostly on the coherence of their work, the coherence of actions, the understanding and acceptance of the goals and objectives by each member, the significance and specificity of their activities; the role, place, and opportunities for their realization. On the other hand, today every teacher, as well as administrator in education, must have competences in democratic communication, because this is at the heart of the pedagogy of cooperation and involves the implementation of teacher's preferences through student acceptance of information. The social governance model should provide a social order that defines the structure of the state educational standard. Socio-governance includes open, closed and mixed social governance. Open social management involves the control and correction of the process of organizing education, with a usuall end result: the student (teacher, employee), acting strictly by instruction, should always get the right result; there are no errors in the intermediate stages of the task, only standard difficulties can be eliminated.

Closed social management requires constant monitoring (control) of every element of educational activity and the main parameters of its quality, as well as the control and correction of educational activities deviating from their predefined values (such as cultural patterns). This kind of management also requires the existence of a direct link between the subject and the object of management, which is intended to convey the relevant instructions. Another required element is the availability of feedback about the results of educational activities (including the results of educational interactions, the effectiveness of management initiatives, and the integrity and content of characteristics of the cultural and educational space). Of course, a closed social management is much more effective, but it requires a lot more effort and time. Thus, social management is developed at the various stages of the university, in both open and closed environments. It developed at the second, third and fourth stage of university in the former type of environment, while at the first, modern stage in the latter one). The holistic view of the analyzed criteria of cultural conformity, and the principles of homeostasis and environmentalism suggest that mixed social governance should be applied. Organizational and pedagogical factors and conditions that ensure the effectiveness of any educational / pedagogical technology, including cultural-oriented technologies for the formation of socio-spiritual values, include: material and technical resources; scientific and pedagogical support; system of methods of organization and functioning of approaches of social management, both by activity of single subjects (students, teachers, administrators of higher education), and collective subjects (the cultural and educational space of the university). A student as a living being, a free and spiritual person, may also be the focus of educational communications for social management; and the university (its cultural and educational space) as the subject of a culture of education where values are objectified. A common feature of both entities is their need for self-development in the inner world. This creates the preconditions for the development of activity, initiative, creativity, and engagement. Criteria for differentiation and individualization of the educational process with relation to the subject-student are peculiarities of the course of cognitive mental processes; needs, value attitudes, and personality characteristics. The subject-university in the aspect of social management also has individual characteristics, which are determined by the peculiarities of its history, culture, and which materialize in artifacts (social facts, myths, etc.).

There is a dynamic connection between the two subjects/objects of social management (the student and the cultural and educational space of the university). As a result, the individual characteristics of the student, in the real organization of

student-centered educational interactions, are objectified into the content of social facts of the university's cultural and educational space (success stories, achievements, failures, difficulties); and social facts, myths and the rest are reproduced in educational communications in the space of university, filling general and specialized competencies with real content, and creating the added educational value of a university education of each student in particular.

Therefore, in the social management of educational interactions in university education is pledged the security of improving the quality of education on an innovative basis, on the basis of modern scientific and pedagogical support of the process of obtaining education; and implementation of competency approaches.

The effectiveness of social management of the personality development of a student, and/or development of the university, is multifactorial and determines the effectiveness of the social governance model as a whole. This eliminates the exaggeration of the weight of individual methods of work, teaching and upbringing, or exaggeration of the role of methodological developments that do not take into account the specific conditions and individual abilities of students: that is, rationality, reasonableness, a sense of measure, unity of the physical, world-view, spiritual and intellectual development of the young personality. Higher education in Eastern Europe is now at different stages of transition from classical to post-classical methodological approaches (post-Soviet states are still very close to classical), so implementation of the principles of social governance contributes to the development of subjectivity, respectively via competency- and culturally-oriented approaches.

With adequate social management in the structure of higher education institutions, the student can achieve significant educational results, and engage in a continuous process of self-improvement and self-education. The introduction of the principles of social management at university contributes to the development of its cultural and educational space, focusing on internal and external interactions on institutional development, increasing capacity, improving the quality of human resources, and increasing the added educational value.

Conclusions

For the purpose of analysis, with the aim of reviewing the past and making a forecast, the cultural and educational space of university was chosen as a systematic formation. The three main principles of organizing the cultural and edu-

cational space of universities are described: principles of cultural correspondence, environmentalism and homeostasis. Periodization of the development of Eastern European higher education was carried out, in view of systematic changes in the organization of the cultural and educational space of universities. According to the stages distinguished, key systematic features of the cultural and educational space of developing universities in Eastern Europe, including the post-Soviet region, are characterized and a forecast is made for the near future. The character of transformational changes in social aspects of development management of universities in Eastern Europe, predicted for the coming period, is substantiated.

Prospects for further research on this topic are to study the individual characteristics of a university's cultural and educational spaces, to specify the values circulating in them, to identify the signs of the closest public institutional environment, to determine the principles of managing organizations and the values which are under conditions of constant transformation.

References

Bekh, V.P. (2000). Natsionalnaya ideya: smyisl i mehanizm deystviya [The national idea: the meaning and mechanism of action]. *Naukovi pratsi istorychnoho fakultetu Zaporizkoho derzhavnoho universytetu*, 11. Retrieved from: http://istznu.org/dc/file.php?host_id=1&path=/page/issues/11/./beh.pdf.

Bell, D. (1976). *The coming of post-industrial society: a venture in social forecasting*. Reissue edition. New York: Basic Books.

Boer, H.F., File, J.F., Huisman, J.F., Seeber, M.F., Vukasovic, M.F., & Westerheijden, D.F. (2017). *Policy Analysis of Structural Reforms in Higher Education. Processes and Ourcomes*. Cham: Springer International Publishing. doi: 10/1007/978-3-319-42237-4.

Clark, B.R. (2003). Sustaining change in Universities: Continuities in case studies and concepts. *Tertiary Education and Management*, *6*(2), 99–116.

Czerepaniak-Walczak, M. (2019). Education reform – cui bono? *The New Educational Review*, *55*, 185–194. doi: 10.15804/tner.2019.55.1.15.

Hannan, M., & Freeman, J. (1977). The Population Ecology of Public Organizations. *American Journal of Sociology*, *82*(5), 929–964. doi: 10.1086/226424.

Izak, M., Kostera, M., & Zawadzki, M. (2017). *The Future of University Education*. Springer International Publishing. doi: 10/1007/978-3-319-46894-5.

Manuel-Navarrete, D. (2015). Double coupling: modeling subjectivity and asymmetric organization in social-ecological systems. *Ecology and Society*, *20*(3): 26. http://dx.doi.org/10.5751/ES-07720-200326.

The population of Ukraine. (n.d.). Retrieved from: http://database.ukrcensus.gov.ua/ukrcensus/Dialog/statfile1_c_files/pasport.files/pasport/80/80_03.htm.

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Generational Membership and the Intensity of Social Media use Among Young Adults

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Abstract

Young adults use social media to realize both social and educational goals. The aim of the study is to investigate whether there are any differences in the intensity of Facebook use between Generation Y and Generation Z. In addition, the size of friend networks has been analyzed.

The Questionnaire of the Intensity of Facebook Use (Kuś, & Szulżycki, 2014) was used. The study was conducted in a group of 100 persons, 50 representatives of Generation Y and 50 representatives of Generation Z.

The results show that there are generational differences in the intensity of Facebook use. It is shown that having a large number of friends is related to the way in which Facebook is used among representatives of Generation Y.

Key words: *generational membership, Facebook, young adulthood*

Introduction

The Internet is used by young adults to support educational and social development (Juszczyk, 2015). Until now, research has been focused on representatives of Generation Y. However, when representatives of a new generation enter higher education, it is important to identify their needs and values, to investigate the way in which they use social media and how intensively.

Recent research stresses the necessity to adjust educational methods to students' needs, and that educational reforms are also conditioned by the participation of

Generation Y representatives in global culture (DiLullo, McGee, & Kriebel, 2011). Thus, it is vital to verify popular opinions on the functioning of particular generations in the digital space in order to understand the role of new technologies in the process of learning (Kennedy et al., 2010).

A generation is a group of people of a similar age, living in a particular time and historical space. Similar life experience results in creation of a group personality (Howe, & Strauss, 2000). Twenge, Campbell & Freeman (2012) compare generational differences to cultural differences, as socialization of every generation is based on different systems of values, similar to socialization in different cultures.

New technologies have become an inherent element of the lives of young adults, which has an impact on their behavior, and their expectations concerning education and life style (Howe, & Strauss, 2000; Oblinger, Oblinger, & Lippincott, 2005). Young adults, (persons aged between 18 and 35, Brzezińska, 2015), are the most numerous group of Facebook users and are extremely affected by global culture (Raport Gemius, 2015).

Generation Y is not perceived unequivocally; some researchers indicate that representatives of this generation are socially engaged and community-oriented (Howe, & Strauss, 2000), while others claim that representatives of this generation focus on themselves and on achieving external goals, such as material resources and fame (Twenge, Campbell, & Freeman, 2012). For Generation Y it is important to create social networks through the Internet (Valkenburg, Peter, & Schouten, 2006); to be in contact with close friends and relatives (Palfrey, & Gasser, 2008); and to establish new social norms and patterns of behavior by means of using social media (Bolton et al., 2013).

Generation Z, also described as global, does not know a reality without the Internet (Howe, & Strauss, 2000); representatives of this generation value family and safety, and cherish traditional values (Williams, & Page, 2011), which is reflected in their attitude to religion (Turner, 2015). Groups they belong to are also important for them, because they form part of their identity (Williams, & Page, 2011). In addition, representatives of Generation Z prefer to communicate through social media rather than face-to-face (Törőcsik, Szűcs, & Kehl, 2014).

The use of the Internet can satisfy many psychological needs (Suler, 1999), however the main motivation to use Facebook is the opportunity to self-present and to satisfy the need for belonging (Nadkarni, & Hofmann, 2012). Facebook makes it possible for the individual to construct a socially desirable identity (Zhao, Grasmuck, & Martin, 2008) by creating one's own profile, or by identifying with a group of persons described as friends (Boyd, & Ellison, 2007). Meta-analyses indicate that the size of someone's virtual social network increases until he/she reaches

young adulthood; while afterwards its gradual decrease can be observed (Wrzus et al., 2013). Being extravert helps you to get more friends (Amichai-Hamburger, & Vinitzky, 2010); and narcissistic persons often try to make as many friends as possible (Bergman et al., 2011). Having friends whom one does not know in person is related to having lower self-esteem in comparison with one's perception of others (Chou, & Edge; 2012).

Generation Y presents a high level of academic optimism (Sax, 2003) which helps them to achieve success in education (Hoy, Tarter, & Hoy, 2006). However, if someone does not make an effort to achieve a desired goal, he/she may experience conflict (Lancaster, & Stillman, 2002), because representatives of Generation Y want to get good marks, while making a minimum contribution (Sax, 2003).

In accordance with the cultural script, the teaching process is adjusted to the preferences of students (Twenge, 2014), which coincides with the expectations of representatives of Generation Y, who want to make autonomous decisions about the choice of the content, time and methods of teaching. Instead of the transmission of knowledge from the teacher to the student, they prefer interactive methods of teaching (Carlson, 2005), in small groups, with the use of technology (Prensky, 2001), and visual and kinesthetic aids (Tapscott, 1998). Apart from this, representatives of Generation Y use Facebook as a tool in communication for educational purposes, especially when they perform group tasks (Bullen, Morgan, & Quayyum, 2011).

Some researchers claim that Generation Y differs from other generations in the use of cognitive processes, because some of its representatives have problems with critical thinking. Fast living results in situations where representatives of Generation Y do not have time for reflection, and so instead of reading and considering different questions, they prefer to learn from experience (Prensky, 2001, Prensky, & Berry, 2001). The evaluation of their competences is made with standardized tests which do not require creativity (DeBard, 2004), which is why it is advisable to use interactive methods in the process of education (Zemke, Raines, & Filipczak, 2000), which helps learners to acquire knowledge and use it creatively (Tapscott, 1998).

Methodology of Research

Research Purpose

The aim of the study is to investigate whether Generations Y and Z differ in their use of Facebook. The intensity of Facebook use by young adults and the size of their networks of friends were analyzed.

Research Sample

The study was conducted on 100 young adults: 50 belonging to Generation Y and 50 belonging to Generation Z. Generation Z included persons aged 18–23, while Generation Y included persons aged of 24–35. The generational division was based on the boundaries drawn for the two generations: Generation Y (1981–1994), and Generation Z (1995–2009) (Oblinger, Oblinger, & Lippincott, 2005). The research participants were recruited by means of the "snow ball" method.

The mean age in the research group was: M=24.86; SD=5.16; for Generation Y - M=29.28; SD=3.48; for Generation Z - M=20.44; SD=1.38. More than half of the research participants had completed secondary education (57%); 39% higher education; while 4% had finished vocational education. The participants differed significantly with respect to place of residence: 36% lived in cities with more than 100,000 inhabitants; 35% lived in cities with less than 100,000 inhabitants; and 29% lived in the country.

Instrument and Procedures

Each research participant received a set consisting of questions concerning socio-demographic information and a questionnaire. The paper and pencil survey was conducted individually. There was no Internet-mediated survey. The research participants did not receive any financial gratification.

In the study, the following research tool was used:

The Questionnaire of the Intensity of Facebook Use (Kuś, & Szulżycki, 2014) which can be used to evaluate the intensity of Facebook use (*Facebook as an inherent element of life*), and to measure 5 styles of Facebook use: *Facebook celebrities, Players, Conscious self-presenters, Fanpage members,* and *Information seekers.* The styles were distinguished on the basis of Evans' (2012) typology. The questionnaire consists of 51 items where participants have to give their opinion on a 4-point scale where 1 means *I absolutely disagree,* and 4 - *I absolutely agree*. Reliability for the whole tool was found to be α=0.93.

Data analysis

To analyze the data, the analytical software package Statistica 13.1 was used. The analysis of generational differences in Facebook use and the size of friend networks was conducted on the basis of a Student's t-test for independent variables characterized by normal distribution (*Facebook as an inherent element of life, Conscious self-presenters, Fanpage members*) while for variables without normal distribution (*Facebook celebrities, Players, Information seekers*, *number of friends on Facebook*) the nonparametric Mann-Whitney U test was applied. Spearman's

rank correlation was also calculated, to determine the relation between the size of friend networks and the intensity of Facebook use for each generation.

Research Results

The analyses conducted for two independent samples using the Student's t-test showed that representatives of Generations Y and Z differ in the use of two factors of Facebook use: *Facebook as an inherent element of life* and *Fanpage members*. Generation Z representatives significantly more frequently treated *Facebook as an inherent element of life* (M=32.68) in comparison to members of Generation Y (M=28.70). Moreover, representatives of Generation Z used Facebook to create groups (M=21.00) more frequently than representatives of Generation Y (M=18.44) (see Table 1).

Table 1. Generational membership and the intensity of Facebook use. Student's t-test results for two independent samples.

	Generation Y		Generation Z		T(98)	p-*value*	d
	M	SD	M	SD			
Facebook as an inherent element of life	28.70	8.45	32.68	9.21	-2.25	0.03	-0.44
Facebook celebrities	17.60	5.59	16.00	5.36	1.46	0.15	0.29
Players	7.68	3.98	9.22	5.15	-1.67	0.10	-0.33
Conscious self-presenters	16.38	4.07	17.04	4.97	-0.73	0.47	-0.15
Fanpage members	18.44	4.84	21.00	5.11	-2.57	0.01	-0.50
Information seekers	16.04	3.46	16.48	5.43	-0.48	0.63	-0.10

Note: The nonparametric Mann-Whitney U test used for variables with non-equal variance: *Facebook celebrities, Players, Information seekers* got identical results as far as the significance of the investigated differences is concerned.

The analysis of the size of friend networks in Facebook showed that representatives of Generation Z have more friends than representatives of Generation Y (U=735; Z=3.55; p<0,001). The results are shown in Figure 1.

The analysis conducted for generational membership and the number of friends in Facebook showed correlation only among representatives of Generation Y between the number of friends and the intensity of using the following styles of

Facebook use: *Facebook celebrities, Conscious self-presenters* and *Information seekers,* and the general intensity of Facebook use. The results are presented in Table 2.

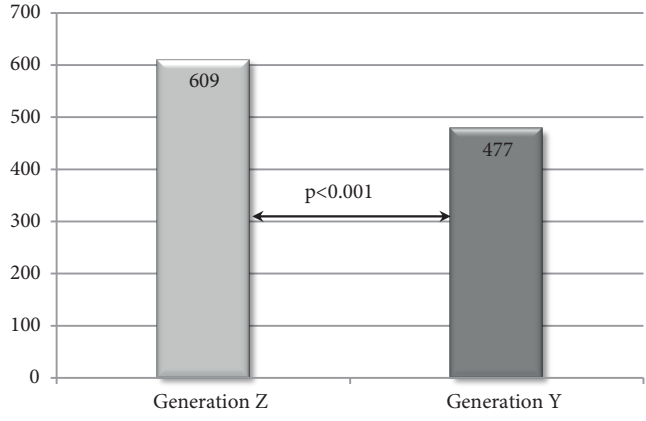


Figure 1. Generational membership and the size of friend networks in Facebook. The results of the nonparametric Mann-Whitney U test for two independent samples

Table 2. The intensity of Facebook use and the size of friend networks on Facebook. The results of the analysis of Spearman's rank correlation.

	Number of friends on Facebook	
	Generation Y	**Generation Z**
Facebook as an inherent element of life	0.50 **	0.00
Facebook celebrities	0.35*	0.13
Players	0.20	0.13
Conscious self-presenters	0.32*	-0.10
Fanpage members	0.26	-0.07
Information seekers	0.31*	0.19

Note: *p<0.05, **p<0.01

Discussion

The results of the research showed that representatives of Generations Y and Z differ with respect to two factors in Facebook use: *Facebook as an inherent element of life* and *Fanpage members*.

Representatives of Generation Z more frequently treated *Facebook as an inherent element of life* than Generation Y. This means that Generation Z combines their everyday routine with Facebook use, and that they use Facebook intensively. Devoting a lot of time to Facebook use has negative impact on academic achievements and preparation for classes (Junco, 2011). Besides, students that intensively use Facebook may neglect their assignments (Ryan et al., 2016), which can negatively influence their grade point average (Kirschner, & Karpinski, 2010).

Persons belonging to Generation Z more frequently used Facebook to create virtual communities than representatives of Generation Y. It is important for Generation Z to actively participate in groups, e.g. to comment on other people's posts or take part in discussions. These results correspond with the fact that members of Generation Z use Facebook mainly to create groups which they identify with (Williams, & Page, 2011). The use of social media may not only support the process of socialization but also provide a sense of belonging (Valkenburg, Peter, & Schouten, 2006), however the use of Facebook in this way may negatively affect academic achievements (Junco, 2011).

In addition, representatives of Generation Z have more friends than persons belonging to Generation Y. This may result from the fact that representatives of Generation Z more frequently use computer- or telephone-mediated communication (Törőcsik, Szűcs, & Kehl, 2014). A preference for contacts through the Internet may be related to a sense of control in the relation, because each person may terminate the contact whenever the relation does not meet their expectations (Ryan et al., 2016).

The size of social network correlated positively with the intensity of Facebook use and the following styles: *Facebook celebrities, Conscious self-presenters* and *Information seekers;* these correlations were observed only in Generation Y. The use of Facebook in order to report on one's life, conscious creating of one's self-image and a drive for popularity on Facebook may be related to narcissism (Twenge, & Foster, 2010), or may be an attempt to build one's self-esteem (Valkenburg, Peter, & Schouten, 2006).

The correlation between the number of Facebook friends and searching for information may be explained by the research results which indicate that persons belonging to Generation Y aim at getting information (Frand, 2000). Indications

that they value the use of search engines more than library queries have also been found, which results from the fact that they are able to get the information quickly and in a full form (Lippincott, 2005).

Limitations

It should be taken into account that in the above analyses the sample used was not very numerous. In addition, future research should also include other variables, such as narcissism, procrastination and grade point average, which would make it possible to determine the relation between the intensity of Facebook use and educational achievement; it is probable that persons who postpone learning use social media more intensively, and that this has a negative impact on their commitment and results in education.

Conclusions

Students often outdo their teachers in the ability to use new technologies, and expect changes to be taken into account in the educational process (Oblinger, Oblinger, & Lippincott, 2005). The use of social media, on the one hand makes it possible to get quick feedback, which may positively influence progress in education (Hattie, & Timperley, 2007), and support the process of socialization (Valkenburg, Peter, & Schouten, 2006), on the other hand, it may contribute to the deterioration of social relations in real life (Twenge, 2014).

It is recommended that the specific character of Generation Y be taken into account in the process of education. However, it is worth checking if the methods suggested would also be suitable for Generation Z. It should be stressed that the preference for the use of new technologies in teaching among Generation Y does not preclude the use of traditional forms of pedagogy (JISC, 2007).

References

Amichai-Hamburger, Y., & Vinitzky, G. (2010). Social network use and personality. *Computers in Human Behavior, 26*, 1289–1295.

Bergman, S.M., Fearrington, M.E., Davenport, S.W., & Bergman, J.Z. (2011). Millennials, narcissism, and social networking: What narcissists do on social networking sites and why. *Personality and Individual Differences*, *50* (5), 706–711.

Bolton, R.N., Parasuraman, A., Hoefnagels, A., Migchels, N., Kabadayi, S., Gruber, T., & Solnet, D. (2013). Understanding Generation Y and their use of social media: a review and research agenda. *Journal of Service Management, 24* (3), 245–267.

Boyd, D.M., & Ellison, N.B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, *13* (1), 210–230.

Brzezińska, A.I. (2015) Jak myślimy o rozwoju człowieka? [What do we think about human development?]. In: A.I. Brzezińska (ed.), *Psychologiczne portrety człowieka. Praktyczna psychologia rozwojowa* [Psychological portraits of a person. Practical psychology of human development]. Gdańsk: Gdańskie Wydawnictwo Psychologiczne.

Bullen, M., Morgan, T., & Qayyum, A. (2011). Digital learners in higher education: Generation is not the issue. *Canadian Journal of Learning and Technology*, *37* (1), 1–24.

Carlson, S. (2005). The net generation goes to college. *The Chronicle of Higher Education*. Retrieved 23/02/2019, from https://www.chronicle.com/article/The-Net-Generation-Goes-to/12307

Chou, H.T.G., & Edge, N. (2012). They are happier and having better lives than I am: the impact of using Facebook on perceptions of others' lives. *Cyberpsychology, Behavior, and Social Networking*, *15* (2), 117–121.

DeBard, R. (2004). Millennials coming to college. *New Directions for Student Services*, *2004* (106), 33–45.

DiLullo, C., McGee, P., & Kriebel, R.M. (2011). Demystifying the Millennial student: A reassessment in measures of character and engagement in professional education. *Anatomical Sciences Education*, *4* (4), 214–226.

Evans, D.C., Robertson, N., Lively, T., Jacobson, L., Llamas-Cendon, M., Isaza, H., Rosenbalm, S., & Voigt, J. (2012). Facebook's 8 fundamental hooks and 6 basic user types: A psychographic segmentation. *The Four Peaks Review*, *2*, 36–54.

Frand, J. (2000). The Information Age Mindset: Changes in Students and Implications for Higher Education. *Educause Review, 35* (5), 15–24.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, *77* (1), 81–112.

Hoy, W.K., Tarter, C.J., & Hoy, A.W. (2006). Academic optimism of schools: A force for student achievement. *American Educational Research Journal*, *43* (3), 425–446.

Howe, N., & Strauss, W. (2000). *Millennials rising: The next great generation*. New York: Vintage Books.

JISC (2007) Student expectations study, July 2007. *JISC*. Retrieved 20/02/2019, from http://www.jisc.ac.uk/media/documents/publications/studentexpectations.pdf.

Junco, R. (2011). Too much face and not enough books: the relationship between multiple indices of Facebook use and academic performance. *Computers in Human Behavior*, *28*, 187–198. http://dx.doi.org/10.1016/j.chb.2011.08.026.

Juszczyk, S. (2015). Fields of impact of social media on youth–Methodological implications. *Acta Technologica Dubnicae*, *5* (2), 80–86.

Kennedy, G., Judd, T., Dalgarno, B., & Waycott, J. (2010). Beyond natives and immigrants: exploring types of net generation students. *Journal of Computer Assisted Learning*, *26* (5), 332–343.

Kirschner, P.A., & Karpinski, A.C. (2010). Facebook and academic performance. *Computers in Human Behavior, 26*, 1237–1245. http://dx.doi.org/10.1016/j.chb.2010.03.024.

Kuś, J., Szulżycki, M. (2014). Kwestionariusz Intensywności Użytkowania Facebooka (KIUF) – opis procedury konstrukcji oraz przedstawienie wyników badania pilotażowego [The Questionnaire of the Intensity of Facebook Use (KIUF) - construction and results of pilot survey]. In: M. Wysocka-Pleczyk, K. Tucholska (eds.) *Człowiek zalogowany 2. Wirtualne społeczności [Human online 2. Virtual community]*. Kraków: Biblioteka Jagiellońska.

Lancaster, L.C., & Stillman, D. (2002). *When generations collide: Who they are, why they clash, how to solve the generational puzzle at work.* New York: HarperCollins.

Lippincott, J.K. (2005). Net generation students and libraries. *Educause Review*, *40* (2), 56–66.

Nadkarni, A., & Hofmann, S.G. (2012). Why do people use Facebook?. *Personality and Individual Differences*, *52* (3), 243–249.

Oblinger, D., Oblinger, J.L., & Lippincott, J.K. (2005). *Educating the net generation*. Boulder: EDUCAUSE.

Palfrey, J., & Gasser, U. (2008). *Born digital: Understanding the first generation of digital natives.* New York: Basic Books.

Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon*, *9* (5), 1–6.

Prensky, M., & Berry, B.D. (2001). Do they really think differently. *On the Horizon*, *9* (6), 1–9.

Raport Gemius (2015). Media społecznościowe przez pryzmat wieku użytkowników [Social media in the users age aspect]. *Gemius.* Retrieved 17/09/2018, from https://www.gemius.pl/agencje-aktualnosci/media-spolecznosciowe-przez-pryzmat-wieku-uzytkownikow-1787.html

Ryan, T., Reece, J., Chester, A., & Xenos, S. (2016). Who gets hooked on Facebook? An exploratory typology of problematic Facebook users. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 10* (3), 1–25. doi: 10.5817/CP2016-3-4.

Sax, L.J. (2003). Our incoming students: What are they like? *About Campus*, *8* (3), 15–20.

Suler, J.R. (1999). To get what you need: healthy and pathological Internet use. *CyberPsychology & Behavior*, *2* (5), 385–393.

Törőcsik, M., Szűcs, K., & Kehl, D. (2014). How generations think: research on Generation Z. *Acta Universitatis Sapientiae, Communicatio*, *1* (2014), 23–45.

Turner, A. (2015). Generation Z: Technology and social interest. *The Journal of Individual Psychology*, *71* (2), 103–113.

Tapscott, D. (1998). *Growing up digital*. San Francisco: McGraw-Hill Companies.

Twenge, J.M. (2014). *Generation me-revised and updated: Why today's young Americans are more confident, assertive, entitled- and more miserable than ever before*. New York: Simon and Schuster.

Twenge, J.M., & Foster, J.D. (2010). Birth cohort increases in narcissistic personality traits among American college students, 1982–2009. *Social Psychological and Personality Science*, *1* (1), 99–106.

Twenge, J.M., Campbell, W.K., & Freeman, E.C. (2012). Generational differences in young

adults' life goals, concern for others, and civic orientation, 1966–2009. *Journal of Personality and Social Psychology*, *102* (5), 1045–1062.

Valkenburg, P.M., Peter, J., & Schouten, A.P. (2006). Friend networking sites and their relationship to adolescents' well-being and social self-esteem. *CyberPsychology & Behavior*, *9* (5), 584–590.

Williams, K.C., & Page, R.A. (2011). Marketing to the generations. *Journal of Behavioral Studies in Business*, *3* (1), 37–53.

Wrzus, C., Hänel, M., Wagner, J., & Neyer, F.J. (2013). Social network changes and life events across the life span: a meta-analysis. *Psychological Bulletin*, *139* (1), 53.

Zemke, R., Raines, C., & Filipczak, B. (2000). *Generations at work: managing the clash of veterans, boomers, X'ers, and nexters in your workplace.* New York: Performance Research Associate.

Zhao, S., Grasmuck, S., & Martin, J. (2008). Identity construction on Facebook: Digital empowerment in anchored relationships. *Computers in Human Behavior*, *24* (5), 1816–1836.

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The New Educational Review

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A Systematic Review of Theoretical Foundations for Pedagogical Strategies to Promote Positive Behavior

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Abstract

This study analysed the theoretical foundations utilised by past empirical research in order to understand the pedagogical strategies used in schools for promoting positive behaviour. The analyses also include how pedagogical theories underpinned past research on positive behaviour enhancement. Samples for this study were academic papers obtained from four main databases: the Australian Education Index, British Education Index, ERIC (Educational Research Information Centre) and Scopus. By using a systematic review technique, a total number of 143 papers were found to be relevant for further analysis. Results revealed that four theoretical models dominate the studies examined, namely Applied Behavioural Analysis, Social Capital theory, Culturally Responsive Classroom Management, and Ecological Systems theory. This study recommends understanding of those theories is important in designing modules for positive behaviour enhancement in schools.

Key words: *positive behaviour enhancement, pedagogical strategies, systematic review, theories*

Introduction

The importance of positive behaviour enhancement may be seen as grounded in the United Nations Convention on the Rights of the Child (1990). The convention states that all governments should protect children from harm (Article 36), dangerous drugs (Article 33), sexual abuse (Article 34) and abduction (Article 35). According to this convention, school pupils should be treated with respect and have the same rights regardless of their ethnic background and their needs (ordinary or disability). Children should be part of the decision-making regarding their rights (Articles 12–15, 17). They should not be imprisoned for breaking the law because they are not mature enough to make their own way in the world, and they should not be treated cruelly (Article 37) as they need correction more than punishment. Although the convention is not part of a binding international law, it provides a general framework and a common standard of human rights for all countries. This means that any educational policy throughout the world should concur with this international framework. However, previous research shows that the convention has not fully influenced educational policy in some countries. For instance, the use of corporal punishment in 22 states in the USA (Owen, 2005) and in Malaysian schools is contrary to Article 37. It is therefore important to understand the rationale behind government policy.

Pedagogical Strategies for Excellent Teaching

According to the Malaysian model, an effective teacher may become an excellent teacher if they excel in six key criteria that are (1) demonstrates good behaviour; an ethical teacher; a role model, (2) expert in his/her subject area; expert in teaching and learning; has excellent time management; has excellent resource management; is able to identify pupils' needs and problems; is very informative; and has excellent information technology skills, (3) is able to improve pupil learning in line with the National Educational Philosophy, (4) is an excellent communicator; is competent to deliver ideas; and is an effective communicator, (5) has clear vision, is proactive, shows initiative, is responsive and innovative, (6) is competent to generate new ideas in education and happy to share their knowledge and skills. He or she should be able to integrate counselling skills, such as problem-solving techniques, in their daily interactions with pupils. These models outline the definition of effective (or excellent) teachers from the government's perspectives. However, it can be argued

that these prescribed attributes of effective teachers are too idealised and vague, and seem to be unrealistic.

Methodology

Aims of the Study

This study aimed to find what are the theoretical foundations utilised by past empirical research in understanding pedagogical strategies for promoting positive behaviour at school level. Indeed, the study will examine how those theories are used in research on positive behaviour enhancement.

Method

The current study utilised the method of systematic review of contemporary journal papers (2005–2011) from four main databases, namely the Australian Education Index, British Education Index, ERIC (Educational Research Information Centre) and Scopus. Table 1 shows the American and British English keywords that were used in combination to search these databases.

Table 1. Keywords search of abstract

Keyword 1	Keyword 2	Keyword 3
positive behavior (or positive behaviour)	Enhancement	strategies/school
	Support	school
	Cultivation	
	Development	
	Strategies	
	Techniques	
	Encouragement/Encouraging	
	Management	
negative behavior (or negative behaviour)	Prevention	
	Discouraging	
	Stopping	
classroom management	school	
discipline/disciplinary strategy		

In order to confine this study to current developments in positive behaviour enhancement strategies, only papers published between 2005 and 2011 were reviewed. In addition to the aforementioned sources, some grey literature was

also included. A total of 1634 relevant papers published between 2005 and 2011 were obtained from the four databases: 950 papers from the Scopus database; 99 papers from the British Education Index database; 340 papers from the Australian Education Index; and 245 papers from ERIC. All papers that conformed to the following selection criteria were included in the review. Papers had to be written in the English language and had to include participants either from secondary schools or young people aged between 13 and 18 years old. Papers involving participants from both primary and secondary schools were also included in this review. However, papers were not reviewed if they only included primary school pupils, children from kindergarten or participants aged less than 12 years old. This criterion was used because pupils from primary schools have less challenging behaviour compared to secondary school pupils (Theriot & Dupper, 2010). In order to obtain a greater understanding of this subject, relevant discursive papers (review papers) were also included. Papers were excluded if they included participants with special needs, such as autism, visual or hearing impairment, or other disabilities, as these pupils may exhibit different behaviours due to their limited abilities in communication and/or physical movement and, therefore, intervention strategies for this group may also differ. Finally, papers were not reviewed if they were written in languages other than English.

Data Analysis

A total of 143 relevant papers were identified, including 106 papers from Scopus, nine papers from the British Education Index database, 12 papers from the Australian Education Index, and 16 papers from ERIC. A detailed review of these papers was conducted to investigate: methodological considerations in researching positive behaviour enhancement strategies; theoretical considerations; conceptualisation of positive and negative behaviour; strategies used for promoting positive behaviour; strategies currently perceived to be effective; and the relationships between social interactions and human behaviour.

Results and Discussion

The 143 papers reviewed include 113 research-based papers and 30 discursive papers. Most of the research-based papers employed quantitative methods (n=62) rather than qualitative methods (n=28), mixed-methods (n=12), longitudinal studies (n=6), or experimental studies (n=5). Whilst quantitative studies provide evidence of relationships between tested variables, they provide limited in-depth

descriptions of participants' beliefs and attitudes toward certain positive behaviour enhancement strategies. Further, in-depth descriptions of this topic seem to be biased, as many previous studies investigated adults' perspectives rather than young people's views. For instance, from a total of 28 qualitative papers, 64% (n=18) solely included adult participants, including teachers, counsellors, principals and parents. Only six papers investigated pupils' perspectives, and four studies included both adults and children. For instance, Freeman et al. (2009) explored notions of bullying and the support required from pupils from 26 European countries, and found that there is little support for promoting pupils' well-being and preventing bullying in school (Freeman, et al., 2009). However, it could be argued that pupils who participated in that study may have had no experience in obtaining support from professionals. Further, the actual actions used by teachers for promoting pupils' well-being and preventing bullying in that school are unknown. Another paper investigating the connection between religious norms and concepts of positive and negative behaviour was solely based on pupils' self-reporting, without cross checking with other sources (Hardy & Carlo, 2011), and therefore the validity of the results is questionable. This suggests that gathering from a single group or source may cause bias. Papers that include both professionals' and pupils' perspectives are more convincing. For instance, Schedin (2005) included both teaching professionals and pupils when investigating expectations of clients and their career counsellors. Findings from that study revealed that both parties had commonalities and differences that could be used for improving practice.

This review reveals an ambiguity regarding how participants became involved in studies. The majority of papers examined assumed that participants had sufficient knowledge and experience to participate in the studies. However, the small sample sizes used in the papers raises issues of bias and transferability. For instance, in the investigation of pupils' self-concept and motivation in England, Mainwaring and Hallam (2010) included only 25 pupils in the final year of schooling, whereas Lee and Davies (2005) included only 13 pupils in a study of factors associated with the school non-attendance. The small sample sizes of these studies limit the transferability of their results. Therefore, the use of mixed-methods research design and a bigger sample size may be useful for providing a holistic and in-depth understanding of the social phenomena under investigation.

This review found that four theoretical models dominate the studies examined, namely Applied Behavioural Analysis, Social Capital theory, Culturally Responsive Classroom Management, and Ecological Systems theory.

- Underpinning Theory 1: Applied Behavioural Analysis

The application of behavioural theory has resulted in the formulation of the School-Wide Positive Behaviour Intervention and Support model (Sugai, 2011), which has three levels of prevention: primary, secondary and tertiary. Primary prevention aims to preclude potential problems by letting pupils know expectations for their behaviour. Secondary prevention aims to provide intensive or targeted interventions to support pupils who are not responding to primary prevention efforts. This level focuses on pupils with more serious problems that require more support than other pupils. At the tertiary level, individual treatment includes counselling and a behaviour modification programme.

The current review shows that the School-Wide Positive Behaviour Intervention and Support model is widely used in the USA and Australia. In the USA, nearly 5,000 schools across 40 states have adopted this approach (George & Kincaid, 2008). A grey literature search carried out using the key phrase "positive behaviour support and intervention" in the ProQuest Education Journals and the ERIC Plus database yielded 2881 dissertations and theses conducted between October 2001 and March 2011. There is a growing interest in Australian schools towards adopting this approach (O'Neill & Stephenson, 2010). However, discussions of this approach seem to ignore the role of socio-cultural elements that are integral for promoting positive behaviour in multi-ethnic classrooms.

- Underpinning Theory 2: Culturally Responsive Classroom Management

This model was introduced by Weinstein, Tomlinson-Clarke and Curran (2004). It proposes that multicultural components have a significant impact on classroom management beliefs and practice, and has five essential elements:

> *... (a) recognition of one's own ethnocentrism, (b) knowledge of students' cultural backgrounds, (c) understanding of the broader social, economic, and political context, (d) ability and willingness to use culturally appropriate management strategies, and (e) commitment to building caring classrooms* (Weinstein, et al., 2004, p. 25).

This model emphasises the importance of a teacher's ability to manage the classroom, to provide more opportunities for pupils to learn new things and to engage them in lessons, regardless of the subject matter being taught (Milner & Tenore, 2010). Milner and Tenore (2010) stated that the centrality of understanding about the cultural backgrounds, equity, equality, relationships with others, and parent–school involvement significantly contributes to effective classroom management. They debate the extent to which pupils should be encouraged to learn

about cultural complexity in the classroom. If they are, what strategies should be used in the classroom? Furthermore, are any conflicts raised by this diversity and how should teachers overcome such possible conflict? Bucalos and Lingo (2005) reported that pupils expect teachers to integrate socio-cultural elements into their daily conversations and interactions. However, little is known regarding the ability of teachers to understand other socio-cultural values. In addition, it is illogical for teachers to consider every single aspect of pupils' cultural backgrounds when managing the classroom. Although the issue of practicality in translating this model into practice has been raised, understanding different socio-cultural values is essential in a multi-ethnic classroom.

- Underpinning Theory 3: Social Capital Theory

The current review found that some papers utilised Social Capital theory to explain positive behaviour enhancement in school. The term "Social Capital" was first time used in 1916 in Hanifan's essay on the school as a community centre. Social Capital theory was developed by Bourdieu (1986) and later expanded and reformulated by Coleman (1988) and Putnam (2000). Although Bourdieu (1986), Coleman (1988) and Putnam (2000) have different priorities in conceptualising social capital, they agree that social networks are valuable for promoting a better life, well-being, civic trust and a sense of obligation.

Extensive research supports the importance of social networks in developing a stable society. One paper included in this review reported that social capital in the workplace is essential for developing skills, adding new knowledge and promoting a supportive working atmosphere (O'Neill & Stephenson, 2010). The paper reported that the majority of participants had benefited from attending training sessions and that they therefore had a positive attitude towards professional training. This was supported by another study showing that a social capital network in the workplace is beneficial for promoting a feeling of ownership. Midthassel (2006) suggests that a sense of belonging can be promoted via knowledge sharing among school professionals. Other academic papers report that a lack of social capital networks contributes to self-harming behaviour (Hall and Place, 2010) and victimisation (Gottfredson & DiPietro, 2011). On the other hand, wide social capital networks promote prosocial behaviour in pupils (Fredricks & Eccles, 2008). Despite these positive aspects, social capital networks also have negative implications. For example, since social networks are based on a shared common interest, pupils with challenging behaviour may seek friends who have common values and interests, and some social groups influence young people to engage in more negative than positive activities. This explains the formation of a gang

culture. Therefore, some empirical studies suggest that minimising the radius of social networks is important to keep children safe from criminal activities and violence (Molnar, Browne, Cerda & Buka, 2005; Molnar, Roberts, Browne, Gardener & Buka, 2005). This research implies that the value of social capital networks is dependent on the quality of life and environmental factors.

- Underpinning Theory 4: Ecological Systems Theory

Ecological Systems theory (Bronfenbrenner, 1979, 1992) offers a theoretical construct of socio-interactions within and between the following ecological layers: the Microsystem (direct interaction with social agents), the Mesosystem (connection between contexts such as the relation of school experiences to out of school experiences), the Exosystem (indirect interaction with social agents), the Macrosystem (socio-cultural context and system of belief) and the Chronosystem (time dimension).

According to the theory, the Microsystem includes socio-interactions in school, although some papers use this term to describe interactions within/between teachers and pupils in learning activities. For instance, while many papers show that active participation in sport promotes positive behaviour in pupils (Faber, Kulinna & Darst, 2007; Lumpkin, 2008; Sandford, Duncombe & Armour, 2008), recent studies show contradictory results (Barnett, 2007; Fredricks & Eccles, 2008). One paper reported that active participation in sports activities does not necessarily improve positive behaviour, and that a less favourable experience of sport may negatively affect pupils' emotions, behaviour and relationships with peers and adults (Fredricks & Eccles, 2008). A second study found that sport activities offer both positive and negative effects as engagement in sport promotes prosocial behaviour and develops confidence in pupils; however, being defeated in a game may negatively affect pupils' emotions (Barnett, 2007). This research implies that the investigation of social phenomena in the Microsystem layer provides more information and a better understanding of factors associated with positive behaviour development.

The current review found that the physical environment is a significant contributor to human behaviour. One paper reported that a good infrastructure promotes a positive attitude towards schooling (Kumar, et al., 2008). However, as improving the physical infrastructure is costly, financial support from the government is much needed, and this may be an issue for low-income countries. Yet, promoting positive behaviour is not solely dependent on the physical environment, as various other factors within/between ecological layers are also associated with positive behaviour enhancement.

Contributions to Pedagogical Practices of Promoting Positive Behaviour

The consistent message from this review is that many theoretical perspectives assert that certain strategies might be more effective than others. However, a specific analysis found that there are two dimensions to this assertion. First, some papers reported strategies which were perceived as effective by the participants. These provided justifications for and explanations of why certain strategies are used by teachers. The second category reported effective strategies based on actual behavioural outcomes. Findings from this category appear more robust than those of the former one. However, both dimensions contribute to a better understanding of strategies that were used in the past.

Conclusions

This systematic review found that theoretical foundations of positive behaviour enhancement can be divided into two dimensions: encouraging positive behaviour and discouraging negative behaviour. In order to promote positive behaviour, empirical evidence suggests bonding and bridging social capital, whereas to discourage negative behaviour, many papers highlighted reinforcement strategies and punitive discipline, including physical and non-physical punishment. In addition to punishment, intervention programmes are considered to be effective strategies for preventing negative behaviour. Some papers asserted that certain strategies are better and more effective than others. However, it is pertinent to question whether the strategies are truly effective or whether they are rather perceived to be effective. In fact, the effectiveness of certain strategies may be due to other factors.

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References

Barnett, L.A. (2007). "Winners" and "Losers": The effects of being allowed or denied entry into competitive extracurricular activities. *Journal of Leisure Research, 39*(2), 316–343.

Bourdieu, P. (1986). The Forms of Capital. In J. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241–258). New York: Greenwood.

Bronfenbrenner, U. (1979). *The Ecology of Human Development. Experiments by Nature and Design*. Cambridge, Massachusetts and London: Harvard University Press.

Bronfenbrenner, U. (1992). Ecological Systems Theory. In R. Vasta (Ed.), *Six Theories of Child Development* (pp. 187–249). London and Philadelphia: Jessica Kingsley Publishers.

Bucalos, A.B. and Lingo, A.S. (2005). What Kind of "Managers" Do Adolescents Really Need? Helping Middle and Secondary Teachers Manage Classrooms. *Beyond Behaviour, 14*(2), 9–14.

Coleman, J.S. (1988). Social Capital in the Creation of Human Capital. *The American Journal of Sociology, 94*, 95–120.

Faber, L., Kulinna, P.H. and Darst, P. (2007). Strategies for Physical Activity Promotion Beyond the Physical Education Classroom. *Journal of Physical Education, Recreation and Dance, 78*(9), 27–31.

Fredricks, J.A. and Eccles, J.S. (2008). Participation in Extracurricular Activities in the Middle School Years: Are There Developmental Benefits for African American and European American Youth? *Journal of Youth Adolescence, 37*, 1029–1043.

Freeman, J.G., Samdal, O., Klinger, D.A., Dur, W., Griebler, R., Currie, D. and Rasmussen, M. (2009). The Relationship of Schools to Emotional Health and Bullying. *International Journal of Public Health, 54*(SUPPL. 2), 251–259.

George, H.P. and Kincaid, D.K. (2008). Building District-Level Capacity for Positive Behaviour Support. *Journal of Positive Behaviour Interventions, 10*(1), 20–32.

Gottfredson, D.C. and DiPietro, S.M. (2011). School Size, Social Capital, and Student Victimization. *Sociology of Education, 84*(1), 69–89.

Hall, B. and Place, M. (2010). Cutting to Cope – A Modern Adolescent Phenomenon. *Child: Care, Health and Development, 36*(5), 623–629.

Hardy, S.A. and Carlo, G. (2011). Religiosity and Prosocial Behaviours in Adolescence: The Mediating Role of Prosocial Values. *Journal of Moral Education, 34*(2), 231–249.

Kumar, R., O'Malley, P.M. and Johnston, L.D. (2008). Association Between Physical Environment of Secondary Schools and Student Problem Behaviour: A National Study, 2000–2003. *Environment and Behaviour, 40*(4), 455–486.

Lee, J. and Davies, J.D. (2005, 27 November–1 December). *Those Who Bother and Those Who Don't.* Paper presented at the Conference of the Australian Association for Research in Education, Melbourne.

Lumpkin, A. (2008). Teachers as Role Models: Teaching Character and Moral Virtues. *Journal of Physical Education, Recreation and Dance, 79*(2), 45–49.

Mainwaring, D. and Hallam, S. (2010). 'Possible Selves' of Young People in a Mainstream Secondary School and a Pupil Referral Unit: A Comparison. *Emotional and Behavioural Difficulties, 15*(2), 153–169.

Midthassel, U.V. (2006). Creating a Shared Understanding of Classroom Management. *Educational Management Administration and Leadership, 34*(3), 365–383.

Milner, H.R. and Tenore, F.B. (2010). Classroom Management in Diverse Classrooms. *Urban Education, 45*(5), 560–603.

Molnar, B.E., Browne, A., Cerda, M. and Buka, S.L. (2005). Violent Behaviour by Girls Reporting Violent Victimization: A Prospective Study. *Archives of Pediatrics and Adolescent Medicine, 159*, 731–739.

Molnar, B.E., Roberts, A.L., Browne, A., Gardener, H. and Buka, S.L. (2005). What Girls Need: Recommendations for Preventing Violence Among Urban Girls in the US. *Social Science and Medicine, 60*, 2191–2204.

O'Neill, S. and Stephenson, J. (2010). The Use of Functional Behavioural Assessment for Students with Challenging Behaviours: Current Patterns and Experience of Australian Practitioners. *Australian Journal of Educational and Developmental Psychology, 10*, 65–82.

Putnam, R.D. (2000). *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Shuster.

Sandford, R.A., Duncombe, R. and Armour, K.M. (2008). The Role of Physical Activity/Sport in Tackling Youth Disaffection and Anti-social Behaviour. *Educational Review, 60*(4), 419–435.

Schedin, G. (2005). Similarity of Interpersonal Behaviour in Career Counselling. *International Journal for Educational and Vocational Guidance, 5*, 37–55.

Sugai, G. (2011, 25th of August). [What is the Foundation of Positive Behaviour Support?].

Theriot, M.T. and Dupper, D.R. (2010). Student Discipline Problems and the Transition From Elementary to Middle School. *Education and Urban Society, 42*(2), 205–222.

United Nations High Commissioner for Human Rights. (1990). Convention on the Rights of the Child. Retrieved 16th of March, 2011, from http://www2.ohchr.org/english/law/crc.htm

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The New Educational Review

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Challenges Facing International Students During Study in Belarus

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Abstract

This research aims to identify and rank the problems which international students face during study in Belarus. The main method was descriptive research conceptualized within sojourner theory. Preliminary interviews followed by a survey (N=300) revealed that the sojourners' problems were in the following order, from major to minor: (a) psychological and health-related challenges, primarily, homesickness and health disorders; (b) academic challenges, such as the new educational system and taking exams; (c) sociocultural challenges, especially communication with native speakers; (d) general living challenges. To prevent and solve these problems, the study provides experimentally based recommendations how to foster a supporting learning environment.

Key words: *study abroad, sojourners, international students' challenges, supporting learning environment.*

Introduction

International students are an increasingly important source of diversity in colleges and universities worldwide (Sonari, 1994). They contribute to internationalization of higher education institutions and enhance students' and faculties' awareness and appreciation of other nations and cultures. This has resulted in the fact that currently the number of international students is constantly rising in most countries, including Belarus (Education in the Republic of Belarus, 2016).

Meanwhile, studying abroad is challenging and problematic for international students who often face a host of issues and concerns such as psychological and somatic disorders, academic and language difficulties which are exacerbated by social and cultural differences between their native countries and the culture of the new country (Gebhard, 2012). Experiencing study abroad is considered an important psychological process due to its effects on the performance and functioning of international newcomers. Regarding sojourners' physical and emotional states, research documented a number of particular problems: isolation and loneliness, homesickness and emotional exhaustion, anxiety, recurrent headaches and insomnia (Abe, Talbot, & Geelhoed, 1998; Sonari, 1994; Yan & Sendall, 2016).

In most studies issues related to overseas students' new language proficiency were reported to be their most concerning problem (Alsahafi & Shin, 2017). At the same time, a number of findings argued that the problem was wider and the whole educational system caused difficulties during study abroad (Carroll & Ryan, 2005). Particularly, Sonari's research (1994) reported the following educational encounters: compulsory class attendance, examinations, choosing courses, using the library, grading system, etc.

Unfamiliar social and cultural environments also affect both the state of the overseas students and their learning outcomes, and previous research substantiated a number of sociocultural difficulties complicating study abroad: communication with locals, understanding slang, visiting social events, differences in communication patterns, etc. (Ward & Kennedy, 1999). Sociocultural barriers exacerbate sojourners' general living problems, such as shopping, cooking, etc., because most of the students were not experienced in living alone in their home countries. (Sam, 2001).

Research Focus

Despite a significant number of studies, researchers still have not reached a stable consensus on "the magnitude of adjustment challenges" and this problem "needs further exploration" (Wenhua & Zhe, 2013, p. 405). Thus, two main reasons have grounded the current research. First, the majority of studies on the problems of international students have been completed in English-speaking countries that host the most international newcomers. Second, we have not found profound works on challenges affecting foreigners' study in Belarus and so the current study aimed to fill in this gap.

Problems of the Research

1. To identify challenges that complicated the education of international students in Belarus.

2. To rank and analyze the problems of greatest concern.
3. To provide recommendations for university staff and administrators on how to better assist overseas students in coping with their problems.

Methodology of the Research

General Background and Theoretical Framework of the Research

Belarus is an ex-Soviet country and all educational programs are run here in Russian, which makes problems for those enrolees who cannot speak it. This also leads to the fact that more than half of international students in Belarus are originally from countries where Russian is spoken as a first or second language: Russia, Azerbaijan, Kazakhstan, etc. For those international students who cannot speak Russian, every college or university provides courses in the Russian language. In our study, language course students were chosen as the target population since the previous research has convincingly shown that foreigners who know the language of the host country do not experience significant adjustment problems (Yan & Sendall, 2016).

The study draws on the theories of academic sojourners' adjustment and acculturation (Church, 1982; Siu, 1952). This theory focuses on interaction between distinct cultures which often results in numerous psychological, social, cultural, and other challenges for immigrants. In our case, this theory helped consider how academic sojourners would perceive their transitional journey to Belarus.

Instrument and Procedures

Inspired by the Sociocultural Adaptation Scale that was created by Ward and his colleagues for newcomer students (Ward & Kennedy, 1999), we developed the International Student Problem Scale (ISPS) to rank the problems of international students in Belarus (cf. detailed research presented in Marinenko, 2015). As recommended (Harlacher, 2016), in the first phase of our study, we conducted preliminary interviews by asking 20 undergraduate students from the Belarusian-Russian University in Mogilev to identify problems that complicated their study. The interviewees mentioned a number of difficulties that generally could be divided into four categories: (a) psychological and health-related challenges, (b) social and cultural challenges, (c) educational challenges, (d) general living challenges.

The identified issues were included in the questionnaire (ISPS), that had two parts. The first part asked the international students to rate how concerned they

were about the stated challenges using a six-point scale (1 = not at all concerned / 2 = slightly concerned / 3=somewhat concerned / 4 = moderately concerned / 5 = greatly concerned / 6=extremely concerned). The second part of ISPS requested the respondents to provide information on their age, gender and ethnicity.

In the second phase of our study we used expert assessment to estimate the developed ISPS. Since "the easier the questionnaire, the more useful and accurate the results will be" (Harlacher, 2016, p. 4), the final version of ISPS included challenges which received the highest validity indices, i.e. most experts considered these challenges relevant or very relevant for academic sojourners.

Before conducting the main survey, the developed ISPS was pilot-tested on a small sample of newcomer students of Belarusian-Russian University (N=40) to check its validity and reliability. The range of reliability statistics indicated a relatively high level of internal consistency: the overall Cronbach's alpha coefficient was .756 for 17 problems.

Data Collection and Analysis

The study was conducted in seven universities across Belarus and involved 300 Russian language course students who had lived in Belarus up to four months at the time of research. Such sample size gave us 95% confidence that the sampling error would be within 5% (Cumming & Calin-Jageman, 2017). Participation in the survey was voluntary and the respondents generally corresponded to all Belarusian sojourners in their main characteristics (see table 1).

Table 1. Description of Respondents' Background

Characteristics		Respondents, %
Age	18–23	88
	Over 23	12
Gender	Male	86
	Female	14
Ethnicity	Turkmen	68
	Chinese	23
	Arabic	8

The data analysis included descriptive statistics: percentage, measures of central tendency (mean) and variability (standard deviation). *Mean* (*M*) was used to determine the level of difficulty that international students experienced with each challenge from ISPS. The maximum possible *M* for each issue was 6 (1–2.6 indi-

cated a low level of difficulty, 2.7–4.3 indicated a moderate level, 4.4–6.0 indicated a high level). *Standard deviation* (*SD*) enabled us to determine the variability in the data.

Results of the Research

According to the data obtained, all challenges experienced by Belarusian sojourners were in the moderate or low levels, which in general meant that in spite of facing a significant number of problems, these students were quite positive about their studies in Belarus and did not intend to overestimate their problems (see table 2).

Table 2. Rating of Challenges by International Students in Belarus

Challenge	Respondents who rated,%						M	SD
	6	5	4	3	2	1		
Homesickness	15.7	26.3	17.0	5.0	16.7	19.3	3.61	1.79
Health disorders	11.7	15.3	27.0	10.7	12.0	23.3	3.34	1.69
Lack of understanding of the Belarusian educational system	18.3	11.3	14.0	10.0	25.7	20.7	3.25	1.81
Interaction with native speakers	15.0	14.7	18.7	10.6	13.7	27.3	3.25	1.81
Loneliness and social isolation	5.0	16.0	20.0	13.7	18.0	27.3	2.94	1.6
Foreign customs, traditions and rules	15.0	6.7	11.0	14.0	21.7	31.7	2.84	1.78
Climate in Belarus	9.3	6.7	18.3	13.0	20.3	32.3	2.75	1.65
The ban on part-time work	10.3	8.3	20.7	7.0	10.7	43.0	2.72	1.79
Unfamiliar food, dietary restrictions	6.3	8.3	15.0	16.7	20.7	33.0	2.64	1.57
Depression	7.3	7.7	13.0	18.3	11.7	42.0	2.55	1.64
Taking exams	15.0	5.3	9.7	9.0	5.0	56.0	2.48	1.92
Lack of effective learning skills	3.3	12.7	13.3	10.1	17.3	43.3	2.45	1.59
Language proficiency insufficient for education	5.0	6.0	11.0	13.3	25.7	39.0	2.34	1.48
Financial problems	1.7	9.6	17.0	7.0	12.7	52.0	2.25	1.53

Challenge	Respondents who rated,%						M	SD
	6	5	4	3	2	1		
Language proficiency insufficient for everyday life	4.7	5.0	12.7	12.0	17.3	48.3	2.23	1.5
Discrimination issues	1.7	5.0	10.7	12.3	9.7	60.7	1.95	1.37
Handling household chores	5.3	7.3	6.7	3.0	12.7	65.0	1.95	1.57

Psychological and Health-Related Challenges

Among all problems *homesickness* topped the list *(M*=3.61): 42% of the surveyed population was greatly, or extremely concerned about this issue. The *SD* for homesickness showed a wide range of responses(from 1.82 to 5.4), which meant that the opinions of respondents varied regarding life in the new country without those close to them. Another issue of high concern was *health disorders* (*M*=3.34). Only one out of four international students (23.3%) did not worry about their physical state during study in Belarus. These findings were confirmed by our preliminary interviews when the participants complained about frequent colds, numerous aches and pains.

Loneliness and social isolation ranked third in the category and fifth out of all the 17 problems (*M*=2.94): 21% of sojourners assessed it as a great or extreme challenge. Besides, *SD* for this issue was the lowest in this group, which indicated that the participants' opinions tended to be similar and they were sad without those close to them. The psychological issue rated least important was *depression* (*M*=2.55), as 42% of respondents answered "not at all concerned", which meant that although foreigners prioritized psychological and health-related problems, they did not consider them as a cause of deep emotional disturbance.

Educational Challenges

In the participants' view, the most challenging educational issue was *the lack of understanding of the Belarusian educational system (M*=3.25). Almost 30% of the respondents agreed that they were greatly or extremely concerned about coping with it. *Taking exams* was the second significant challenge in the category (*M*=2.48): every fifth respondent rated this factor as a great or extreme problem. At the same time, more than half of the surveyed population did not worry about their exams, which resulted in the highest *standard deviation* in this set (*SD*=1.92).

The next educational challenge was *lack of effective learning skills* (*M*=2.45): for 16% of respondents this factor caused extreme or great problems. Finally, the educational issue of least concern was *language proficiency insufficient for education*

(*M*=2.34), which caused a significant problem for only every tenth respondent. This can be explained as follows: all language course teachers use English to instruct beginners and the sojourners may not have considered that their Russian competence was insufficient for their studies.

Sociocultural Challenges

Among the barriers in dealing with an unfamiliar culture and a new society the sojourners were mostly challenged by *interaction with native speakers* (*M*=3.25): every third respondent (29.7%) found this issue greatly or extremely problematic. The next issue in this category, *foreign customs, traditions and rules* (*M*=2.84) united numerous specific problems that sojourners reported during the preliminary interviews: unclear rules of addressing and greeting in Russian, national prejudices, limitations in how to spend leisure time, sharing rooms, etc.

Language proficiency insufficient for everyday life ranked third among sociocultural challenges (*M*=2.23). The *standard deviation* of this issue was quite low (*SD*=1.5) which indicated that sojourners' opinions were generally close. Almost every second student very strongly disagreed that their language competence was not sufficient for daily communication. Finally, the sociocultural factor of least concern was *discrimination issues:* 60.7% of respondents never encountered such a hurdle during their study in Belarus.

General Living Challenges

The category of general living challenges combined the largest number (five) of all sojourners' problems, but despite this, it ranked last (the *mean* of this category was 2.46). The most challenging issue in this group was the *climate in Belarus* (*M*=2.75; *SD*=1.65). *The ban on part-time work* caused a problem only for Belarusian sojourners, since the law forbade study-visa holders to look for employment and this issue ranked second in the category (*M*=2.72). *Unfamiliar food, dietary restrictions* ranked second (*M*=2.64; *SD*=1.57), which confirmed the results of preliminary interviews, where students complained about the lack and high cost of some products in Belarus. *Financial problems* (*M*=2.25) also disturbed the international students, but its *standard deviation* was the lowest(*SD*=1.53), which meant that many respondents had to cope with it. Finally, *handling household chores* had the lowest rating among general living problems (*M*=1.95; SD=1.57).

Discussion

The findings revealed that international students in Belarus mostly suffered from psychological and health-related challenges. In the framework of theories of academic sojourners' adjustment and acculturation, these results emphasize that overseas students perceive their sojourn as a pattern of stress, isolation and loneliness and that they are often positioned as outsiders and marginalized (Spurling, 2006). The significance of the sojourners' stable psychological and physiological states during their study abroad was confirmed by other works (Borg & Cefai, 2014). By contrast , our findings are inconsistent with some research which prioritized challenges of other sojourners (Sonari, 1994; Sam, 2001).

Of all the challenge areas considered in our study, *homesickness* was found to be the issue of most concern, as students in the study had spent a very short period in Belarus and may not have managed to adjust to their new way of living. The relevance of this problem for academic sojourners was also confirmed by other findings (e.g., Gebhard, 2012). The second issue of most concern for Belarusian sojourners was *health disorders*, and previous research documented numerous ailments during study abroad (Borg & Cefai, 2014). Besides, overseas students in Belarus had to cope with other psychological problems like *loneliness, social isolation* and *depression*.

In our research, educational challenges ranked second, which concur with some other works where sojourners prioritized this type of difficulty (e.g., Alsahafi & Shin, 2017). At the same time, these studies were conducted in English-speaking countries and Belarusian sojourners may not have taken their education seriously, namely, second language learning. The most problematic educational issue was *lack of understanding of the Belarusian educational system*, and international students in other countries had to cope with unclear college regulations, grading, etc. (Sonari, 1994). Belarusian sojourners also experienced difficulties with *taking exams* and lack *of effective learning skills*: independent work, using supportive and library facilities, etc. *Language proficiency insufficient for education* was, surprisingly, the educational factor of least concern for the sojourners.

The findings indicated that respondents experienced some aspects of cultural stress and social isolation, since they ranked sociocultural problems third. In this category sojourners mostly suffered from difficulty in *interaction and communication with native speakers* and *foreign customs, traditions and rules*. These results are in line with the findings of Carroll & Ryan (2005) that entering a different culture leads to numerous problems in cooperative activities. *Language proficiency insufficient for everyday life* moderately disturbed the sojourners, since in most

cases international students have little contact with local people and prefer to interact and communicate with their co-nationals outside the university (Kilinc & Granello, 2003). The least problematic factor in the sociocultural category was *discrimination issues,* because Belarus still does not have a significant number of immigrants and locals are usually tolerant of them.

With regard to general living challenges, they ranked last in our study, which was supported by previous research (Sam, 2001). The problem of most concern in this category was the *climate in Belarus*, which can be easily explained by the location of the country. The next issue, *the ban on part-time work,* became a problem only for Belarusian sojourners, since in most countries international students are allowed to work in their free time. *Unfamiliar food and dietary restrictions, financial problems,* and *handling household chores* got the lowest ratings among general living challenges, as these can be considered personal and subjective issues.

Implications

The findings of this study are of practical importance as they highlight the importance of assistance for newcomer students and encourage educational institutions and their staff to facilitate their adjustment. In order to help sojourners avoid having problems and to help manage them, a supporting learning environment should be developed at every university or college (Carroll & Ryan, 2005; Marinenko, 2015).

Thus, university or college administrators should pass initiatives to help international students by modernizing premises, facilities and equipment, improving their curricula and developing targeted study programs. Particularly, a *special adjustment course* may be developed for newcomer students (Yan & Sendall, 2016). Regarding the outcomes of our study, this adjustment course should enhance sojourners' awareness by introducing them to various aspects of adaptation, activities to improve their physical and psychological state, treatment of common ailments, etc.

Since the study showed that international students were most concerned about their psychological and health-related problems, an additional position for a *mentor teacher* accompanying each group of newcomer students should be introduced (Yeh & Inose, 2003). This specialist would be responsible for regular face-to-face and group meetings, monitoring sojourners' physical and emotional state, and running special workshops and seminars to address the challenges and experiences of study abroad.

International and local students should also be involved in supportive activities for newcomers. So-called *"peer programs"* that pair newcomers with compatriots, or local students with English proficiency, for close communication and interaction have been proved to be an efficient supporting activity (Abe et al., 1998).

For the purpose of this research, an experiment was conducted to confirm the importance of support and assistance for sojourners. During the experiment, a number of procedures supporting international newcomers were developed and implemented in two Belarusian universities. As a result, the comparison analysis of students from control and experimental groups enabled us to experimentally demonstrate that supporting procedures help international students successfully overcome difficulties during their study abroad (Marinenko, 2015).

Conclusions

Belarusian sojourners faced a number of problems during their study. They were primarily concerned about psychological and health-related challenges: homesickness, health disorders, loneliness and social isolation. Despite the fact that the main activity of international students is education, the surveyed population ranked educational challenges second, and the main dilemmas in this category were lack of understanding of the Belarusian educational system and taking exams. Sociocultural problems, including communication with native speakers, understanding the foreign culture and others ranked third in the study. Finally, general living challenges such as the climate, the ban on part-time work, dietary restrictions, etc., were the least problematic category for the student newcomers.

The problems experienced by international students should encourage institutions of higher education to shape a supportive learning environment for them and motivate administrators, faculty, counsellors, international volunteers and local students to become more aware of investigating sojourners' needs and to provide facilitation and assistance.

References

Abe, J., Talbot, D.M., & Geelhoed, R.J. (1998). Effects of a peer program on international student adjustment. *Journal of College Student Development*, 39(6), 539–547.

Alsahafi, N., & Shin, S.-C. (2017). Factors affecting the academic and cultural adjustment of Saudi international students in Australian universities. *Journal of International Students*, 7(1), 53–73.

Borg, C., & Cefai, C. (2014). *Stress, Health and Coping among International Students at the University of Malta*. Malta: Centre for Resilience and Socio-Emotional Health, University of Malta.

Carroll, J., & Ryan, J., Eds. (2005). *Teaching international students: Improving learning for all*. London: Routledge.

Church, A.T. (1982). Sojourner adjustment. *Psychological Bulletin*, 91(3), 540–572.

Cumming, G., & Calin-Jageman, R.J. (2017). *Introduction to the new statistics: Estimation, open science, and beyond*. New York: Routledge.

Education in the Republic of Belarus (2016). *Education in the Republic of Belarus*: Statistical bulletin. Minsk: National Statistical Committee (in Russian).

Gebhard, J. G (2012). International students' adjustment problems and behaviors. *Journal of International Students*, 2(2), 184–193.

Harlacher, J. (2016). *An educator's guide to questionnaire development.* Washington: Institute of Education Sciences.

Kilinc, A., & Granello, F.P. (2003). Overall life satisfaction and help-seeking attitudes of Turkish college students in the United States: Implications for college counsellors. *Journal of College Counselling*, 6, 56–69.

Marinenko, O.P. (2015). *International students' pedagogical support at pre-university level*. Mogilev: Belarusian-Russian University (in Russian).

Sam, D.L. (2001). Satisfaction with life among international students: An exploratory study. *Social Indicators Research, 53*(3), 315–337.

Siu, P.C.P. (1952). The sojourner. *American Journal of Sociology*, 58(1), 34–44.

Sonari, A.J. (1994). *The nature and extent of the problems experienced by international students enrolled in an English language program* (Doctoral dissertation). Oregon State University.

Spurling, N. (2006). Exploring adjustment: The social situation of Chinese students in UK higher education. *Learning and Teaching in the Social Science,* 3(2), 95–117.

Ward, C., & Kennedy, A. (1999).The measurement of sociocultural adaptation. *International Journal of Intercultural Relations*, 23, 659–677.

Wenhua, H. & Zhe, Z. (2013). International students' adjustment problems at university: a critical literature review. *Academic Research International*, 4(2), 400–406.

Yan, Z., & Sendall, P. (2016). First year experience: How we can better assist first-year international students in higher education? *Journal of International Students*, 6(1), 35–51.

Yeh, C.J., & Inose, M. (2003). International students' reported English fluency, social support satisfaction, and social connectedness as predictors of acculturative stress. *Counseling Psychology Quarterly,* 16(1), 15–28.

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Entrepreneurship Education as a Challenge in the Education of Teachers of Pre-school and Early school Children – at the Intersection of Academic Theory and Practice

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Abstract:
This article refers to entrepreneurship as a key skill. It presents the components of the innovative concept of kindergarten and early school teacher training in this area, which has been carried out since the academic year 2019/2020 at the Institute of Pedagogy of the University of Wrocław. It introduces the reconstruction of the meaning attached to the notion of entrepreneurship in the Finnish approach using the method of semantic field analysis, which has been the basis for the development of these assumptions.

Key words: *entrepreneurship education, teacher education, children education, semantic field analysis*

Introduction

The European Commission has recognized entrepreneurship as one of the key competences, which comprises the knowledge, skills and attitudes necessary to generate innovative ideas and apply them effectively[1]. Entrepreneurship is also

[1] Council Recommendation of 22 May 2018 on key competences for lifelong learning (Text relevant for EEA) (2018/C 189/01), source: https://eur-lex.europa.eu/legal-content/PL/TXT/PDF/?uri=CELEX:32018H0604(01)&from=en (1.02.2019).

a competence of the 21st century teacher. A teacher's entrepreneurship manifests itself in the design and implementation of an alternative educational program, the use of original solutions in didactic and educational work, awareness of the current trends and new directions in education, as well as the cultural, economic and social contexts of the child's/student's living conditions.

Many authors who have provided insights into the topic of entrepreneurship education (enterprise education)[2] point out that the development of traits and skills that foster the entrepreneurial spirit and entrepreneurial attitude should start from an early age. However, the literature on the subject indicates that any changes in education, any reforms or curriculum modifications in the area of entrepreneurship education should focus more on changes in teacher training than in the education of students and pupils. In entrepreneurship education, it is the teacher who should play the central role (Seikkula-Leino, Ruskovaara, Ikavalko, Mattila, & Rytkola, 2010). Bearing this in mind, suitable preparation of kindergarten teachers and primary teachers of first to third grade children for conducting entrepreneurship education classes becomes a requirement and a challenge.

The development of the conception of preparing students, future teachers of kindergartens and grades from one to three, for the implementation of entrepreneurship education classes was a multi-stage process. The groundwork for the project was contextual analysis (done as part of the empirical research carried out by the authors of this article between 2015 and 2017), i.e. a study of the assumptions and execution of entrepreneurship education in Europe, mainly with regard to teacher training, but also child/pupil education (Kondracka-Szala & Malinowska, 2017). The first stage of the work was reconstruction of the meaning given to the term 'entrepreneurship' in the Finnish model of entrepreneurship education (Ruskovaara, Pihkala & Lahikainen, 2018; Ruskovaara, Hämäläinen & Pihkala, 2016; Korhonen, Komulainen & Räty, 2012)[3].

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[2] https://www.qaa.ac.uk/docs/qaas/enhancement-and-development/enterprise-and-entrepreneurship-education-2018.pdf?sfvrsn=15f1f981_8 (1.07.2019) see also: Directorate-General for Enterprise and Industry (European Commission), *Hilfe zum Aufbau einer unternehmerischen Kultur Leitfaden zu bewährten Verfahren bei der Förderung unternehmerischer Grundeinstellungen und Kompetenzen durch Bildungsmaßnahmen*, 2004, https://publications.europa.eu/en/publication-detail/-/publication/98912089–1cff-4f51-ab71-a3d422804a5c/language-de#.

[3] In the Finnish education system, entrepreneurship education is combined with active and participatory citizenship. This is reflected in the education curricula at all stages of education. Entrepreneurship education is also strongly emphasized in academic education: *Guidelines for entrepreneurship education*, Ministry of Education, Department for Education and Science, Finland 2009 http://www.minedu.fi/export/sites/default/OPM/Julkaisut/2009/liitteet/opm09.pdf (05.04.2019).

In order to capture the contexts of application and use of the term, discourse analysis and the particular variation, semantic field analysis, were used.

Research methods

Discourse is an ambiguous concept which is used in many scientific disciplines and non-scientific areas. This explains the difficulty of clearly defining its essence. The multiplicity of interpretations makes discourse a vague concept, thus, it is necessary to specify it in order to adopt a correct research procedure. It has been assumed, in accordance with Joanna Malinowska's theory, that the semantic scope of discourse includes an element of a clash of arguments, interpretation of meanings and multiplication of alternatives supported by arguments. In this way, views and opinions are revealed, meanings are conveyed, events are decided and their rank of importance is set (Malinowska, 2017).

For the purposes of this empirical study, we have adopted the definition that 'discourse is a text in context' (van Dijk, 1990, pp. 133–156; Gee, 2011). The authors take the view that a linguistic utterance (written, oral), or discourse, should be perceived as a process, and not just as a result of communication. The interactivity of language communication and the genesis of language meanings make up the context of speech, which is also associated with the assumptions and beliefs of the authors of that speech/discourse (Johnstone, 2018). Discourse analysis is, therefore, an analysis of concepts, ideas and assumptions conveyed in texts and utterances, the purpose of which is to examine and describe the relationship between the users' language and thinking. Hence, it is important that, in this sense, discourse analysis accounts for 'transtextual' language phenomena (social roles, attitudes, beliefs of discourse actors (Topczewska, 2017, p. 50). Thus, language allows us to name educational situations, to develop our own ideas of future actions, intentions, and to transfer knowledge about the world.

Semantic field analysis, as an element of linguistic discourse analysis, explores language as a social fact, i.e. an intentional action that affects the recipient (Topczewska, 2017, p. 49). The methodological setting of the study was based on Regine Robin's theory (Guilhaumou, Maldidier, & Robin, 1994) and specified by Marek Kłosiński (1994). According to this researcher, semantic field analysis is 'an analysis of a key concept in the discourse that has been verbalized by means of a key-word' (Kłosiński, 1994, p. 152).

We analysed the report entitled *Mapping of teachers' preparation for entrepreneurship education. Final Report* (Curth, 2011), which overviews the Finnish concept

of preparing teachers for entrepreneurship education. The assumptions contained therein relate to activities undertaken by academic teachers who conduct the classes, as well as to the addressees of these classes and other persons involved in this type of education. The subject of our research is the meaning given to the term entrepreneurship by the authors of this concept. The method used to analyse the semantic field, which analysed all applications and contexts of the use of the term 'entrepreneurship', facilitates identification of its meaningful readability (Guilhaumou, Maldidier & Robin, 1994). A semantic field of a given concept is a network of its connections with other words, expressions, and ideas that appear in the analysed text. The thematic or conceptual relationships and the functions performed by the phrases and actions used in the text make it possible to understand the full meaning of the concept, or the group of meanings in which it was used (Curth, 2011).

We adopted a three-stage research procedure. The first step was to create six sets of terms related to entrepreneurship. For this purpose, we searched for words that:

1. describe the concept of entrepreneurship, and show its features – a set of terms was constructed in this way,
2. are associations, which include concepts accompanying entrepreneurship,
3. are terms opposite to the concept of entrepreneurship,
4. replace the concept of entrepreneurship, so are its equivalents,
5. describe how entrepreneurship works and what effects it triggers,
6. describe the actions that should be taken towards entrepreneurship as a subject.

The next step was to organize these terms and place them in a network of relationships that reveal the semantic field of the term *entrepreneurship*. Thanks to this, we gained insight into how the examined concept is perceived and represented. The last step in the research process was to reconstruct the meaning of the term *entrepreneurship*.

Research results

As a result of the research procedure employed, it has been inferred that in the Finnish approach, *entrepreneurship* is a *social phenomenon*; it is a combination of *business knowledge, various skills and competences,* such as*: independence, problem solving, initiative, and creativity*; Entrepreneurship is equated to being *an active citizen, a participating citizen*. Entrepreneurship is associated with: *cultivating the entrepreneurial spirit*, as well as *social requirements and requirements set by employers*. Entrepreneurship consists in: *transferring and passing on positive attitudes, approaches* and *creating a positive image of entrepreneurship in society*.

The following activities are undertaken for the sake of entrepreneurship: bringing about *a change in attitudes among teachers and students, analysing entrepreneurship teaching programs in schools, encouraging cooperation between various entities (school, university, entrepreneur), combining theoretical studies, meeting entrepreneurs and experiencing practical projects, introducing and improving work tools and methods, providing knowledge, skills, attitudes and values*. The diagram below illustrates the network of terms used in the document which was analysed.

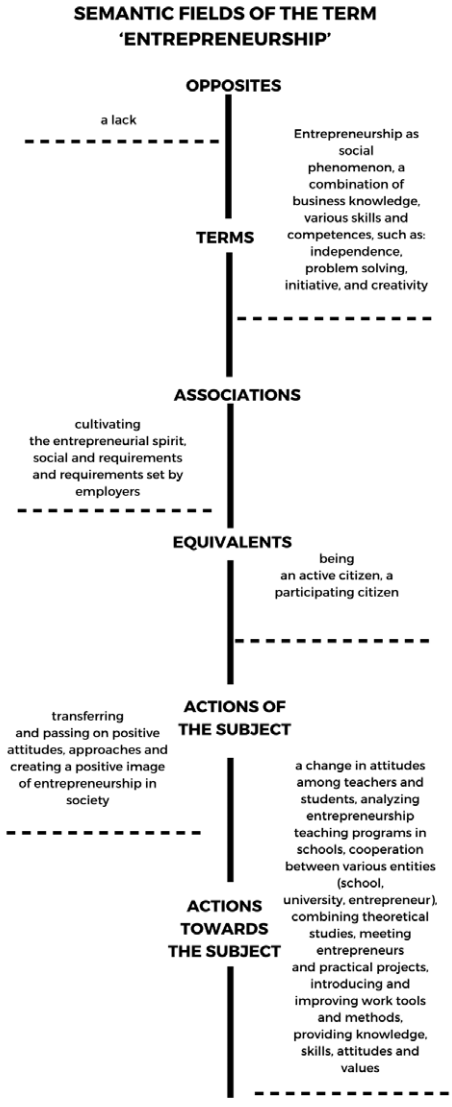


Figure 1. Semantic field of the concept of entrepreneurship
Source: own research.

Following Marek Kłosiński's guidelines, a declarative sentence structure (presented in Table 1) was adopted, which allows the reconstruction of the meaning of the studied concept of entrepreneurship (key-word), i.e. *equivalents*, are *terms* that are linked with *associations* that cause/effect *actions of the subject* for/to/against whom *action should be taken towards the subject* (Kłosiński, 1994, p. 151).

Table 1. Semantic field – keyword

KEYWORD,	
so	equivalents
as opposed to	opposites
is	terms
is associated with	associations
which causes	actions of the subject
towards whom one should	actions towards the subject

Own model based on. M. Kłosiński, (1994, 3, p. 155).

Using this model, two logically consistent and grammatically correct sentences were constructed, which become the basis for the reconstruction of the meaning contained in the document analysed:

1. Entrepreneurship or *active citizenship* is a *social phenomenon* that is associated with the *spirit of entrepreneurship*, which results in *the transmission of positive attitudes and values* and to achieve this goal, one must *analyse entrepreneurship teaching programs*, and *introduce and improve work tools and methods* by *combining theoretical studies, meetings with entrepreneurs and practical projects*.
2. Entrepreneurship, i.e. *being a participating citizen*, is a *combination of business knowledge, various skills and competences*, associated with *social requirements*, which leads to a *positive image of entrepreneurship in society*, which requires *development of knowledge, skills and attitudes and values as well as cooperation between various entities: schools, universities, and entrepreneurs*.

The above analysis shows that the Finnish concept of entrepreneurship has a strong social and civic orientation. As a consequence, entrepreneurship is connected with the activity of citizens and their participation in social life. It is a desirable social phenomenon based on multifaceted cooperation and the creation of a positive image of entrepreneurship and entrepreneurial education. The analysis also allows us to draw conclusions about the role of the teacher as a professional, reflective practitioner and promoter of entrepreneurship competences among children/pupils.

Discussion

The analysis presented above was the starting point for the development of the concept of how to prepare an early childhood education teacher for conducting entrepreneurship education classes. In the Polish context, this is a departure from the narrow understanding of entrepreneurship, towards social and civic entrepreneurship. In this interpretation, entrepreneurship education cannot be limited to providing information necessary to understand how the social world works, nor is its goal to adapt a person to life in society, but rather to prepare him or her for active participation in social life. So defined, entrepreneurship education becomes a component of civic education. As Poles are, in comparison with other European nations, a poorly socialized society, with a low sense of community, this is undoubtedly a challenge for education. The inhibiting factor is the limited involvement, and the withdrawal of young people from public and civic activities. The teacher is perceived by the authors of this paper as a medium for shaping the positive attitude of students towards entrepreneurship, activity and participation in social life. It is hence necessary to ask what educational efforts by the teacher can promote a change of attitude and encourage children's engagement in public affairs. The goal is also to change the perception of the pupil/student for the future: as a citizen and entrepreneurial person, which involves adopting a specific style of group/class management (Orstein, 1990).

The final conception of educating students in the university major courses: Pre-School and Early School Education is to support the training of teachers in kindergartens and in grades one to three in the field of nurturing the spirit and attitude of entrepreneurship, as well as to prepare them for conducting entrepreneurship lessons. *Entrepreneurship education* along with *Educational Leadership in Teacher's Work* are mandatory courses and constitute a coherent whole. The primary objective is to steer the thinking and actions of students towards enhancing entrepreneurial activity in the local community, to undertake ventures preceded by thoughtful analysis of the contexts of action and to improve practice/organization by introducing innovations. It is to encourage teachers to break the monotony of routine instructional methods, and to sensitize them to the need to respond to changes occurring inside and outside the organization.

Therefore, the concept refers to the teacher's self-development in two areas: his or her own entrepreneurship competence and the ability to develop the basic characteristics of this competence in children and students. When it comes to the first area, the Finnish model of entrepreneurship education was the benchmark (Ruskovaara, Pihkala & Lahikainen, 2018; Ruskovaara, Hämäläinen, Pihkala, 2016;

Korhonen, Komulainen, Räty & 2012). As for the second area, the EntreComp model, The Entrepreneurship Competence Framework (Bacigalupo, Kampylis, Punie &Van den Brande, 2016), was used.

The implementation of this model is based on solutions designed to improve the quality of education in terms of content and methods. The courses incorporated into the university curriculum help prepare the graduate for the role of a teacher: a researcher, reflective practitioner, leader of school and local communities, initiator of changes, and an animator of social and entrepreneurial activity. Therefore, there is a dual aspect to them, with a clear focus on elements of education about entrepreneurship and education for entrepreneurship.

Consequently, the program puts emphasis on entrepreneurship as a key competence, on the conditions for its acquisition/improvement, the theoretical premises of entrepreneurship education and proposals for classes and exercises, which may contribute to undertaking entrepreneurial activities and creating a new quality of education inside the institution (the future workplace of the kindergarten or school teacher). For this purpose, it is planned to cast external stakeholders in the role of partners and consultants, thus creating opportunities for learning through action and in interaction with various participants/entities in the local community, as we must keep in mind that the entrepreneurial attitude is shaped through action and in connection with civic engagement in the local area. The experience gathered this way can be a blueprint for making conscious choices and for the capacity to predict their consequences. The environment in which the teacher works often determines these choices, but also raises questions about the possibility of bringing about change and the direction of this change. Thus, based on this, only the solutions about which the teachers are already strongly convinced are effective in introducing change should be chosen, and when there are no ready-made solutions, new ways and tools for influencing the situation should be developed. Entrepreneurial behaviours consist in an unremitting analysis of the current situation of the education system and in choosing/creating solutions.

An enterprising teacher should also take an active attitude related to democratic empowerment. Students will have the opportunity to develop their own skills in the area of internal/personal entrepreneurship; they will be encouraged to reflect on themselves as a promoter of changes, while taking into account the perspective of the competent teacher.

The program which is designed on these principles is not a list of issues for discussion: it focuses on problems that one can observe/diagnose, and then look for solutions and test them. Study visits to selected institutions are planned (kin-

dergartens and democratic schools, kindergartens and independent schools). The professional knowledge gained during intense interactions, while learning from each other, will become a capital that can contribute to high-quality entrepreneurship education for students. Below are selected tasks for students to implement as part of the problems:

Problems: Kindergarten/school as a space for joint participation of children and adults. The teacher as an instigator of changes, active in society and for society

1. **Comparative analysis of the curriculum of a selected kindergarten/ school with the curriculum of the study visit school, including:**
   a) participation of parents/other adults and participation of children in decision-making processes as signs of the implementation of the idea of active and participatory citizenship;
   b) initiatives/activities/working methods to carry out the principles of entrepreneurship education;
   c) combining various forms of education: formal, non-formal and informal to meet the objectives of entrepreneurship education.

   Work in pairs: analyse documents, websites, interviews with teachers, interviews with parents, observation. Student presentations to compare teaching programs.
2. **Constructing an alternative educational program for kindergarten/ school, including:**
   a) thinking about children as active citizens;
   b) departure from thinking about childhood as a period of preparing children for 'real' life and 'granting' rights to them according to criteria set by adults;
   c) a change in the approach to civic education (which today is reduced to 'material to be learned', which makes it similar to other courses). This education is isolated from practice.

Therefore, the independent alternative curriculum should:

1) construe civic education as a social task (with designated roles/tasks for parents, teachers and other adults), focused on the acquisition/development/improvement of civic competences in the course of action;
2) promote children's participation, defined as involving children in decision-making processes;
3) account for the fact that children/students are gaining knowledge and experience outside institutions today. Both non-formal and informal education often have a greater impact on the development of a learner's personality than does the institutional environment;

4) take into consideration the growing interest of parents in an educational alternative to the traditional school;
5) be embedded within the socio-cultural context of the local kindergarten/school environment.

Work in groups: Development of a coherent teaching program for a selected age group.

3. **Discussing the possibilities of introducing the agreed changes with the teachers of the selected kindergarten/school. Development and implementation of an idea using the design thinking method.**

Conclusions

Nurturing the entrepreneurial spirit becomes an opportunity for the development of individual and social education participants. A critical look at entrepreneurship education seems to be inspiring here. The efforts to strengthen and develop the entrepreneurial spirit as part of a collective effort have not only social consequences.

Entrepreneurship education involves discovering the relationship between education and provocation. An entrepreneurship education teacher should work in a space that allows disagreement, provides an arena where other ways of thinking and understanding can flourish, and which encourages invention (Hjorth, 2011, pp. 49–63). Priority should be given to deconstructing and rebuilding, (to which a debate often leads), to sharing ideas, and creating a common, different educational space.

Preparing future teachers for conducting entrepreneurship education defined this way is also a challenge for those implementing this concept, especially in view of the need to claim the emancipatory potential of academic education, which will allow university students to start thinking about children as active citizens.

A change in teacher education should, therefore, occur in four interrelated areas.

Fostering the entrepreneurial spirit (1) requires the preparation of future teachers to act as promoters and initiators of change (2), and as local community leaders (3). This suggests the need to develop a new approach and new model of cooperation between education participants (4). Teaching internships and study visits are a space for such cooperation between teacher-practitioners, students and academic teachers, in which the academic teachers become consultants and co-creators of educational projects and 'critical friends' for the students carrying them out.

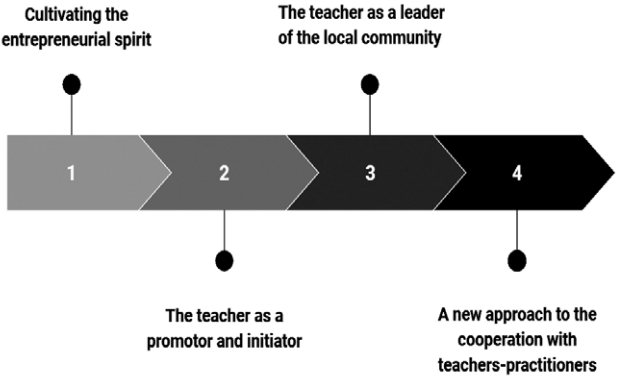


Figure 2. Areas of changes in the approach to teacher education in kindergarten and early school education. Source: own study

The adoption of a broad and critical understanding of entrepreneurship (Berglund & Verduijn, 2018, p. 13) suggests that this competence can be a way to freedom and creativity, thus meeting the challenges of today.

Bibliography

Bacigalupo, M., Kampylis, P., Punie. Y., Brande, & G. Van den. (2016). *EntreComp: The Entrepreneurship CompetenceFramework.* Luxembourg: Publication Office of the European Union; EUR 27939 EN; Retrieved 15/02/2019, from:: http://publications.jrc.ec.europa.eu/repository/bitstream/JRC101581/lfna27939enn.pdf .

Berglund, K., & Verduijn, K. (2018). Introduction: Challenges for entrepreneurship education. In: Berglund, K., & Verduijn, K. (Eds.), *Revitalizing Entrepreneurship Education: Adopting a Critical Approach in the* Classroom. (pp.3–24). London: Routledge.

Curth, A. (2011), Mapping of teachers' preparation for entrepreneurship education. Final Report, Retrieved 01/07/2019, from: https://www.ab.gov.tr/files/ardb/evt/1_avrupa_birligi/1_9_politikalar/1_9_4_egitim_politikasi/mapping_en.pdf

Dijk T.A. van. (1990). The future of the field: Discourse analysis in the 1990s. *Text, 10*, 133–156.

European Innovation Scoreboard. (2018). Retrieved 20/03/2019, from: https://ec.europa.eu/growth/content/european-innovation-scoreboard-2018-europe-must-deepen-its-innovation-edge_en.

Gee, J.P. (2011). *How to do Discourse Analysis: A Toolkit*. New York: Routledge. Retrieved

10/10/2019, from: http://105.235.201.125/Linguistic/How%20to%20do%20Discourse%20Analysis,%20A%20Toolkit.pdf

Guilhaumou, J., Maldidier, D., & Robin, R. (1994). *Discours et archive: expérimentations en analyse du discours*. Paris: Mardaga.

Hjorth, D. (2011), On provocation, education and entrepreneurship. *Entrepreneurship & Regional Development*, *23*, 49–63.

Johnstone, B. (2018). *Discourse analysis*. Hoboken, NJ: John Wiley & Sons.

Kłosiński, M. (1994). Semantyczna analiza pojęć "bezrobocie" i "bezrobotny" („ bezrobotni") w wypowiedziach prasowych [Semantic Analysis of Terms 'Unemployment' and 'Unemployed' in Press Releases], *Kultura i społeczeństwo*, 38(3).

Kondracka-Szala, M., & Malinowska, J. (2017). Entrepreneurship as the key competence of early education teachers in the context of employers' expectations - research report. *The New Educational Review*, *49(3)*, 239–249.

Korhonen, M., Komulainen, K., & Räty, H. (2012). Not everyone is cut out to be the entrepreneur type: How Finnish school teachers construct the meaning of entrepreneurship education and the related abilities of the pupils. *Scandinavian Journal of Educational Research*, *56(1)*, 1–19.

Malinowska, J. (2017). Change of students' activities in the process of becoming a teacher. *Andragoška spoznanja*, *23(3)*, 92.

Ornstein, A.C. (1990). *Strategies for Effective Teaching*. New York: Harper Collins.

Ruskovaara, E., Hämäläinen, M., & Pihkala, T. (2016). Head teachers managing entrepreneurship education–Empirical evidence from general education. *Teaching and Teacher Education*, *55*, 155–164.

Ruskovaara, E., Pihkala, T., & Lahikainen, K. (2018). European approaches to enterprise education. In Turner, J.J. & Mulholland, G. (Eds.) *International Enterprise Education: Perspectives in theory and practice* (pp. 1–22). London: Routledge.

Seikkula-Leino, J., Ruskovaara, E., Ikavalko, M., Mattila, J., Rytkola, T. (2010). Promoting entrepreneurship education: the role of the teacher?, *Education+ training*, *52(2)*, 117–127.

Topczewska, U. (2017). Analiza pola semantycznego jako metoda badania dyskursu [Semantic Field Analysis as a Method of Discourse Research]. In: Czyżewski, M., Otrocki, M., Piekot, T. et al. (eds), *Analiza dyskursu publicznego. Przegląd metod i perspektyw* badawczych [Analysis of Public Discourse: A Review of Research Methods and Perspectives], Warszawa: Sedno.

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The New Educational Review

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The Relationship between Distributed Leadership and Work Self-Efficacy with the Mediating Role of Academic Optimism of the Teacher

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Abstract

The purpose of this study was to investigate the relationship between distributed leadership and job self-efficacy with the mediating role of academic optimism of the teacher. This study is applied and correlation research based on structural equation modeling. 281 teachers of Zahedan city were selected using stratified random sampling. To collect information, three questionnaires were used: distributed leadership (Gholami, Sahranavard, & Azizi, 2014), job self-efficacy (Riggs & Knight, 1994) and teacher's academic optimism (Beard, Hoy, & Woolfolk, 2010). For data analysis the Pearson correlation coefficient was calculated using SPSS and structural equation modeling was done using Lisrel software. Based on the results the direct effect of distributed leadership on job self-efficacy (β=0.33), the direct effect of distributed leadership on teacher's academic optimism (β=0.76) and the direct effect of teacher's academic optimism on job self-efficacy (β=0.42) was found to be significant. The indirect effect of distributed leadership on job self-efficacy was also found to be significant with the mediating role of organizational laziness (β=0.352). Therefore, it can be concluded that through applying a distributed leadership style in schools (with regard to trust-based leadership, a democratic climate, comprehensive support, and teachers' professional development) the level of teachers' academic optimism increases. With an increase in teachers' academic optimism, their job performance can be expected to improve.

Keywords: *Distributed Leadership, Teacher's Academic Optimism, work Self-Efficacy*

Introduction

Work self-efficacy was first proposed by Cherniss in 1993. He introduced the concept of job-related self-efficacy, which is identified as belief in the ability to properly implement the professional role (Hassani & Tima, 2013). Lubbers, Loughlin, and Zweig (2003) state that work self-efficacy is cognitive evaluation of the abilities needed for better performance of a job. Factors affecting the performance of the work of a teacher are self-efficacy beliefs in general, and self-efficacy in teaching. Tschannen-Moran & Woolfolk Hoy (2001) define teacher self-efficacy as his/her judgment about his/her ability to create positive outcomes for student learning and engaging them in academic affairs, even with troubled or non-motivated students. Previous studies indicate that job-related self-efficacy is an important predictor for career exploration, job maturity; job stability patterns, job satisfaction and commitment, and work effectiveness can affect job performance through these constructs (Zolhayat, Noorbakhsh, & Sepasi, 2017). Teachers with positive self-efficacy reported higher levels of commitment and enthusiasm for their work, and lower levels of stress (Kavehei, Ashouri, & Habibi, 2014).

One of the factors affecting teachers' job-related self-efficacy might be the leadership style of the school principals. A distributive leadership style is one of the modern leadership styles. A distributive leadership style is a form of leadership based on trust and full authority relegation with emphasis on the role of members in progress towards goals (Iles & Feng, 2011). Distributive leadership leads to extensive and participatory decision-making processes so that responsibilities are implemented in-group instead of individually. This increased participation in decision-making by more members leads to greater commitment to the organization's goals and strategies (Harris, 2004). Distributed leadership environments provide employees with the opportunity to set goals for their career and professional growth; provide opportunities for informal, formal, and complementary learning; and ultimately improves employee performance (Grant & Carl, 2011). In schools, a distributive leadership approach means sharing power and performance of tasks by employees and teachers (Robinson, 2008). In distributive leadership, leadership occurs through the teachers, school trustees, and even students are allowed and trusted to guide the classroom and learning activities as the teacher (Gronn, 2009). Shakir (2011) argues that effectiveness and improvement in schools can be achieved when leadership power is distributed among stakeholders. Leithwood et al. (2007) believe that what is evident in a distributive leadership paradigm is the increasing power of teachers. Experimental evidence indicates that distributive leadership is associated with improved relationships in schools, increased

participation and responsibility, job satisfaction, professional and organizational commitment, and self-efficacy of the teacher (Mascall, Leithwood, Straus, & Sacks, 2008).

Academic optimism is a new psychological construct that Hoy, Tarter and Woolfolk Hoy (2006) put forward which includes three components of the collective efficacy of a teacher, the trust of teachers in parents and students, and academic emphasis. A teacher's sense of efficacy is defined by his or her judgment of his or her ability to achieve the desired outcomes of classroom participation and student learning, even with those that are stubborn and non-motivated. Teachers' trust in students and parents includes teachers' feelings that students and parents are trustworthy, competent, truthful, and receptive. Academic emphasis denotes the teacher's belief about the academic achievements of students and their focus on learning and academic assignments (Woolfolk Hoy, Davis, & Pape, 2006).

The model of academically optimistic teachers reflects people with a humanitarian and trustworthy approach to managing students, helping them plan and evaluate their own work, to benefit from informal assessments. Such teachers are overworked, accept parents in the classroom, energize their students, help them and tend to cooperate and bond rather than pressure and punish (Badri Gargari, Beyraami, & Gholaami, 2015). Studies show that the construct of academic optimism helps create a positive school environment. In addition, such an environment causes development of teachers' self-efficacy (Hoy et al., 2006). Bevel and Mitchell (2012) concluded that in schools with high academic optimism, there is trust among teachers, students, and parents towards each other, and such trust creates empathy among them, the outcome of which is the academic achievement of the students.

As the literature reviewed indicates, some research has been conducted on distributive leadership style, occupational self-efficacy, and academic optimism of teachers. However, studies investigating the relationship between these three variables at the same time are rare. The research gap in this area and the desire to attempt to identify factors affecting promotion of the occupational performance of teachers was the main motive for this research. The reason is that if the functional significance of these variables in increasing and improvement of performance of teachers is considered, a step could be taken towards greater academic achievement of students. Therefore, the current research attempts to answer the question: is there a relationship between distributive leadership and job-related self-efficacy of teachers with the mediating role of the teacher's academic optimism?

Method

The current study is experimental in terms of the objective and correlational, based on a structural equation model in terms of methodology. The statistical population included 1041 first high school teachers (482 males and 559 females) in Zahedan city. 281 teachers, consisting of 130 males and 151 females, were randomly selected keeping proportion for gender and using Cochran's sampling formula. Three questionnaires were employed to collect the data:

A) *Distributive Leadership Questionnaire (Gholami, Sahranavard, & Azizi, 2014):* The questionnaire consisted of 25 items and 4 dimensions of Teacher professional development (11 items), Confidence-based leadership (3 items), Democratic climate (4 items), and Overall support (7 items). It was organized on a 5-point Likert scale from very little to too much. The minimum and maximum means were 1 and 5, respectively. The mean closer to 5 is a sign of the use of a more distributive leadership style in the school.

B) *Job self-efficacy Questionnaire (Riggs & Knight, 1994):* The questionnaire consisted of 31 items and 4 dimensions of Individual self-efficacy beliefs (10 items), Expectation of individual outcomes (8 items), Collective self-efficacy beliefs (7 items), and Expectation of collective outcomes (6 items). It was organized on a 5-point Likert scale from "quite disagree" to "quite agree". The minimum and maximum means of the questionnaire were 1 and 5, respectively. A mean closer to 5 is a sign of more Job-related self-efficacy.

C) *Teacher's academic optimism Questionnaire (Beard, Hoy, & Woolfolk, 2010):* The questionnaire consisted of 11 items and 3 dimensions of Teacher Efficiency (4 items), Parent and Student Confidence (4 items), and Academic Emphasis (3 items). It was organized on the 5-point Likert scale from "quite disagree" to "quite agree", being represented by scores 1 and 5, respectively. The minimum and maximum mean were 1 and 5, respectively. The closer to 5 mean it is a sign of more teacher's academic optimism.

Using the Cronbach's alpha test, the reliability was calculated, and for distributive leadership (0.942), job-related self-efficacy (0.775) and teacher's academic optimism (0.88) respectively. Descriptive statistics, including frequency, percentage, mean, standard deviation, skewness and kurtosis, and inferential statistics, involving the Pearson correlation coefficient and a structural equation model, were employed to analyze the data in SPSS21 and Lisrel software.

Findings

Structural equation modeling was used to investigate the hypotheses of the study. Table 1 represents descriptive indexes of variables including mean, standard deviation, and skewness and kurtosis.

Table 1. Descriptive statistics for the study variables

Variable	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
Distributive Leadership	1.65	5	3.806	0.637	-0.822	0.558
Academic optimism	1	5	3.876	0.691	-0.799	0.740
Job self-efficacy	2.2	5	3.184	0.434	1.120	1.218

In causal modeling, the distribution of variables should be normal. Thus, the absolute value of the skewness and kurtosis of the variables should not be greater than 2. As shown in Table 1, the absolute value of the skewness and kurtosis of all variables is in line with the desired standard. Causal modeling assumes a normal distribution. In addition, before designing structural equation modeling, the relationship between the variables of the study was investigated by a Pearson correlation coefficient test. A significant relationship was observed between distributive leadership, teacher's academic optimism and job self-efficacy (r=0.541 and 0.387, respectively), while teacher's academic optimism was positively related to job self-efficacy (r=0.444). Structural equation modelling was used for evaluating the relationship between the variables of the study. Model fit was assessed before investigating the assumptions of the study. The size of the model fit was utilized in determining the relationship between overt and covert variables. According to researchers, fit indexes include Goodness-of-Fit Index (GFT), comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and Root Mean Residual (RMR). Regarding the last three indexes, the appropriate amounts of fit are less than 0/8, 0/08, and 0/05 respectively. As shown in Table 2, the fit results are appropriate.

Table 2. Fit indexes of the theoretical model of the study

Index	Amount achieved in the model
Goodness of Fit (GFI)	0.92
Root Mean Residual (RMR)	0.037
comparative Fit Index (CFI)	0.94
Root Mean Square Error of Approximation (RMSEA)	0.072

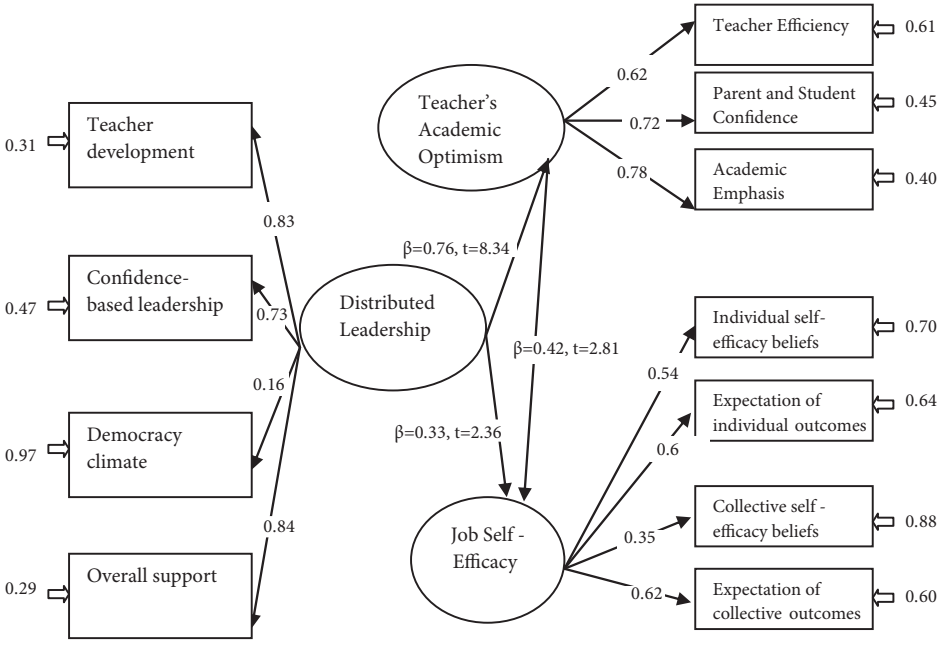


Figure 1. Fitted model of the study (standard coefficients)

Discussion

The present study aimed to investigate the relationship between distributed leadership and job self-efficacy with the mediating role of teacher's academic optimism. The findings indicated a positive and significant relationship between distributed leadership and job-related self-efficacy of teachers. It might said that managers who select a distributed leadership style to manage their school affairs, may increase their teachers' empowerment. It may be that distributive and collaborative leaders increase individuals' motivation by empowering them and creating organic structures rather than mechanical structures in the organization. Principals with a distributed leadership style align personal goals with organizational goals and avoid organizational and work–related problems such as wordlessness, lack of interest, lack of creativity, and dissatisfaction. In fact, distributive leadership can enhance teachers' self-efficacy by creating school organizational conditions such as participatory decision making, teamwork, teacher collaboration, and an

open and reliable environment (Farahbakhs & Rasouli, 2019). Sun and Xia (2018) found that leadership styles that enhance employee engagement and relationships play a key role in enhancing employee empowerment and self-efficacy. Unterrainer et al. (2017) concluded that job-related self-efficacy can be influenced by a distributed leadership style.

The second finding showed that there is a positive and significant relationship between distributed leadership and teacher's academic optimism. It can be accepted that distributive leadership is shared leadership which distributes the leadership tasks among individuals and existing roles in the organization. Handing over leadership responsibilities to school teaching staff requires mutual trust between leadership and members. School principals who apply a distributed leadership style create a climate of intimacy and trust through developing human communications at the school. As the trust of principals and teachers increases, so the teachers' motivation and optimism increases (Beycioglu, Ozer, & TayyarUgurlu, 2012). Mascall et al. (2008) in their survey of 1640 schools considered distributive leadership as an effective factor for improvement of academic optimism among teachers. Chang (2011) in a survey of 1500 Taiwanese teachers found that distributive leadership not only has a positive significant relationship with academic optimism, but that it also indirectly increases student achievement and makes schools more effective.

The third finding showed that there is a positive and significant relationship between teacher's academic optimism and job self-efficacy. It seems that academic optimism builds on the positive belief in teachers that they can do their job by emphasizing teaching and learning, by trusting in the involvement of parents and students, and by believing in their capacity and efficiency to overcome problems and failures. Thus, they can perform well and improve school effectiveness and student achievement (Woolfolk Hoy, et al., 2006). Nelson (2012) found teachers who have higher academic optimism feel greater self-efficacy in performing their duties. Badri Gargari et al. (2015) found that teachers' job self-efficacy can be influenced by their academic optimism.

The fourth finding showed that there is a positive and significant relationship between distributed leadership and job-related self-efficacy with the mediating role of teacher's academic optimism. In this style of leadership, the role of leadership is at the level of supervisors who only oversee the process of engaging teachers to carry out activities and see teachers as leverage to accomplish goals so that they themselves can make the right decisions and determine how to do things. This creates motivation and academic optimism in teachers (Williams, 2010). When teachers are optimistic, they make academic affairs their priority and have high

expectations for the success of their students (Goddard et al., 2000). In addition, when the teachers are optimistic, they trust in their abilities in teaching and in parents for their support for the classroom, and they feel job-related self-efficacy (Woolfolk Hoy et al., 2006).

Conclusion

In summary, distributed leadership is positively and significantly associated with job-related self-efficacy, and both directly and indirectly with the mediating role of the teacher's academic optimism. Considering the findings of the research, it is suggested that in-service distributive leadership style courses are held for the principals of schools so that they realize its foundations, goals, significance, and outcomes. It is also suggested that school principals should offer more authority and more support for teachers and teams, and improvement of the atmosphere of trust and confidence in schools is recommended. This study was limited to a specific location of Iran in a spatial sense; it is clear that the views of Zahedan city teachers cannot be fully representative of the views of staff throughout the country, which limits the spatial generalization of these research findings. In order to increase the generalization power of the research findings, similar research should be conducted in other cities and countries and on other staff.

References

Badri Gargari, R., Beyraami, M., & Gholaami, S. (2015). Academic Optimism, Occupational Goal Orientation, and Job Satisfaction among Teachers. *Quarterly Journal of Education*, 31(2), 71–89.

Beard, KS., Hoy, WK., & Woolfolk Hoy, A. (2010). Academic optimism of individual teachers: Confirming a new construct. *Teaching and Teacher Education*, 26(5), 1136–1144.

Bevel, RK., Mitchell RM. (2012). The effects of academic optimism on elementary reading achievement, *Journal of Educational Administration*, 50(6):773–787.

Chang H. (2011). A study of the relationships between distributed leadership, teacher academic optimism and student achievement in Taiwanese elementary schools. *School Management and Leadership,* 31(5), 491–515.

Goddard, R., Hoy, W., & Hoy, A. (2000). Collective Teacher Efficacy: Its Meaning, Measure, and Impact on Student Achievement. *American Educational Research Journal,* 37(2), 479–507.

Grant, CP., Carl, P. (2011). *The Relationship between distributed leadership and principals*

leadership effectiveness in North Carolina., Thesis for the degree of doctor of philosophy, North Carolina State university.

Gronn, P. (2000). Distributed Properties. A New Architecture for Leadership. *Educational Canadian Journal of Education*, 28(3), 317–338.

Harris, A. (2004). Distributed leadership and school improvement. *Educational Management Administration & Leadership*, 32(1), 11–24.

Hassani, H., Tima, P. (2013). Investigating the Interactive Role of Accountability and Job Self-Efficacy on Organizational Citizenship Behavior and Political Behavior. *Journal of Public Administration,* 5(1), 89–110.

Hoy, WK., Tarter, LJ., & Woolfolk Hoy, A. (2006*).* Academic optimism: A second order confirmatory analysis*,* In Hoy, WK., Misker, CG. (Eds.), *Contemporary issues in educational policy and school outcomes*, Greenwich: Information Age Publishing.

Iles, P., Feng, Y. (2011). Distributed leadership, knowledge and information management and team performance in Chinese and Western groups. *Journal of Technology Management in China*, 6(1), 26–42.

Kavehei, T., Ashouri, A., & Habibi, M. (2014). Predicting job satisfaction based on self-efficacy beliefs, teachers' sense of efficacy, job stress and hierarchy of needs in exceptional children's teachers at Iorestan province. *Exceptional Education*, 4(126), 5–15.

Leithwood, K., Mascall, B., Strauss, T., Sacks, R., Memon, N. and Yashkina, A. (2007). Distributing leadership to make schools smarter: taking the ego out of the system. *Leadership and Policy in Schools*, 6(1), 37–67.

Lubbers, R., Loughlin, C., & Zweig, D. (2003).Young workers job self-efficacy and affect: Pathways to health and performance. *Journal of Vocational Behavior*, 67(1), 199–214.

Mascall, B., Leithwood, K., Straus,T., & Sacks, R. (2008). The relationship between distributed leadership and teachers' academic optimism. *Journal of Educational Administration*. 46(2), 214–228.

Nelson, L.M. (2012). *The Relationship Between Academic Optimism and Academic Achievement in Middle Schools in Mississippi*. A Dissertation Submitted to the Graduate School of The University of Southern Mississippi in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy, The University of Southern Mississippi.

Robinson, V. (2008). Forging the links between distributed leadership and educational outcomes. *Journal of Educational Administration*, 46(2), 241–256.

Shakir, FJ. (2011). Perceptions towards Distributed Leadership in School Improvement. *International Journal of Business and Management,*. 6(10), 256–265.

Sun, A., Xia, J. (2018). Teacher-perceived distributed leadership, teacher self-efficacy and job satisfaction: A multilevel SEM approach using the 2013 TALIS data. *International Journal of Educational Research,* 92(2018), 86–97.

Tschannen-Moran, M., Woolfolk Hoy, AE. (2001). Teacher Efficacy: Capturing an Elusive Construct. *Teaching and Teacher Education*, 17(7), 783–805.

Unterrainer C., Jeppesen HJ., & Jønsson TF. (2017). Distributed Leadership Agency and Its Relationship to Individual Autonomy and Occupational Self-Efficacy: a Two Wave-Mediation Study in Denmark. *Humanistic Management Journal*, 2(1), 57–81.

Woolfolk Hoy, A., Davis, H., & Pape, S. (2006). Teachers' knowledge, beliefs, and thinking, In Alexander, PA. Winne, PH., (Eds.), *Handbook of Educational Psychology*. Mahwah, NJ: Erlbaum.

Zolhayat, MR., Noorbakhsh, P., & Sepasi, H. (2017). Relationship between Self-efficacy in Career Decision Making & Ethical Climate with Job Effectiveness. *Journal of Ethics and Society*, 12(2), 58–66.

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The New Educational Review

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The Self-efficacy of Physical Education Teachers and Burnout in the Teaching Profession

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Abstract

Teachers, including physical education (PE) teachers, are at risk of burning out in their work. The consequences of this syndrome have a negative impact on the teacher themselves and on their students. Therefore it is very important to identify factors that may prevent its occurrence. Self-efficacy is considered one such factor. The aim of the study was to determine if self-efficacy specific to PE teachers is related to their burnout. The study was conducted using a survey method, with the use of the Physical Education Teaching Efficacy Scale [PETES] and the Maslach Burnout Inventory. A total of 401 PE teachers were surveyed. PE teachers turned out to be rather moderately burnt out, except for one dimension - a reduced sense of personal accomplishments - which in almost the whole sample reached high values. Regression analyses conducted for all three dimensions of burnout were significant, explaining from 4% up to 10% of the variance. The dimension of accomplishments was positively predicted by two kinds of self-efficacy: applying scientific knowledge in teaching PE, and teaching students with special needs. Emotional exhaustion was significantly and negatively predicted by assessment efficacy, and using technology efficacy, and positively by accommodating skill level differences of efficacy. Finally, depersonalization was negatively predicted by instructional efficacy.

Key words: *physical education teachers, burnout, self-efficacy*

Introduction

The term professional burnout refers to a "psychological syndrome of emotional exhaustion, depersonalization and reduced personal accomplishments that occur among individuals who work with other people in some capacity" (Maslach, Jackson, & Leiter, 1996, p.192). The teaching profession is a good example among occupations, imposing so much stress on the people involved in it that burnout becomes a real and serious problem in this community (Hakanen et al., 2006). Among factors causing teachers to burn out in their jobs are difficult relationships with their pupils (disrespect, disobedience, contrariness), over-crowded classes, educational reforms which are not always favorable for teachers, parents who take too much for granted, and low salaries, to name but a few (Brudnik, 2010; Aloe et al., 2014). Physical education (PE) teachers may experience additional factors such as having a sense that their subject is of low prestige, inadequate gym space, the impetuous nature of pupils' activities, noise etc. (Brudnik, 2010; Colakoglu & Yılmaz, 2014; Bartholomew et al., 2014). The abovementioned conditions, along with the high requirements of the teaching profession, can put teachers under severe stress that can accumulate and, with the passing of time, result in burnout. According to Maslach et al., (1996) this phenomenon involves three dimensions: emotional exhaustion, which is the expression of fatigue and the sense of professional exploitation and is manifested by irritability, mood decline, and even somatic symptoms, like headaches or insomnia; depersonalization, the essence of which is an indifferent, heartless, dehumanized, unsentimental, or even negative attitude to pupils; and reduced personal accomplishment, or downgrading one's own capabilities, lowered perceptions of competence and lack of satisfaction within professional accomplishments. The situation in which a person manifests simultaneously a high level of emotional exhaustion, a high level of depersonalization and a significant reduction in the sense of personal accomplishments is considered as a full-symptom burnout. Taking into consideration the serious consequences of burnout, both for the teachers themselves and for the pupils in their charge, it is important to investigate causes of the phenomenon indicated and ways to prevent it.

Among psychological factors that can make teachers more resilient to burnout self-efficacy is being considered. This notion was proposed by Bandura (1997) to describe beliefs that one possesses "capabilities to organize and execute the courses of action required to produce given attainments" (p.3). As self-efficacy is domain, and even context, specific, in the context of the teaching profession it may be conceptualized as teachers' "beliefs in their own ability to plan, organize and carry

out activities which are required to attain educational goals" (Skaalvik & Skaalvik, 2010: p. 1059). As such, it not only has an effect on the educational goals one sets for oneself, one's motivation in challenging situations, the level of effort put into educational tasks, or one's persistence in difficult situations (Savaş, Bozgeyik, & Eser, 2014; Oakes, 2013), but can also be related to burnout (Skaalvik & Skaalvik 2010; Brown 2012; Oakes 2013; Savaş, Bozgeyik & Eser, 2014).

Brown (2012) suggests, in her review of studies on teachers' self-efficacy and teacher burnout, that high efficacy beliefs are an "important stress resource factor in mitigating teacher burnout" and that teachers possessing them "may perceive the objective demands of daily teaching as being less threatening than those teachers who harbor self-doubts about their professional performance. Being able to manage stressful demands could prevent the emergence of teacher burnout" (p. 49). However, most empirical evidence on the relationship between self-efficacy and burnout originates from studies of teachers working in contexts other than PE. Since, referring to Bandura's self-efficacy theory, mentioned earlier, this construct is specific to the context and situations, then measures of self-efficacy should also be tailored to the specificity of the job demands of PE teachers, which are quite different from math, history or language teachers. Firstly, PE teachers work in a unique environment(-s) – the gym, the swimming pool, the sports field. Secondly, activities they teach are more dynamic, spontaneous and impetuous. These – and other – characteristics of PE classes allow children to blow off steam, to find physical fulfillment, to express emotions, to shout out, but at the same time create enormous stress and challenge for PE teachers. As a consequence, factors that may cause burnout, as well as those which should constitute a sense of efficacy in meeting the challenges of PE lessons, need specific reflection. Taking the abovementioned factors into consideration, the purpose of the study was to explore if and how PE teachers' burnout and their self-efficacy in PE were related.

Methodology of Research

Research Sample

In total 401 PE teachers working in schools in Katowice and neighboring cities were surveyed (including 177 women), aged 40.52±9.11 years.

Instrument and Procedures

They filled in two questionnaires: 1/ Maslach Burnout Inventory (MBI) (Pasikowski, 2000) and 2/ Physical Education Teaching Efficacy Scale (PETES]

(Humphries et al., 2012). The MBI consists of 22 items, divided into three subscales measuring three dimensions of burnout: emotional exhaustion, depersonalization, and a lowered sense of personal accomplishments. Each item is anchored to a 7-point scale which allows the respondent to express the frequency of experiencing a given symptom, ranging from 0 (never) to 6 (every day). Reliability of the tool was measured by a method of internal consistency with the use of the Cronbach alpha equation. Reliabilities of the sub-scales concerning a sense of personal accomplishments and emotional exhaustion were satisfactory, reaching Cronbach's α of 0.77 and 0.89, respectively. The depersonalization subscale reached alpha values somewhat below the threshold of 0.60 which is considered as a limit of acceptable reliability, however such low values were also observed in more than 30 studies, including those aimed at preparing the Polish adaptation of MBI (Pasikowski, 2000). Therefore, according to Pasikowski (2000), relatively low reliability of the subscale may indicate some imperfection of the measure or may result from the specificity of the Polish population.

The PETES consists of seven subscales, each aimed at measuring one of the following dimensions of self-efficacy specific for teaching in PE: 1/ "Efficacy about PE content knowledge" (conviction that one possesses deep knowledge about various forms of physical activity and how to teach them, for example "I know a lot about fitness and can teach it effectively"), 2/ "Efficacy for applying scientific knowledge in teaching PE" (conviction that one is knowledgeable about developmental regularities of pupils, teaching motor skills, teaching standards etc., for example "I have a good grasp of exercise science concepts (from exercise physiology, biomechanics, motor learning and sport psychology), and can apply them to teaching physical education"), 3/ "Efficacy about accommodating skill level differences" (feeling efficient in addressing individualization problems, for example "If one of my students was having trouble with a drill, I know ways to change it to make it easier for them"), 4/ "Efficacy about teaching students with special needs" (knowing how to work with children with disabilities and impairments, for example "I know how to teach effectively a student with ADHD in my PE class"). 5/ "Efficacy about instruction" (efficacy in organizational, communicational and teaching skills, for example "I can use clear teaching clues that help students remember and understand how to do a skill correctly"), 6/ "Efficacy for using assessment"(being knowledgeable about applying assessment methods and principles in PE, for example "My grades reflect how well students have learned what I wanted them to learn"), 7/ "Efficacy for using technology" (being acquainted with using technological aids having applications in motor learning, for example "I am aware of technology-based equipment and computer programs

for PE, even if I don't have it"). Each item is accompanied by a 10-point scale from 1 – don't agree to 10 – agree. The measure was adapted by the use of the translation – back translation method and checked by the authors during a pilot study. All subscales were reliable, obtaining alpha values as follows: content knowledge 0.73, applying scientific knowledge in teaching PE 0.76, accommodating skill level differences 0.91, teaching students with special needs 0.65, instruction 0.83, assessment 0.76, using technology 0.84.

Data analysis

Descriptive statistics were shown as means and standard deviations. To assess the relationships between individual dimensions of burnout and teachers' self-efficacy stepwise regression analysis was used. All calculations were made in the Statistica 13.0 (Statsoft, PL) Software.

Results of the research

Burnout syndrome among physical education teachers

Means of individual dimensions of burnout among PE teachers are shown in Table 1. As it can be seen PE teachers can be described as moderately emotionally exhausted (M=18.78, SD=6.79), moderately depersonalizing their students (M=7.32, SD=4.67), but as having a high level of a decreased sense of personal accomplishments (M=25.45, SD=2.90). The only statistical difference between female and male teachers was observed in emotional exhaustion, which was higher among female teachers, but one should bear in mind the low value of the effect size measure (Cohen's d= 0.23) which suggests that the relationship between both variables is rather weak.

Table 1. Descriptive statistics (means and standard deviations) of burnout dimensions in PE teachers for the whole sample and separate for each sex

	Total		Female		Male		Difference female/male			
	M	*SD*	*M*	*SD*	*M*	*SD*	*t*	*df*	*p*	*d*
Emotion Exhaust	18.78	6.79	19.66	6.80	18.09	6.72	-2.30	399	0.022	0.23
Depers.	7.32	4.67	7.36	2.84	7.28	2.95	-0.28	399	0.783	0.03
Accompl	25.45	2.90	25.72	4.21	25.23	5.01	-1.03	399	0.302	0.11

Since means do not always give a satisfactory picture of the examined population – at least due to their sensitivity to extreme results, which, depending on their location in the distribution, can overstate or understate the average values – a quantitative analysis was also performed. So, the numbers of teachers who met the criteria of a low, moderate and high level of particular dimensions of burnout were calculated (Pasikowski, 2004). The results of this analysis are shown in Table 2.

Table 2. The number and proportion of PE teachers meeting reference criteria of low, medium and high level of burnout in particular dimensions

	Low burnout		Moderate burnout		High burnout	
	n	**%**	**n**	**%**	**n**	**%**
Emotional Exhaustion	174	43.39%	171	42.64%	56	13.97%
Depersonalization	194	48.38%	182	45.39%	25	6.23%
Decresed Sense of Accomplishments	0	0%	18	4.49%	383	95.51%

Considering the abovementioned criteria, it was found that more than half of the PE teachers may be classified as at least moderately emotionally exhausted, and slightly more than 1 in 10 of them is highly exhausted. A slightly lower percentage of respondents was diagnosed as at least moderately burnt out in the dimension of depersonalization, although compared to the previously discussed group a smaller proportion of teachers was burned out to a high degree. Particularly noteworthy are the results referring to the last burnout dimensions - the reduced sense of personal accomplishments – where almost all the PE teachers surveyed reached high values on this dimension.

PE teachers' self-efficacy as a predictor of burnout

In order to reveal the relationships between the dimensions of burnout and self-efficacy a series of stepwise regression analyses were performed. Calculated for the entire sample all models were significant. The highest proportion of explained variance was found in the accomplishments dimension: R^2=0.10, $F_{(2,398)}$=23.31 p<0.001, in which two kinds of self-efficacy turned out to be its significant predictors: concerning the application of scientific knowledge in teaching PE (β=0.23, $t_{(398)}$=4.33, p<0.001) and about teaching students with special needs (β=0.16, $t_{(398)}$=3.05, p=.002). The emotional exhaustion model explained 7% of variance

(R^2=0.07, $F_{(4,398)}$=7.64 p<0.001) and significant predictors were: assessment efficacy (β=-0.32, $t_{(396)}$=-3.93, p<0.001), accommodating skill level differences efficacy (β=0.24, $t_{(396)}$=3.12, p=0.002) and using technology efficacy (β=-0.15, $t_{(396)}$=-2.55, p=0.011). The regression model for depersonalization was significant, but explained the smallest portion of variance (R^2=0.04, $F_{(2,398)}$=8.00 p=0.002), with instructional efficacy being the only predictor of this dimension (β=-0.27, $t_{(396)}$=-3.11, p=0.002).

Performed separately for male and female teachers, regression analyses revealed some differences between them. Within the dimension of the emotional exhaustion model, parameters were as follows: R^2=0.08, $F_{(2,221)}$=9.10, p<0.001 for males and R^2=0.06, $F_{(1,175)}$=11.74, p<0.001 for females. In the former group significant predictors of burnout were efficacy assessment (β=-0.38, $t_{(221)}$=-4.26, p<0.001) and accommodating skill level differences (β=-0.24, $t_{(221)}$=2.76, p=0.006), in the latter group only efficacy in using technology (β=-0.25, $t_{(175)}$=-3.43, p<0.001). No dimension of self-efficacy was related to depersonalization in male teachers (R^2=0.00, $F_{(3,220)}$=2.04, *p*<0.110), which contrasted with results obtained for their female fellow teachers for whom the model was significant: R^2=0.10, $F_{(3,173)}$=6.75706, p<0.001. Two of the self-efficacy categories were found to be significant predictors of the referred dimension of burnout: instruction efficacy (β=-0.35, $t_{(173)}$=-2.15, p<0.032) and content knowledge (β=-0.34, $t_{(173)}$=2.08, p<0.039). Besides this, in the final model a third kind of self-efficacy appeared, applying scientific knowledge in teaching PE, with the *p* value suggesting a trend towards significance (β=-0.26, $t_{(173)}$=1.91, p<0.058). The model for the third burnout dimension, decreased sense of professional accomplishments, was found to be significant both in males and females, respectively, R^2=0.11, $F_{(2,221)}$=13.381, p<0.001 and R^2=0.10, $F_{(2,174)}$=10.08, p<0.001. In both sexes two kinds of self-efficacy found their place in the final models: applying scientific knowledge in teaching PE and teaching students with special needs. However, while the former was a significant predictor in both sexes, (male teachers: β=0.25, $t_{(221)}$=1.91, p<0.001, female teachers: β=0.21, $t_{(174)}$=2.74, p<0.007), the latter was a significant predictor of accomplishments in female teachers – (β=0.18, $t_{(174)}$=2.38, p<0.018), while in males the *p* reached a value showing a trend toward significance - β=0.13, $t_{(221)}$=1.87, p<0.063.

Discussion

The aim of the study was to reveal if there was a relationships between the self-efficacy of PE teachers and their professional burnout. It should be empha-

sized that the construct of self-efficacy was measured in a way that stressed the specificity of the challenges met by PE teachers. We consider this fact as important, because this aspect has rarely been studied in this professional group, and in fact, preliminary database research (Sport Discuss, Academic Search Premier) showed no results for a combination of the keywords "physical education" AND teachers AND self-efficacy AND burnout.

Professional burnout of PE teachers as such, and its correlates as well, were studied by several authors. In Poland the problem was taken up for example by Brudnik (2010), who studied how burnout and self-efficacy were related, having found that in PE teachers the latter played a preventive role towards all three components of burnout, especially among male teachers, where correlation coefficients were stronger than in females. However, self-efficacy in her research was measured by the General Self-Efficacy Scale, which aimed to assess self-efficacy as a generalized sense, or personality trait, of being capable to solve various problems in life and reach personal goals, so "a situation-independent competence belief" (Scherbaum, Cohen-Charash, Kern, 2006: p.1084). Whereas, according to Bandura, self-efficacy is a construct that relates to particular kinds of tasks, and even particular tasks or situations. It is obvious that teachers as a whole face common challenges and obstacles, but it is also true that teachers of particular subjects face challenges and barriers that are unique for their specialization, and therefore self-efficacy in managing them should be measured accordingly. Therefore, a PE teachers' self-efficacy measure was created (Humphries et al., 2012) and used in our study. We have found that some dimensions of such specific PE teacher self-efficacy may serve as factors protecting them against burning out, although it should be honestly mentioned that the proportion of variance explained by the models with self-efficacy as a predictor of particular dimensions of burnout was quite small, not exceeding 10–11%. What seems to be interesting, is that, while in most cases self-efficacy appeared to be a protective factor against burnout, one aspect of the former construct – namely "accommodating skill level differences efficacy" was positively related to emotional exhaustion of PE teachers. In other words, the more PE teachers felt efficacious in making efforts in meeting diversified abilities of students during PE classes, the greater was their risk of burning out. Considering that stronger efficacy beliefs in the reported area may result in greater activity of PE teachers in individualizing teaching, then a side effect of it may be a greater risk of being emotionally exhausted, probably because of being more strongly touched by differences that exist in the abilities, capabilities, fitness etc. of their pupils. The main "problem" of PE teachers seems to be their low sense of personal accomplishments, so feeling "undervalued", as this was diagnosed in nearly all respondents. In

this regard two self-efficacy dimensions seem important "boosters" – the teachers' belief that they can successfully apply scientific knowledge in teaching PE and the belief that they can successfully face the challenges imposed by students with special educational needs, for example hyperactivity, touched by behavioural disturbances etc. To our surprise no other self-efficacies loaded the model, but on the other hand it may reflect the balanced preparation, or rather, looking at the low overall mean of the subscale, the unpreparedness of PE teachers, which is the reason why their within group diversification of results is low.

Conclusions

Therefore, even considering the fact that the amount of variance explained by all the models tested was relatively small, we consider strengthening efficacy perceptions of PE teachers as one of the goals in a broader set of strategies to prevent them from burning out in the teaching profession. The main problem that should be addressed is the sense of personal accomplishments, which was low in most of our respondents.

References

Aloe, A.M., Shisler, S.M., Norris, B.D., Nickerson, A.B. & Rinker, T.W. (2014). Multivariate meta-analysis of student misbehaviour and teacher burnout. *Educational Research Review, 12,* 30–44.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bartholomew, K.J., Ntoumanis, N., Cuevas, R. & Lonsdale C. (2014). Job pressure and ill-health in physical education teachers: The mediating role of psychological need thwarting. *Teaching and Teacher Education*, *37*, 101–107.

Brown, C.G. (2012). A systematic review of the relationship between self-efficacy and burnout in teachers. *Educational & Child Psychology, 29,* 47–63.

Brudnik, M. (2010). Macro-paths of burnout in physical education teachers and teachers of other general subjects. *Studies in Physical Culture and Tourism*, *4*, 353–365.

Colakoglu, F.F. & Yılmaz, T. (2014). Burnout levels of physical education teachers according to personal factors. *Procedia - Social and Behavioral Sciences*, *152*, 409–414.

Hakanen, J.J., Bakker, A.B. & Schaufeli, W.B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology, 43*, 495–513.

Humphries, C.A., Hebert, E., Daigle, K. & Martin, J. (2012). Development of a Physical Education Teaching Efficacy Scale. *Measurement in Physical Education and Exercise Science*, *16*, 284–299.

Maslach, C., Jackson, S.E. & Leiter, M. (1996). *Maslach burnout inventory manual*, 3rd ed. Paolo Alto: Consulting Psychologists Press.

Oakes, W.P. et al (2013). Three-tiered models of prevention: Teacher efficacy and burnout. *Education And Treatment of Children, 36*, 95–126.

Pasikowski, T. (2004). Polska adaptacja kwestionariusza Maslach Burnout Inventory [Polish adaptation of the Maslach Burnout Inventory] In: H. Sęk (ed.) *Wypalenie zawodowe przyczyny i zapobieganie [Professional burnout. Causes and prevention]*. Warszawa: Wydawnictwo Naukowe PWN.

Savaş A.C., Bozgeyik Y. & Eser I. 2014, A study on the relationship between teacher self-efficacy and burnout. *European Journal of Educational Research, 3,* 159–166.

Scherbaum, C.A., Cohen-Charash, Y. & Kern, M.J. (2006). Measuring general self-efficacy - A comparison of three measures using item response theory. *Educational and Psychological Measurement, 66*, 1047–1063.

Skaalvik, E.M. & Skaalvik, S. (2010) Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and Teacher Education, 26*, 1059–1069.

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Supporting English Language Teachers in Teaching Autistic Primary School Learners

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Abstract

The aim of the paper is the presentation of the complex problem of a lifelong developmental disorder, known as Autistic Spectrum Disorders (ASD), in the context of inclusive education offered to these students in general, and in teaching of English as a Foreign Language in particular. First, the theories and typical symptoms of autism will be outlined, followed by examining the behaviours that enable teachers to recognise these form of disorders during lessons at school. Next we review some strategies and teaching techniques that may prove efficient and successful in the ELT classroom for both teachers and autistic students. Finally, we concentrate on the analysis of the data collected as a result of a small-scale qualitative study conducted among a group of EL teachers involved in teaching autistic learners. The study was designed with the purpose of interviewing teachers about the efficiency and successfulness of the currently recommended teaching techniques in their classrooms with ASD students.

Key words: *autism, ASD, inclusive education, special educational needs (SEN), English language teaching.*

Introduction

As defined by Thornbury (2017, p. 261), learners have special educational needs (SEN) if, "*for some physical or mental reason, they are disadvantaged and need extra or individualised attention if they are not to be excluded from the classroom learning*

experience. This is what is known as inclusive education". The scope of the potential disabilities and learning difficulties is wide and because of that it is difficult to suggest one and the same approach that will accommodate all the learners' individual needs. However, as recommended by Thornbury (2017, p. 261), there is a set of general principles that needs to be considered and followed to provide them with the best assistance. These include: working on the learner's strengths – as learners with disabilities often have strong compensating abilities; treating the learners the same way one treats other learners (e.g. appreciate success but do not over-praise); setting clear learning goals; scaffolding learning tasks; individualising learning tasks; encouraging other students to work with those with special needs; and, finally, creating a classroom atmosphere that supports diversity.

Inclusive education, which plays a prominent role in the contemporary educational system, is aimed at fulfilling the right of autistic children and young people to be active members of mainstream schools in Poland. These students' full participation in school life and in the acquisition of teaching content is possible on condition that the syllabi, as well as teaching techniques used in their instruction, are tailored and adjusted to their needs and demands. It seems that indeed although over the past few decades a great many aspects of this type of education have been named, reviewed and mastered, we still need to look for answers and solutions that will give students affected by various disorders and their parents a valuable opportunity to integrate in the class, school and the environment. However, constant reflection and the need to educate everyone involved in school life is needed, so that they can quickly and effectively recognise the special educational needs of their pupils and address these needs. It seems that some groups of teachers (e.g. pedagogy graduates) and, of course, special educators are better prepared than others in terms of substantive observation and activities. However, our concern is with foreign language teachers, who sometimes have to face the above problems without adequate preparation in foreign language teaching methodology for inclusive education. Therefore, this article also aims to provide advice for how to teach English to autistic students.

Theoretical considerations

Autism belongs to the diagnostic category called *Pervasive Developmental Disorders (PDDs)*. According to Kerrell (2010, p. 19), this is a complex developmental disability resulting from neurological disorders that negatively affects brain function and is four times more common in men than in women. This disorder adversely affects areas such as social interaction, verbal and non-verbal communication, and imagination. Deficits in these areas include the so-called Autistic Triad. The observable features include, among many others, repetitive

and/or unusual behaviours and limited interests. Autism usually appears in the first three years of life and is known as Autism Spectrum Disorder (ASD). There are two forms of autism – severe, the so-called Kanner's syndrome, and a mild syndrome, referred to as Asperger Syndrome. Thompson (2010) rightly notes that in assessing the situation, it should be remembered that we can talk about various types of this disorder, such as autism, atypical autism, Asperger syndrome, as well as high-functioning autism. This awareness is extremely important because it involves decisions about the entire educational path of such a student, forms of work, and scope of material. Careful reading of the full diagnosis will also be important in organising foreign language education and setting learning goals. For children with high-functioning autism and Asperger Syndrome, who are very often students who display foreign language learning abilities, these goals, forms of work, etc., will often be different than in the case of an autistic or atypical student. In addition, depending on the degree and type of disorder, education, including foreign languages, will take place in different schools/establishments – appropriate to the educational needs of these students.

According to Dahlgren and Gilberg (in Siegel, 1996), despite the fact that communication with autistic children is different from that of their typically developing (TD) peers, they are often not very unusual in their behaviour. They may have difficulty understanding oral and written information, such as following instructions or understanding what they read. However, many of the high-functioning children with Autism Spectrum Disorders are able to identify words, apply phonetic rules and understand the meaning of words. Some, moreover, have a great predisposition within various aspects of language and speech, such as sound production, vocabulary and simple grammatical structures, while showing a lack of skills in having conversations, or using speech/language (knowledge of language rules) for social purposes and in interactions. Autistic students have many strengths that can be useful in learning foreign languages, provided they are known to teachers and are skillfully used in developing the methodology for teaching these types of students. According to Mackenzie (2008, p. 20), these include: exceptional knowledge and/or skills in a given field, such as in mathematics or geography. Such special skills are seen in one in ten students with autism. Another advantage may be their considerable interest and good memory for: word strings (e.g. movie scripts), visual and spatial information (e.g. maps), music and rhythm. Other specific interests may include: interest in flags, clocks, maps, calendars, cars and trains. Wire (2005) shows that teaching foreign languages to autistic students can help alleviate the symptoms of the Autistic Triad. With reference to social interaction disorders, for instance, it seems that learning English can significantly increase

students' awareness of social skills, already at the stage of learning the expressions used to welcome and introduce interlocutors. Modelling and encouragement from the teacher and designated students can also have a beneficial effect in reducing the troubling consequences of this disorder. Another element of the autistic triad is atypical communication: too loud or gentle tone of the voice, lengthy or overly concise syntax, selective mutism, repetition of words or phrases. It is also possible to correct these impediments during foreign language classes, where developing communicative competence is one of the priorities. The potential of this school subject is the fact that all students must gradually develop and finally be able to demonstrate the ability to understand others and be understood, which can prove to be an effective tool in supporting an autistic student in learning to communicate properly with the environment in general. Such an outcome is attainable with the right amount of patient stimulation of the student by the teacher, but also by other students – classmates. Moreover, autistic students' limited adaptability can be compensated for by their preferences for procedures, memorising and repetition – activities that help to achieve success in learning a foreign language. They are useful in learning vocabulary, numerals, phraseological relationships, phatic chunks of language, grammar rules, i.e. those language aspects that give a solid basis for formulating statements, and, on the other hand, help in mastering what is for them a more demanding area in learning a foreign language – communication competence (i.e. the art of using the language correctly in relation to the interlocutor in a communication situation). Saville-Troike (2006) also states that this type of characteristic of children with autism spectrum disorders can successfully help them through foreign language education, (here, English). However, to achieve this educational goal they require that their special needs be met because they have their own specific work and response pattern.

Lumsden (2009) presents his conclusions and reflections on the introduction of French into the curriculum at the Ruchill Autism Unit in Glasgow. All of the students were of early school age. The lessons lasted 30 minutes, and the autistic students, according to the author's report, easily memorised vocabulary and facts over a week and eagerly interacted with typically developing peers. The teaching emphasised cultural aspects that aroused interest and increased the motivation of all of the surveyed students. Some of the techniques and forms of work, mainly as support in teaching vocabulary, included the use of an interactive whiteboard (IWB) and other audiovisual aids, language games based on authentic entertainment programs (e.g. *Who wants to be a Millionaire*) and a culinary meeting. At the end of the course, a trip to Paris was organised (previously, a virtual trip was organised as part of the preparation to reduce the level of anxiety that could occur in the autistic students during this type of event). According to Lumsden (2009),

the learning outcomes of the French language teaching presented here were so encouraging that the introduction of Spanish was being considered.

In the light of the theoretical considerations on the teaching of autistic children, as well as the results of some studies, one can, therefore, propose a number of tips to help teach English in a classroom with autistic students, which we present in the next part of this paper.

Students with Asperger Syndrome exhibit language skills (often from an early age) and many, additionally, have high skills and great potential for faithful copying of an accent (often the North American variety), as well as great memory. Most of them also achieve functional competence in using a foreign language – so-called phatic language, for example how to ask about health, well-being, weather etc. (Duda and Riley, 1990). These predispositions allow us conclude that autistic learners are often students who are able to make fast progress in many aspects of English. What one needs to ensure here, however, is the use of such teaching aids and forms of work that will allow them to use and explore a range of their attributes. For instance, a good exercise for practising English pronunciation would be organising a competition for recognising sounds in minimal pairs (possibly with the use of IWB software), using number-based language games, or using manual skills exercises. A good solution would also be using drama-based techniques for staging short exchanges using phatic language, but also for simple sentences and imitative speech in the form of songs and rhymes.

It should be noted that when choosing the methodology for teaching English, the tendency of students with Asperger Syndrome to monopolise class time (long, pedantic explanations/ monologues, inclusions, complaints, etc.) should be taken into account. It is therefore important to skillfully cut down their lengthy statements – if possible in English (e.g. *Thank you John/Very good John. Thanks it was great* etc.). Also, social stories with this student at the centre of the story will work in such class (e.g. *My Social Stories Book* by Gray and White, 2002). Moreover, advanced knowledge of a given subject/field (a frequent phenomenon in students with autism) can and must be used to increase the level of motivation (e.g. a short presentation on a given topic), or create opportunities to use musical, artistic and/ or computer talent. Other useful tips include conducting classes according to the same routine scheme (greeting, warm-up, drills), which will have a soothing effect on the children, as the order of the stages of a given lesson will be known to them. When giving instructions and commands, it is important to use simple, rather than complex, language. Good cooperation and contact with parents of autistic students will also prove useful and effective, as they give you opportunities to emphasise the child's achievements and tactfully draw attention to existing difficulties. Addition-

ally, they can be encouraged to record material with the child at home. Finally, it is necessary to positively strengthen all good behaviours, both linguistic and social.

In teaching English to autistic students, it is worth using different forms of labelling objects (named in a foreign language – e.g. *a notebook, a pencil, a book*), and use materials with written, laminated class instructions for the teacher and the student (e.g. *Can you repeat please?; Listen to the story; I don't understand; I need help*). The ideal solution would be to prepare a framework lesson plan to be at the student's disposal in order to reduce the level of anxiety as much as possible, as this anxiety may limit these students from the use of their full potential for participation in foreign language classes.

Methodology of research

Instrument and Procedures

In order to find out the opinions of teachers who teach children with autism, a study was carried out to determine the opinions of these teachers on the efficiency and successfulness of some of the techniques described earlier in this paper as recommended in such a didactic environment, with regard to whether or not they bring about the desired educational and developmental effects when teaching students with ASD. The choice of the teachers was not easy, as not many agreed to participate in the study, and although we also posted an invitation on a Facebook site (followed and observed by over 250 teachers) dedicated to teachers of English, none of them expressed their eagerness to attend an interview.

The research problems are as follows: *1. What impact on the teaching of a child diagnosed with autism does a particular teaching technique have? Does it prove efficient and successful from the perspective of an English language teacher? What limitations if any do they have? What teaching techniques, as well as forms of classes, seem to be the most effective in the acquisition of English by autistic children in the opinion of their teachers*?

The small-scale pilot research that we elaborate on in this paper made use of interviews that were conducted among 10 English teachers of 5 primary, mainstream and inclusive public schools in and near Rzeszów. During the conversations the teachers were requested to first of all express their opinions about particular techniques and, additionally, quantify the extent of their successfulness and efficiency by choosing from the following rating descriptors: *not at all efficient or successful, very little efficient or successful, unsure of the efficiency and successfulness, efficient and successful, very efficient and successful*. All of the interviewed teachers

were female with a different number of years of experience in teaching ranging from 1.5–17. The students, as declared by the teachers, were attending the second stage of education and had an official diagnosis of autism.

Results of Research

Findings and Data Analysis

Below we present a table (Table 1) with the results obtained as a result of the interviews followed by a graphic representation (Figure 1) of the teachers' evaluation of the techniques in question for better visual presentation. We then proceed to a discussion of the obtained data, point by point, to finally reach the section with conclusions.

Table 1. The results of the interviewed teachers' evaluation of the teaching techniques suggested for use in teaching English to autistic learners

	not at all efficient OR successful	very little efficient successful	uncertain of the efficiency	efficient and successful	very efficient and successful
1.	2	2	3	3	0
2.	2	2	3	3	0
3.	0	0	3	4	3
4.	2	0	2	3	3
5.	2	5	2	0	1
6.	0	3	2	3	2
7.	0	2	4	4	0
8.	1	1	4	3	0
9.	3	3	4	0	0
10.	0	0	1	2	7

Questions
1. Charades
2. Teaching English through cultural content to raise the learners' motivation and interest.
3. The use of Interactive White Board software/mobile devices/computers etc. in teaching English.
4. The use of games based on authentic programmes (e.g. Wheel of Fortune, Who wants to be a Millionaire, Cooking shows etc.)
5. Teaching pronunciation (e.g. recognising minimal pairs or imitating)
6. Teaching of phatic language
7. Drama techniques (e.g. staging short dialogues, plays, emotional states)
8. Language games based on numbers and memorisation
9. Student giving presentation on his/her extensive knowledge on some topic (a feature typical of some autistic learners)
10. Routine-based design of lessons (welcome; warm-up; drills, etc.)

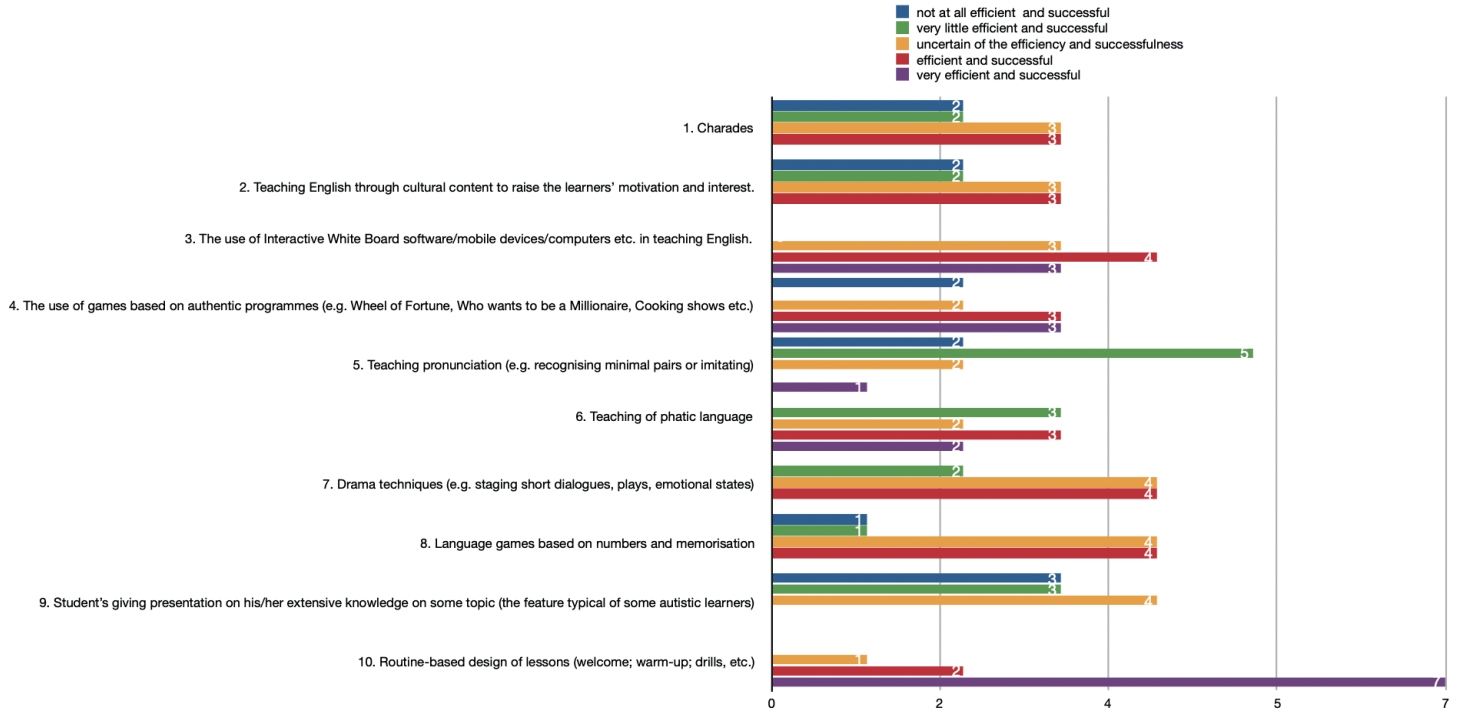


Figure 1. Graphic representation of the evaluation of the teaching techniques expressed by the interviewed teachers

As can be observed from the above, the technique with the use of charades (question 1) in teaching autistic learners does not seem to enjoy a great deal of respect from the teachers, since 20% of them regard it as not at all efficient, 20% as very not very efficient, while 30% are uncertain of its efficiency. In turn, 30% of the teachers participating in the study find it efficient and successful. As for their opinions, the most crucial ones are presented in Table 2 .

Table 2. Citations of the teachers' opinions on question 1

I have applied this technique a few times, but I do not use it very often. I think that autistic students have problems with reading body language. I always need to make sure they understood correctly and there is not always time for that in the classroom.
I use these techniques because they are useful in general. Not only for autistic students. Although it is a fact that most of these students are kinaesthetic.
It helps ss [students] understand the organised material better
I have never used it
Autistic students either refuse to take part in such an activity or their motor skills and understanding of symbolic gestures are non-advanced.
I haven't tried this method yet. There's not enough time in a lesson for that.

With reference to question 2, about teaching English through cultural content to raise the learners' motivation and interest, we can note an identical result as for question 1 and we also present here the teachers' opinions in Table 3.

Table 3. Citations of the teachers' opinions on question 2

We have lessons e.g. about British festivals and celebrations. Students get involved when it is connected with some DIY work e.g. while talking about Christmas in England we prepared Christmas crackers. Thematic videos and songs are also useful. It is difficult to attract and keep students' attention using the textbooks
One of my autistic students was really interested in British culture. He loved reading English newspapers and he asked me for these kinds of homework very often. It can be really helpful.
I don't use it as I believe it does not have such an effect
Yes sometimes I introduce cultural elements as it lets me base my teaching on specifics: advertisements, cartoons, songs, geographical curiosities
The lesson about Polish Independence Day attracted attention of the students, they were interested in the subjects, presented active approach.

The third question about the use of Interactive White Board software/mobile devices/computers etc. in teaching English to autistic learners shows a significantly different attitude and opinion, as 40 % of the interviewed teachers believe it can be efficient and successful, 30 % consider it to be very efficient, and 30 % are not certain of its efficiency. None of the teachers finds it very little or not at all successful when applied in the classroom. Table 4 with the teachers' views on the point confirms the fairly positive effect such techniques may have on autistic learners.

Table 4. Citations of the teachers' opinions on question 3

I have applied this technique and it was useful and also efficient. Students volunteered to do the tasks on the board and found it very attractive. I used it for instance to revise vocabulary. Students are used to using different mobile devices at home and using them at school is welcomed by them.
Probably it could be useful but I do not use them very often.
Autistic ss [students] tend to be visuals they understand the material better, it helps in memorising.
Sometimes I also use these pieces of equipment. It helps me reach my autistic students by appealing to their visual and kinaesthetic needs.
I use it frequently, at almost every lesson, because the autistic students are 11 years old, male. They often refuse to take down the notes or to do simple tasks in students' workbooks but activities presented via White Board and other devices have a pivotal meaning for them, they become encouraged and engaged in a lesson. They want to take part in the activities presented on the Interactive White Board.
It's common in my lessons. Students are more focused on the subject, additional resources I have make the lesson less boring for them. Autistic students need to engage all senses to make the learning process better for them. But not too much at a time.

When it comes to the question on the use of games based on authentic programmes (e.g. *Wheel of Fortune, Who wants to be a Millionaire, Cooking shows* etc.), the teachers' opinions and evaluation seem to go in different directions – 20 % find it inefficient, 20 % remain uncertain of its successfulness, whereas the remaining 60 % evaluate it evenly as very efficient, or efficient for the classroom use with autistic learners. From the opinions presented below in Table 5, one can observe that some teachers seem to be particularly interested in this form of teaching, using numerous websites such as, for example: live worksheets, Hit the Balloon or word wall, to appeal to their students' special needs and preferences.

Table 5. Citations of the teachers' opinions on question 4

Such games as the Wheel of Fortune or Millionaires were also perceived as attractive and exciting. Students eagerly took part in them. The games were played on the interactive board.
I do not have much time for using these kinds of games during the lessons, but I presume that they might be helpful.
Games help the students relax, they learn without realising they are being taught.
I have not used this technique yet.
The autistic students are very active during such games. I use 2 types of websites with games that provide practise of vocabulary and grammar. The games are the wheel of fortune, crosswords, game show similar to Who wants to be a Millionaire, Hit the balloon, Pacman etc. Other website consists of activities more similar to those in the workbooks, but still seems more interesting. The websites are: wordwall, and liveworksheets. Gamification of grammar theory or vocabulary makes them engaged and the most often the students provide good answers.
I use them only when I have extra time. Autistic sts [students] like vocabulary games

As regards the fifth technique related to teaching pronunciation (e.g. recognising minimal pairs or imitating), the tendency here is not very optimistic or positive, since as many as 70 % of the teachers participating in the interview do not favour it and find it either inefficient (20 %) or not very productive in a classroom with autistic pupils. 20 % remain uncertain and only 10 % see it as a very successful tool for teaching this group of students. The opinions presented in Table 6 seem to be in line with this ranking since, as the teachers report, the students either *do not always want to repeat after the teacher,* or display no *particular interest in this kind of activities*. One opinion, however, emphasises the fact that such learners seem to *pay more attention to this than average students.*

Table 6. Citations of the teachers' opinions on question 5

I used imitating for practising pronunciation but students do not always want to repeat after the teacher. It depends on their mood and the level of tiredness
I applied this technique but with the whole group of students. I did not observe a particular interest in this kind of activities.
Yes, I sometimes use it although this method seems to be difficult especially for young children
I have not used this technique.
Autistic students try to be precise while pronouncing the words. Actually they pay more attention to this than average students.
I teach it in early stages – then we just use it in a class. Autistic students rarely use the language spontaneously
I rarely use it – not much time in a lesson. We practice pronunciation while we're reading or doing grammar exercises. I don't see anything special that autistic students would like in it.

The sixth technique in question relates to teaching phatic language, that is chunks of language rather than isolated words, and as the findings indicate the teachers' beliefs are split here, with 50 % labelling it as efficient (30 %) and very efficient (20 %), whereas another 50 % are either uncertain of its value for classroom use (20 %) or find it not at all efficient (30 %).

Some of the teachers' explanations highlight the fact that phrases and linguistic chunks are more memorable for the students and also raise their motivation to be an attentive and active learner.

Table 7. Citations of the teachers' opinions on question 6

I try to speak English as much as possible during the lesson. Students memorise these phrases more easily than e.g. vocabulary from the book because they are often repeated.
I applied this technique. These kinds of exercises are quite easy so sometimes it can be the opportunity to motivate autistics.
Yes. Students memorise the whole sentences.
Yes I use this technique very often since I notice my autistic learners have a liking for learning expressions, and in consequence, quick language responses.
Students on the autistic spectrum are more interested in learning nouns than phrases.
I teach it in early stages – then we just use it in a class. Autistic students rarely use the language spontaneously

Continuing the discussion of our findings, we reach the point on the usefulness of the application of drama techniques (e.g. staging short dialogues, plays, emotional states) in the foreign language education of autistic students, and the observation is that 40 % of the teachers see it as an efficient instrument, while another 40 % find it challenging to state its attractiveness for the teaching context discussed in this paper. In turn, 20 % find the technique not efficient at all. Although in the conversation about this issue some teachers give numerous examples of how they put the technique into practice (role-plays, dialogues) and that they value its attractiveness, they also express the difficulties that can be observed, such as finding a partner, and lack of eagerness to participate.

Table 8. Citations of the teachers' opinions on question 7

Drama techniques which involve interaction with others often do not work. Autistic students have difficulties with cooperation with their peers, understanding emotions, role-playing. They do not cooperate well while creating dialogues and need to be encouraged and supported by the teacher all the time. In the classroom it is not always possible for the teacher offer as much as help as needed because the teacher needs to supervise other learners as well. Moreover, sometimes there are problems with finding a partner for an autistic student. It depends on how they function in the group. Autistic students easily get into conflicts during group or pairwork (especially in lower grades where students do not know each other well yet).
I use them. If they are quite easy they take part in them
Yes. Students memorise better the whole sentences.
I used the technique a lot with success.
Students were encouraged to pretend they are in a restaurant, and to behave like a real waiter and real customer (happy and dissatisfied with the menu). I noticed that average students were very eager to take part in acting, but autistic students preferred to stay and just look. They didn't understand jokes and emotions.
We learn dialogues. They usually learn them by heart.

Language games based on numbers and memorisation (question 8) are found to be efficient by 40 % of the teachers interviewed, while another 40 % are uncertain of their opinion. 20 % of the teachers find this technique to be either inefficient or not efficient at all (10 % each). As the teachers repeatedly voice in the interview, a lot depends on the individual characteristics of their autistic students and some stress that they happen to like the technique but this cannot be treated as the rule.

Table 9. Citations of the teachers' opinions on question 8

It depends on the student. We play memory games and guessing games for teaching vocabulary. Some students enjoy them because they have good memory and pay attention to details so they are successful in these games.
It depends on students. One of my autistic students loved them (he was very talented one), but currently my student is not interested in it.
Yes. Students learn without realising they are being taught
I use the technique very rarely.
I haven't applied the technique yet.
I mostly use interactive vocabulary games. But I think they would be useful.

With regard to the technique that involves autistic students in giving a presentation on their extensive knowledge on some topic (a feature typical of some autistic learners), 60 % of the teachers find it to be either not at all efficient and successful (30 %) or of little value (30 %), and the remaining 40 % are uncertain of its usefulness. The teachers emphasise that despite the fact that their autistic students do display an extraordinary knowledge on some topics, the language barrier seems to be too difficult to overcome to apply this technique more frequently. Some students also tend to suffer from "stage fright" typical for public performances (opinions in Table 10).

Table 10. Citations of the teachers' opinions on question 9

It is a useful technique but I haven't tried it yet. The reason is because it requires quite good level of English from the student and there is not much time for that in the classroom.
I do not have time for doing it during the lesson, but sometimes I allowed them to express their thoughts or opinions e.g. about their favourite computer games or wildlife topics.
Not really, students tend to be stressed out in front of the whole classroom.
Yes. I used to teach such a boy who had a really authentic need to demonstrate his knowledge of the English language, though it was restricted to a chosen discipline: English cartoons and films, advertisements. He could recite the lyrics/texts in the original version.
I haven't applied the technique yet.
It is useful if they like the topic or it's in a range of their interests. Then they can do it. But in English it is mostly too hard for them and someone always helps them. I've never met one of my autistic students who would prepare a presentation on his/her own. Always with help. Anyway, he or she has to present that later so it's useful somehow.

Finally, the last question pertains to the routine-based design of lessons (welcome; warm-up; drills, etc.). Here, as many as 90 % of the teachers express a high efficiency rate, with 70 % estimating it as very efficient and 20 % as efficient. Only 10 % of them are uncertain of the success that can be achieved when such a technique is applied in the classroom with autistic students. None of the teachers interviewed find this point to be either not very efficient or completely inefficient. Not surprisingly, in the conversation the teachers emphasise the high value of designing and following routine-based lesson plans, which gives autistic students a feeling of safety. The predictability of the teacher and his or her actions stirs the level of motivation to perform in activities and a low level of anxiety inspires the learner to be active and exploratory (see the comments Table 11).

Table 11. Citations of the teachers' opinions on question 10

Routine is very important and I try to have it in my classes because it gives students the feeling of safety and they know what to expect.
For sure the routine-based lesson are crucial. They feel safe. They hate being confused. I try to do it as much as I can.
Yes, students memorise better.
Yes I have used this approach to organising my teaching with autistic students but a lot depended on their physical and mental disposition on the day. Sometimes I didn't manage to follow my lesson as planned as my student would not focus on the didactic process. He also fell asleep or nervously hid under the desk
Autistic students often paid attention to details, especially the system of class management (discipline in the class). They want to be rewarded with stickers or even outperform average students. If the lesson consists of predictable parts, they are calm and try to be active, but when it is too loud, or something unpredictable happens, one of the autistic students (the Asperger's one) leaves the classroom to relax and calm down.
Yes. Very useful. They want a lesson to be predictable. Routine-based lesson is very helpful. Any changes need to be discussed before.

Conclusions

In conclusion, according to Bogdashina (2004, p. 259), being a participant in so-called normal life gives autistic children the opportunity to be included members of the learning process (even if this is done merely by memory). Undertaking English language teaching to children with autism may seem to many to be a controversial idea, even among people who work with such children on a daily basis, because, what one needs to remember, it is language functions that are particularly disturbed in a given group of children with this type of disability. But taking into account the existing body of research, such as, for example, that conducted by Zaorska and Trajdowska (2013, *Does Teaching English to Autistic Children Make Sense?*), as well as some of the works referred to in the theoretical part of this paper, together with the results of the present small-scale study, it seems justified to state that a foreign language education can be delivered to this group of learners to their benefit. The language instruction, however, must be tailored to their needs, which, as this study reveals, are in most situations very individualised, and although there is a certain group of predictable expectations and special needs that such learners demonstrate, one still cannot extrapolate generalisations to a larger number of

these students. Every English language teaching context offered to autistic learners must be carefully planned after thorough investigation of the students' preferences. The techniques discussed here (which by no means exploit the full list of possibilities) and tested for the purpose of writing this research paper must be selected and tailored in such a manner that they reflect these pupils' interests and take account of their current predispositions.

All things considered, taking into consideration the small range of this study, further research needs to be developed and carried out in order to confirm or disprove some of the tendencies presented in the discussion of the findings and to search for the best practices to help teachers include these learners in the process of English language learning.

Finally, one needs to bear in mind that, as maintained by Bogdashina (2004, p. 259), most people with autism express gratitude to parents and teachers who do not exclude them from society due to their autism, by introducing corrections and compensatory strategies to help them cope with difficulties. The well-being and development of autistic children also depend on us, English language teachers, and although we are aware of all the difficulty and non-standard procedures needed to successfully include them in the group of students we teach, in the light of the above considerations, we have no doubt that many of them simply deserve our hard work and interest. The successes of this very special group of learners will for certain give us a lot of satisfaction, a sense of high self-efficacy and will enrich our teaching repertoire.

References

Bogdashina, O. (2004). *Communication Issues in Autism and Asperger's Syndrome. Do we Speak the Same Language?* London: Jessica Kingsley Publishers.

Duda, R., & Riley, P. (1990). *Learning Styles.* Nancy: Presses Universitaires de Nancy.

Gray, C., & White, A. (2002). *My Social Stories Book.* London: Jessica Kingsley Publishers.

Kerrell, H. (2010). *Key Concepts in Learning Disabilities.* Chennai: Replika Press.

Lumsden, J. (2009). Modern languages and autism. *Scottish Languages Review*,19, 13–20.

MacKenzie, H. (2008). *Reaching and Teaching the Child with Autism Spectrum Disorder.* London: Jessica Kingsley Publishers.

Wire, V. (2005). Autistic spectrum disorders and learning foreign languages. *Support for Learning*, 20/3, 123–128.

Saville-Troike, M. (2006): *Introducing Second Language Acquisition.* Cambridge: CUP.

Seigel, B. (1996). *The World of the Autistic Child.* Toronto: Oxford Press.

Thompson, J. (2010). *The Essential Guide to Understanding Special Educational Needs: Practical Skills for Teachers.* Harlow: Pearson Education.

Thornbury, S. (2017). *An A-Z of ELT.* London: Macmillan Education.

Zaorska, M., & Trajdowska, J. (2013). Czy nauczanie dzieci z autyzmem języka angielskiego ma sens? [Does Teaching English to Autistic Children Make Sense?] *Konteksty Pedagogiczne*. *1*/2013. pp. 125–164.

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