

LEARNING IN A WORLD OF CULTURAL AND SOCIAL CHANGE

Interdisciplinary perspective

EDITORS

Mateusz Marciniak, Joanna Sikorska,
Michał Klichowski, Hanna Krauze-Sikorska

Wydawnictwo Naukowe UAM

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UNIwersytet IM. ADAMA MICKIEWICZA W POZNANIU

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Table of contents

7 **Zbyszko Melosik**, Foreword

9 **Editors**, Introduction

PART I: CHANGING REALITY – THE IMPORTANCE OF GLOBALIZATION AND LOCALITY

15 **Agnieszka Cybal-Michalska**, The proactive orientation of a subject as an investment process in the career in the world of “boundaryless careers”

29 **Małgorzata Rosalska**, Distinctive skills as a part of career project

39 **Orit Haller-Hayon, Yael Ilany**, Work-home conflict among Israeli lawyers – working from home before and during the COVID-19 pandemic

53 **Gaida Fahoum Khatib**, Women’s contribution in al-Mahğar literature

65 **Jumana Mussa**, Illness, identity and mutability in Nicole Krauss’ “Man Walks into a Room”

77 **Witold Wrzesieñ**, The new dimension of generational differentiations

PART II: MISSION OF EDUCATION IN A (POST)MODERN ERA – MOTIVATION, DEVELOPMENT AND SUPPORT

88 **Mateusz Marciniak, Marina Metz**, Intercultural learning of academic students during the short-term international exchange

113 **Lydia Tass, Anna Ewert**, Embracing linguistic diversity in the classroom

127 **Karolina Domagalska-Nowak**, Supporting migrant children in learning Norwegian as a second language. A socio-pedagogical study

143 **Hanna Krauze-Sikorska**, Reuven Feuerstain’s concept of optimizing the support and assistance of a student with a specific learning disorder

157	Michalina Kasprzak , Fostering children's creativity in local forms of support and care – educational contexts
167	Laila Abu Ahmad , Meaningful learning – fiction or reality?
183	Anna Borkowska, Sylwia Jaskulska , The importance of students' active role in the educational process in the context of the theoretical assumption of STEAM education
PART III: NEW MEDIA AS AN EDUCATIONAL CHALLENGE – IMPLICATIONS FOR CRITICAL MEDIA LITERACY	
193	Joanna Sikorska , The potential of ICT in the process of learning a foreign language by school-age children and adolescents
209	Maha Abu Hatoum, Tomasz Przybyła , Transition to middle school for students with math difficulties in the digital era – challenges and opportunities
235	Dror Krikon , The impact of smartphone on child and youth independence in the age of social networking and global news
255	Zohar Biber , Parental involvement in school-ways of communication between teachers and parents

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Foreword

We are living in a fast-changing world in all its dimensions. Sometimes change is fruitful and increases the quality of life; sometimes, it is difficult and occasionally exciting. But from time to time, we think that change is unnecessary and that we are “caught” in the flow of “everything new”, which can be very frustrating. And in this case, we feel we live in an instant culture full of permanent novelty. Every year, month, and even day, new discourses, new ideas, new celebrities and stars, new cultural gadgets, and new versions of identity invade us. Such a change can be a cause of fragmentation of our life; we feel to be lost in transition. Sometimes change is very terrifying: a sudden virus disseminated by people’s breath or a sudden cruel war resulting from the invasion not far from our border. This kind of change threatens our sense of stability, security, or even our natural base of existence.

Usually, we are trying to cope with change, follow it, and adapt. We reconstruct our thinking and our actions. To respond to change, we are trying to change ourselves. When we are afraid of change, of its fluidity and uncertainty, we resist the change, usually not very successfully. Often we miss the traditional and linear past with the more stable and slow life patterns. But generally, we know that change is simultaneous with the flow of time and the coming future. We know that change is inevitable at the global and local levels, both in the field of our personal life and the life of the society in which we live.

Irrespective of various interpretations of change, we need a responsible and reliable intellectual reflection about it. This is the first step to approach or change the change, influencing its course. So, change can be approached scientifically, analyzed, and researched using multiple approaches and methods from various (inter)disciplinary perspectives. The cultural, technological, economic, political, social, media, and educational changes can be understood in the context of their sources, course, and consequences.

And the book “Learning in the world of cultural and social change: Interdisciplinary perspective” successfully attempts to understand the change in one of its critical dimensions. It meets all requirements of good research work and is an important voice in the discussion about the relationship between changes in learning and changes in its broader environment. This very well-structured and edited book certainly contributes to our understanding of the learning process in changing reality. The authors consider crucial problems of contemporary learning both regarding theoretical considerations and practical circumstances. And they are very successful in their efforts and results.

I am deeply impressed by the scope and multidimensionality of analysis and interpretations made by the authors of the texts included in the book. They contribute to the knowledge in the field of learning theories and practices. They give a new and very interesting inside into the analyzed problems. They are original, with an excellent theoretical foundation, profound interpretation of a particular subject, and representative literature. Also, they are interdisciplinary and multidimensional. The authors' narratives are devoid of moralistic remarks and open to the readers' meanings. They inspire reflection and discussion, as it is written in the introduction to the book: “it is rather an invitation for readers to reflect on mutual connections between the rapidly transforming reality and educational processes”. The book can also be a source of thinking reconstruction, reflecting one of Albert Einstein's famous statements: “The world as we have created it is a process of our thinking. It cannot be changed without changing our thinking”.

Reading the book gave me intellectual and personal pleasure and increased my understanding of various aspects of the learning process. In addition, I learned much from this book on learning and its contextualization in the changing world.

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Introduction

At present, we can talk of a specific type of explosion of knowledge on learning. It is caused by the development of neuroscience, linked to the creation of non-invasive methods of examining the human brain in recent years. Thanks to them, learning started to be researched from the perspective of cognitive neuroscience. Learning research is also stimulated by technological development to a large extent. Technological solutions' widespread and mobile character encourages one to seek strategies for supporting learning with technology. Although such an idea has a relatively long history, a real boom in what can be called research into learning based on new technologies and didactics based on new technologies has been observed in recent years. Another factor also causes the explosion of knowledge on learning. The contemporary globalized world that rushes forward at a dizzying pace forces men to live in the rhythm of continuous change and pursue fleeting categories created by the ever-accelerating media (mainly the Internet). Under such conditions, the permanent need to learn becomes a standard that applies to both informal and institutionalized learning. The topic of learning is thus fashionable, and studies on learning are a trend in research. Following the trends, however, one must remember that learning research should be conducted in a way that closely links them to practical measures. They should thus be easily applied in authentic learning situations and serve to change educational practice. Therefore, that was our goal in creating this book. On the one hand, we decided to consider current scientific trends in learning research. On the other hand, we also wanted our considerations to have a practical dimension.

The structure of the book is divided into three interrelated parts. The first section focuses on various processes and phenomena shaping our current reality. It concerns the chosen civilizational transformations, which might be considered the background for the learning and teaching processes analyzed in the following chapters. The second part of the monograph brings insight into the mission of education in the postmodern era, with a focus on learning, development and support of the competencies essential for citizens of the present-day world. The final part tackles the meaning of new media and ICT tools in learning and teaching processes. The presented monograph does not aspire to be a comprehensive overview of contemporary education, learning and teaching. It is rather an invitation for readers to reflect on mutual connections between the rapidly transforming reality and educational processes.

The first section of the monograph, *Changing reality – the importance of globalization and locality*, enlightens chosen aspects of contemporary reality, which is the context of civilizational changes determining the functioning of all members of society. The dynamics of worldwide processes, as well as local problems arising from these global trends, are addressed. The authors tackle essential discourses and concepts, including identity formation, generational differentiation, individualization, the emancipation of women, goal orientations, well-being, life balance, social isolation and coping strategies in crisis. In the opening chapter, Agnieszka Cybal-Michalska explores *The proactive orientation of a subject as an investment process in the career in the world of “boundaryless careers”*. The author embeds the in-depth exploration of individual career creation in perspectives of multiple discourses. The career in the world of global flows and mobility is analysed using the language of economics and other sciences. The topic of design and implementation of individual careers is continued by Małgorzata Rosalska with a paper on *Distinctive skills as a part of career projects*. The author focuses on the role of distinctive competencies in the counselling process and reflects on educational opportunities in developing one’s responsibility for their career. The most recent global challenges occurring due to the global Covid-19 outbreak are addressed by Orit Haller-Hayon and Yael Ilany, who analyse the *Work-home conflict among Israeli lawyers – working from home before and during the COVID-19 pandemic*. The authors describe research results on coping patterns used by Israeli lawyers in response to the transition from working at the office into working from home.

The chapter by Gaida Fahoum Khatib touches on the issue of the emancipation of women in culture by describing *Women’s contribution in al-Mahğar literature*. The author presents feminist literature and female narrative in

contrast to the male perspective within the achievements of Arab authors who emigrated to the West. The paper *Illness, identity and mutability in Nicole Krauss' "Man Walks into a Room"* discusses mental health issues with a contribution of several literary publications. In this literature review, Jumaana Mussa explores the psychological well-being of people experiencing social isolation resulting from postmodern cultural changes (with the increasing role of social media). In the final chapter of the first part of the monograph Witold Wrzesień (*The new dimension of generational differentiations*) locates discussion over the sociological category of "generation" in the context of current civilizational transformations. The intensification of intra-generational bonds division accelerated by the identification of generation representatives with "people from the future" leads the author to conclude that the definition of generations is required.

The book's second part tackles the *Mission of education in a (post) modern era – motivation, development and support*. The authors analyse the learning processes and teaching strategies experienced by children and youth in the context of diversity, mobility and the world of permanent changes. The chapters explore key competencies (e.g., linguistic, social, cultural) and abilities (e.g. arranging the learning process, problem-solving) vital for contemporary and future reality. The authors try to answer the questions regarding: learning and teaching in multicultural and multilingual societies or communities, organisation of the learning process according to the traditional vs constructivism-based teaching (e.g. STEAM workshops, meaningful learning), trends in support of youth with special educational needs and support for disadvantaged groups. The second part of the monograph is opened by Mateusz Marciniak and Marina Metz, who shed light on the issue of *Intercultural learning of academic students during the short-term international exchange*. The authors refer to the transfer of knowledge and skills in an intercultural context while participating in the mutual international students' group exchange. Lydia Tass and Anna Ewert (*Embracing linguistic diversity in the classroom*) offer a look at Israeli teachers' beliefs and attitudes towards multilingualism in the classroom and its effects (challenges, influence on the community and educational setting). The authors focus on the role of students' primary language in learning another (second, foreign) language on the example of Israeli society as one of the most multicultural and multilingual. The phenomenon of language education is also raised by Karolina Domagalska-Nowak, who presents *Supporting migrant children in learning Norwegian as a second language. A socio-pedagogical study*. The availability and effectiveness of the solutions adopted in Norway are discussed from the perspective of immigrant children's parents.

Hanna Krauze-Sikorska explores ideas and assumptions of *Reuven Feuerstain's concept of optimizing the support and assistance of a student with a specific learning disorder*. The concept is depicted as the source of inspiration for teachers and therapists to create an optimal environment for students with SLD, where instead of learning specific tasks' performance, they work out their problem-solving strategies. The chapter *Fostering children's creativity in local forms of support and care – educational contexts* compiles experiences of participants from Polish (Poznań) and Spanish (Tarragona) assistance system centres. In this comparative study, Michalina Kasprzak reflects on building a creative space for children from socially disadvantaged groups who do not experience it at home or even at school. The chapter about *Meaningful learning – fiction or reality* offers a perspective of science and mathematics teachers from the Arab middle schools sector on the meaningful learning reform in Israel (2014-2015). Laila Abu Ahmad delivers research results on teachers' knowledge, beliefs and implementation within classroom practices of meaningful learning, which is in opposition to the frontal and authoritative teacher ideal. The final chapter of this monograph's part concerns *The importance of students' active role in the educational process in the context of the theoretical assumption of STEAM education*. Anna Borkowska and Sylwia Jaskulska take action research perspective to characterize their own experiences gathered within STEAM workshops. They tackle the teacher's creation of a space for students' involvement, which supports the process of building students' social competencies related to cooperation.

The third part of the book is focused on the issue of **New media as an educational challenge – implications for critical media literacy**. All the chapters presented in this part of the monograph deal with the processes arising from and accompanying the new communication era with the rapid development of digital communication. The main goal of education in this context is to create a learning environment that encourages the development of academic responsibility of young adolescents without compromising negative influence on the learners' self-esteem and achievements. The chapters highlight the roles and functions of information-communication technologies (ICT) in education (e.g., language learning) and therapy (e.g. working with students with difficulties in learning math skills). The authors show the influence of new media usage on individuals' skills, knowledge and competencies, as well as their effects on social interactions between participants of education processes. The chapter opening the third part of the monograph, *The potential of ICT in the process of learning a foreign language by school-age children and adolescents*, explores the possibilities offered by mul-

timedia-mediated foreign language learning. In this paper, Joanna Sikorska analyses the potential of ICT in developing students' ability to overcome barriers in communication in foreign languages through a well-thought-out process of learning (and teaching) going far beyond creating a window onto new countries and cultures. The chapter by Maha Abu Hatoum and Tomasz Przybyła focuses on the *Transition to middle school for students with math difficulties in the digital era – challenges and opportunities*. The authors analyze the emotional and educational effects of the transition from elementary to middle school. They point out the potential of digital tools (various mediums) for increasing learners' math skills and abilities, reducing the gaps in their knowledge, motivating them and enabling academic growth. Dror Krikon deals with the issue of *The impact of smartphone on child and youth independence in the age of social networking and global news*. The main aim of the chapter is to present the relationships and conceptual connections between current social phenomena (including globalization, media, and online news) and the use of smartphones. The author demonstrates that the increasing use of smartphones leads to a decline in the independence of children and youth. The final chapter of the monograph shows how the current development of new media shapes *Parental involvement in school-ways of communication between teachers and parents*. Zohar Biber describes the transformations of communication patterns as a result of technological and social changes affecting the student's home and school. The author emphasizes that the relationship between teachers and parents has become rapid and immediate, resulting in benefits and challenges, e.g., fear of crossing borders or even misunderstanding the messages.

* * *

The book is the result of cooperation between researchers from Poland (Adam Mickiewicz University, Poznań) and Israel (representing various institutions and communities, mostly Higher Studies, Israel). Most of the authors were engaged in the AMU Research Program held from 2013. We would like to thank everyone who supported this cooperation and made this book possible. We especially thank the Rectors of the Adam Mickiewicz University, Prof. Zbyszko Melosik and Prof. Przemysław Wojtaszek, as well as the Deans of the Faculty of Educational Studies, Prof. Agnieszka Cybal-Michalska and Prof. Waldemar Segiet. We are very grateful to Head of Higher Studies, Dr. Orit Haller-Hayon. We also express our gratitude to book reviewers, Professors Slavica Pavlović (University of Mostar, Bosnia and Herzegovina) and Małgorzata Przybysz-Zaremba (State Vocational University of Ignacy Mościcki in Ciechanów, Poland) for their constructive feedback.

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The proactive orientation of a subject as an investment process in the career in the world of “boundaryless careers”

Introduction

Over the past four decades there has been a great proliferation and multiplicity of coexisting theoretical assumptions concerning the subject of career. What is more, the neoliberal discourse of economics has negatively affected the quality of the debate conducted on this topic. In that sense, the following considerations may constitute an invitation to reflect not only on the topics related to the career domain, but also on the quality of the discourse conducted using a very peculiar language. In fact, the distinguishing feature in thinking about career is the diversity of meanings in which this term is used, as well as the language of economics, which increasingly determines the quality of the debate. The highlighted approach is echoed in the statements of many theorists and researchers of the phenomenon of career cited in the article. The placement of considerations on the possible, but more and more dominating way of approaching career could also lead to a reflection on the validity of the views on the excessively economic character of the semantic meanings attached to career. Although considerations concerning career could also be criticized for an overly simplistic approach to the treatment of human nature, it must be asserted that career development and the process of renewing career capital through proactivity is an undoubtedly important issue demanding recognition from the perspective of the subject and “in the course of human life”¹ (see: Cybal-Michalska, 2013).

¹ This topic was the subject of consideration in the scientific chapter in the book: Cybal-Michalska Agnieszka, *Proactive Behavioral Orientation of a Subject as a Process of Investing in Career Capital in the World of “Boundaryless Careers”* (see: Cybal-Michalska, 2016, pp. 931–942).

In the “discontinuous space-time and the heterogeneous system of cultural meanings” (Misztal, 2000, p. 157), career development and the building of a subject's professional identity becomes a cognitive practice, based on individual experimentation. The contemporary social configuration in which the quest for identity has become a flexible reference point opens up a range of possibilities for an individual to shape their own career in the course of their life. K. Obuchowski contrasted the structure of a culture of objects with the formation of a culture of subjects, and concluded that “for the first time in the history of mankind, there is a real chance for the personal satisfaction and the freedom of initiative of the direct creators of ideas and things to become a condition for the proper functioning of their workshops, and not just the content of utopian, pro-humanist slogans” (Obuchowski, 2000, p. 62). Indeed, as emphasized by A. Giddens, choice is a fundamental component of everyday activities of individuals. Intellectual emancipation and the ability of reflexive behavior in the world of permanent change and diversity of social environments (in which individuals are involved, either directly or indirectly) enable individuals to express personal subjectivity by creating individual lifestyles, “choosing” one's own identity (Whittington, 1992, pp. 695–696), or investing in career capital.

The perception of an individual as a causative agent is an important theoretical construct. This issue was outlined by Herr, who stated that it is the individual who is capable of career creation. Careers do not exist, unlike professions or jobs (Patton, McMahon, 2006, p. 2). As noted by K. Obuchowski, this peculiar shift “of the individual's orientation from external conditions of existence to internal conditions” (Obuchowski, 2000, p. 62) prompts us to consider career in connection with an individual seen as an individual entity, who owns an individual career (Bańka, 2005, pp. 8-9). At this point we should refer to a fragment of Collin and Watts' discussion, in which the authors assert the necessity of reevaluating our thinking about career. They state that, “we should focus more on career as an individual's subjective construction, rather than on career as an objective construction” (Patton, McMahon, 2006, p. 2). Accordingly, the subject develops their career on the basis of their perception and attitude towards it. This means, as Patton and McMahon emphasize, that a career is “a pattern of influences, that coexist in an individual's life” (Patton, McMahon, 2006, p. 2). This view represents the subject's individualistic tendency (ambition, sense of agency, motivation for action), which finds validation in economic theories that support investing in the potential of human resources within an organization (Rosenbaum, 2004, p. 330). This view provides a background

for thinking about career as a “property” of an individual, which includes their individual career choices, individual stages of its development, and the career planning and management strategies.

1. Proactivity in career as taking actions aimed at bringing about change

To a large extent, the contemporary discussion on career is combined with the emphasis on the subject's proactive behaviors. The context for the development, planning, directing and management of the career, as well as the subject's decisions concerning career, is provided by the fusion of the knowledge of the subject's inherent abilities, and the diagnosis of the labor market and the possibilities existing in the world of work. This tendency is manifested in the treatment of career as the “property” of the individual, but also in the perception of career as inseparable opportunities for the development of the individual, the development of the organization and a change in the social environment. Reflections on the process of socialization to the labor market focus on the aspect of the spontaneous “adaptation through seeking information and (...) adaptation through the development of feelings and facilitation of adaptation to the <unknown>”, which is initiated by the subject (Bańka, 2005, pp. 32-33). For Greco, these basic elements of the subject's activity are the foundation of career planning and management, because, as the author puts it, “you can create possibilities for the future by taking control of your career. Your initial commitment means taking complete control over your activities” (Bell, Staw, 2004, p. 232). Adequate and realistic self-assessment and perception of social facts provide the basis for innovative proactivity not only in the individual, but also in the social dimension, as “career, work and the market are social categories” (Bańka, 2005, p. 35).

Proactive behaviors, as deliberate actions of a subject, have been the object of interest of Z. King, R. A. Noe and C. Orpen. Studies allowed for distinguishing two groups of proactivity components, which can be described as cognitive components and behavioral components (De Vos, De Clippeleer, Dewilde, 2009, p. 763). The main distinguishing feature of proactivity is the fact that the subject takes initiative to change the environment to an extent exceeding the ability of the environment to shape their behaviors. As emphasized by T. S. Bateman and J. M. Crant, actions undertaken with agency and manifested in the social reality can derive from proactivity as a permanent personality trait, but they can also be the effect of “proactivity

as an attitude of involvement resulting from life conditions, circumstances and other needs created by the environment” (Bańka, 2005, p. 11). As emphasized by J. M. Crant, the construct of proactivity defined in such a way covers both individual and contextual variables. The views of T. Bateman and J. M. Crant had a significant impact on the perception of proactivity as a personality disposition and proactivity as an attitude of involvement resulting from conditions, needs and contextual circumstances. According to the authors, proactive persons are distinguished by seven mutually interrelated characteristics: searching for the possibility of change, setting effective and change-oriented objectives, anticipation of problems and taking remedial measures, searching for ways to achieve goals, entering the path of action with the awareness of risk and responsibility, perseverance in the pursuit of goals and achievement of goals, making achievements and implementing changes which affect the environment (Bańka, 2005, pp. 9–11).

The distinctive feature of people “searching for the possibility of change” is the exploration of the environment in order to bring about change or achieve something. Proactive individuals enter the path of action, and – if necessary – also go beyond the constraints of the situation, in order to obtain the possible benefits resulting from its transformation. “Defining effective and change-oriented objectives” is another characteristic determining the subject's proactivity. The motivating factors include: maximization of achievements, utilization of the responsibility and search for changes that will transform the environment. As a result, achievements proactively motivate the subject and their social environment to take new paths of activity. This way proactivity changes human perception and is the “building blocks” for crossing the boundaries identified from the perspective of the subject and the environment. “Anticipation of problems and taking remedial measures” is implemented through the analysis of the subject's own achievements, seeking changes outside the area of their own actions, using feedback information, active participation in meetings and tasks at events bringing about changes. Interest in “establishing new traditions” is another psychological characteristic of proactive people. “Creative individualism” is the permanent focus on searching for ways to achieve the defined objectives. It involves entering the path of action and not settling on the idea, with the awareness of the risk undertaken and responsibility. Proactive individuals are characterized by “perseverance in the pursuit of goals”, which means that if the situation requires it, they are willing to change their action strategies. It is the unyielding desire to achieve the objective, rather than stubborn attachment to the methods of achieving them, that characterizes the perseverance of a proactive individual. In addition, achieving and

implementing changes and making commitments “affects the social environment” (Bańka, 2005, pp. 9–11). The essence of proactivity is therefore self-efficacy, also defined as the individual's assessment of their potential. As emphasized i.a. by M. E. Gist and T. R. Mitchell, it is a fundamental variable of the subject's motivation, who has a tendency to be more effective in the performance of tasks, copes more efficiently with changes, sets more complex objectives or applies effective task strategies when referring to their inherent causative potential. Generalized self-efficacy is a competence relating to the potential of an individual geared towards the proactive performance of tasks and contributes to an increased sense of a subject's agency (Parker, Turner, Williams, 2006, p. 638).

2. The development of career capital as a result of integration of the process of proactive career planning and career management

The immanent feature of career capital renewal is therefore constant development. Career development is a life-long process of a comprehensive nature. It is the result of integrating two processes: the individual's career planning and the processes of career directing and management. In this sense, it is understood as the subject's achievement of the objectives of their career. The distinguishing feature of proactive planning, directing and management of a career is the “awareness of being a subject who performs actions in a desired direction” (Bańka, 2005, p. 35) and influences the surrounding reality, thereby initiating changes. There is a kind of qualitative “convergence” between the activities of career planning and career management, which in turn determines the conditions for career development and influences the level of work satisfaction. Treating the highlighted components as correlates, we can point to a conceptual model of career development (Adekola, 2011, p. 101-103). The concretization of this position can also be found in the views of J. Adomaitiene and I. Zubrickiene, who emphasize the individualized nature of the results of the planned career, as they are associated with “the individual's satisfaction with their own career, self-realization, and quality of life, which are concepts understood and considered in (...) an individual way” (Adomaitiene, Zubrickiene, 2010, p. 98).

The concept of career development was first introduced to the literature of the subject by Ginzberg, Ginsburg, Axelrad and Herman. Their reflections were based on the assertion that the choice of an occupation is a developmental process which lasts many years and ends in early adulthood. In

the following years Ginzberg further specified his position, assuming that it is a process of making career decisions (choices of profession) throughout one's life. This view is espoused by the theoreticians of the concept of career development. Brown and Brooks described career development as a process of preparing for choice, the process of selection and the constant choosing among the many occupations available in society. For most people this is a life-long process (Patton, McMahon, 2006, pp. 5–6).

In the literature of the subject, we can encounter attempts to equate the terms “professional development” and “career development”. According to A. Bańka, a career is an “individual's property”, which means that professional development can be equated with the understanding of career development. In accordance with the life-long learning orientation, the highlighted understanding of career does not limit its updating, both in terms of the temporal and the spatial horizon (Szumigraj, 2011, p. 209). For D. Super, “the process of professional development involves the shaping and realization of the professional self-image (...) as a result of the mutual interactions of inherited abilities, physical construction, the opportunity to observe and play different social roles and the assessment of the extent to which the roles played are met with the approval of the guardians and peers” (Cossette, Allison, Donald, 2007, p. 13).

The modern type of careers in the times of “careers without boundaries” has its consequences for the psychosocial and behavioral attitude of the individuals, “whose life goal is professional activity (a basic attribute of mental health), rather than professional passivity (a basic indicator of social exclusion) (Bańka, 2005, p. 35). As Amundson put it, “the common thread is that people make sense of the world of work through subjective interpretation of their own career experience” (Patton, McMahon, 2006, p. 6). In a situation where no career scenario adopted *a priori* guarantees success, investment in career that is identified as the “property” of the subject (“in one's own case”) becomes a necessity. As stressed by A. Bańka, the dynamics of contemporary careers, known as *boundaryless careers*, force the proactive planning, directing and management of careers, not only among young people or people in early adulthood (and therefore “novices (...) trying to transition from the education market to the labor market”) but also among people in other age groups (Bańka, 2005, p. 35). This is the inseparability of work and life which was pointed out by Wolfe and Kolb.

Although this view was formulated in the 1980s, there is no reason to consider – given the direction and pace of changes – the definition of career development presented by the authors as not fit for the times in which “career makes a career”. They have asserted that “career development involves one's

whole life, not just occupation. As such, it concerns the whole person (...) in the ever-changing contexts of his/her life. The environmental pressures and constraints, the bonds that tie him/her to significant others, responsibilities to children and aging parents, the total structure of one's circumstances are also factors that must be understood and reckoned with. In these terms, career development and personal development converge. Self and circumstances— evolving, changing, unfolding in mutual interaction— constitute the focus and the drama of career development” (Patton, McMahon, 2006, p. 7). The highlighted definition of a dynamic nature (individual-environment, continuity and change) sheds additional light on the issue discussed. It allows us to conclude that the construction of a career focuses on the life-long development of the individual, and is a process of crystallization of an individual's identity in relation not only to the world of work but to “the world in the man and the man in the world”.

The process of career development qualitatively differentiated within the existing theories is usually examined through the presentation of both the changes as well as the elements of continuity. The changes occurring in the duration of a professional life cycle are associated with the acquisition of career maturity. As a construct derived from the psychology of human development and career development, *career maturity* ascribes significant importance to the effective implementation of the assigned life tasks associated with the crystallization of the professional identity (Bańka, 2005, p. 19). In this sense, according to D. Super, the condition for transition to adulthood is the achievement of career maturity, defined as a “psycho-social construct determining the degree of an individual's professional development on the continuum of life phases starting from the development phase all the way to the decline phase” (Cossette, Allison, Donald, 2007, p. 12). A measure of “career maturity” is the determination of the individual's readiness to make career decisions (Freeman, 1993, p. 261). It should be noted however, that – as emphasized by Savickas – even though the subject's vocational self-concepts become increasingly stable from late adolescence forward, providing some continuity in choice and adjustment, “self-concepts and vocational preferences do change with time and experience, as the situations in which people live and work change” (Patton, McMahon, 2006, p. 63). In view of this fact, the concept of “career maturity” which indicates the degree to which a subject fulfills the professional development tasks at every stage of life has been replaced by Savickas with the concept of “adaptability” (Leung, 2008, p. 120). Therefore, in a broader sense the scope of the term “career maturity”, in addition to the crystallization of the professional identity and the transition to adult social roles, also includes the constant willingness

to explore, and the permanent involvement in exploration. The individual is therefore only able to achieve adequate and realistic self-assessment and competencies necessary for the realization of their career by exploring the environment and exploring the possibilities inherent in career. The role of seeking and possessing information in making binding decisions in life is indisputable (Bańka, 2005, p. 19).

In accordance with the general tendency for the intensification of the career development processes, career planning is seen as the first step on the path to its realization. Individual plans and goals are “adapted” to expectations. In the general sense, career planning is treated as an initiative undertaken by the subject. An equally important issue in this respect is to emphasize the fact that “the individual utilizes personal control over their own career and makes informed choices concerning their profession, organization, tasks (...) and self-development” (Hall quoted after Adekola, 2011, p. 102). It is a life-long highly complex process which consists, i.a., of the following aspects: the choice of occupation, the search for a job, promotion, striving for changes in the quality of the realized career (Adomaitiene, Zubrickiene, 2010, p. 91).

The highlighted aspects can be found in the career development and exploration theory formulated by Donald E. Super, whom Savickas referred to as “the planning researcher”. What is more, the author starts out from the assertion that planning, a planning attitude (which can be developed) and a temporal orientation for the future are the main factors determining the readiness for career choice. The conclusions reached by D. E. Super point to a holistic approach to the issue of planning. It refers to the skills, values and interests of the individual expressed in various social roles (importantly: not only in the professional role), and the individual's task is to anticipate which of them will be available to them in their environment, to prepare for them and to model them (Cossette, Allison, Donald, 2007, p. 1). As D.V. Tiedeman and R. O'Hara emphasized in their original career construction theory, the activities distinguishing the phase of anticipation are exploration, crystallization and clarification. In the stage of exploration, the individual further defines themselves through numerous interactions with others and capturing the “difference” in relation to others. In the crystallization stage, they then develop an “image” of themselves and a vision of their person on the basis of the accumulated knowledge. The selection of a career path is the realization of the stage of clarification and a signal of transition to the implementation phase (stages: induction, reforming, integration), realized in the practice of their profession in the work environment (Szymański, 2010, p. 86).

D. T. Hall defined career planning as “a purposeful process of becoming aware of oneself, one’s abilities, constraints, choices and their consequences, and also of identifying objectives associated with career (direction, duration and sequence of steps) and the methods of achieving them” (Adekola, 2011, p. 102). Moreover, the state of the competencies possessed at a given moment is a certain basis for the construction of the future. The accumulation of competencies is an ongoing process, always perceived from the perspective of the future career (Ściborek, 2009, pp. 70–71). These thoughts were further developed by the perspective of the renowned career theorist J. Krumboltz, who emphasized the life-long practice of career planning, understood as continuous learning, improvement and acquisition of new skills and qualifications (Szymański, 2010, p. 86). It is predicated on the thesis of the need for a life of permanent change in a world undergoing constant fluctuations. The pace and direction of the changes in the labor market generate the necessity of managing the changes which attest to the flexibility of a career and are an expression of the ability to adequately respond to the various circumstances and events, while maintaining a balance in the sphere of professional life. Drawing attention not only to the anticipation of events but also to taking actions clearly directs the reflection to the causative agent in career planning. The direction of the career planning process understood in this way was illustrated by Z. B. Leibowitz, who claimed that it is a process “in relation to which individuals determine their skills, interests, values. (...) Individuals are responsible for initiating their career plans, identifying their goals, values and interests, and for searching for their career options, in order to plan their career” (Adekola, 2011, p. 102).

We should note, however, that reflections on career directing and management promote the tendency to ascribe importance to the initiation of actions (and not settling for aspirations). It is an indisputable view that career management understood as a continuous process of organizing of the professional life is an important determinant and condition of career development (in other words: the next step) after its previous planning. The goals and stages of career development planned by the individual require their implementation. This is done through skills, specific competencies and relevant practices for career management (Adekola, 2011, p. 102). Watts asserted that we live in an era of “career management”, and added that the “do-it-yourself” formula is becoming the obligatory slogan. The inability to predict careers renders them “false” (Patton, McMahon, 2006, p. 6). The key to career is agency. This view is reflected in the considerations of Bolles, in which the author recommends that “one should take control over searching for a job or changing a career, if they want to succeed” (Bell, Staw, 2004,

p. 232). The individuals are doomed to active participation and cooperation in the development of their career. According to D.T. Hall (a similar position is presented by J. G. Greenhaus), career management is “a constant process of preparation, development, implementation and monitoring of career plans and strategies, undertaken by the individual independently or in cooperation with the career development system of the given organization” (Adekola, 2011, p. 102). Career management in the times of “boundaryless careers” becomes an activity which requires the subject’s orientation to the future (futuristic temporal orientation) and active participation and cooperation in the reality subject to permanent change.

The dynamics of modern careers built of “career mini-cycles” (which is illustrated by the transition from one employment cycle measured by the long duration of the employment contract – *tenure*, lasting from 5 to 7 years), requires a proactive career management style, manifested in the subject’s creation and recreation of the mental capital and construction of a social support networks. As emphasized by R. Claes and S.A. Ruiz-Quintanilla, the causative factor of effective career management, based on proactive behavior in a career, is the broadly defined initiative, which refers to: 1) career planning (initiative manifesting itself in innovative behaviors, and therefore in the introduction of changes in the course of the career); 2) skill development (initiative directed at the improvement of the capabilities inherent in the subject, in order to improve the competencies for solving and performing tasks); 3) consultative behavior (initiative manifesting itself in the search for sources of information, advice or assistance from others); 4) behaviors in the network of social interactions (initiative leading to the construction of a network of interpersonal connections). The semantics of discourse on the highlighted domains of proactive behavior leads us to determine that they are separable only at the level of general theoretical constructs. At the level of proactive behaviors they clearly overlap with each other (Bańka, 2005, pp. 35–37).

Career management evidently relates to the perspective of the sense of professional identity. In their summary of the research on the validity and reliability of the Vocational Identity Scale, J.L. Holland, L.A. Johnston and N.E. Asama concluded that persons with a strong sense of professional identity are individuals who are professionally mature, possess many constructive views and opinions on making career decisions, have interpersonal competencies, are characterized by conscientiousness, optimism and responsibility, care for mental hygiene and are able to proactively deal with obstacles or environmental difficulties without being discouraged (Allison, 2007, p. 15–16). The pattern indicated in B. Adekola’s research shows the general links between

career planning and career management, the sense of job satisfaction and career commitment. The reflections on the direction of the mutual dependencies seem to be more important, however. The conclusion of the research is as follows: “career planning and career management are the condition for career development, while job satisfaction and career commitment are the result of its development” (Adekola, 2011, p. 108). The emphasis on the importance of designing a career development path is an important implication. The conclusions of the research indicate a stronger relationship between career planning and its development, rather than between career management and its development. Based on this reasoning, we are able to draw the conclusion that career planning is relatively more important than career management in the context of its development (Adekola, 2011, p. 108).

Conclusions

The practice of career planning and management involves the ability of processing information. In their focus on the decision-making process, contemporary researchers such as G. W. Peterson, J.P. Sampson, R.C. Reardon, and J.G. Lenz (1996) support the approach known as Cognitive Information Processing (CIP), which points to three career choice domains. The basis of the pyramid scheme is the *Knowledge Domain*, formulated and constituted by *self-knowledge* and *occupational knowledge*. Self-knowledge is the subject's own perception (self-assessment is not always realistic and adequate), while occupational knowledge is based on facts and can be verified. Above the foundation of the pyramid is the Decision-Making Skills Domain, which consists of five information processing skills known as the CASVE cycle: communication, analysis, synthesis, valuing, executing. At the top of the pyramid is the *Executive Processing Domain*, which focuses on meta-cognition, thinking about our thinking, which promotes the subject's internal exploration, delving deeper into oneself. The evaluating and monitoring part of the process is an individual's dialog with themselves concerning their relationship with the world of work. In the pyramid of information processing domains, the subject's cognitive activity proceeds from the practice of collecting and possessing knowledge about oneself and about one's abilities, through the awareness of how the subject makes decisions, to thinking about the practice of the subject's decision-making (Patton, McMahon, 2006, pp. 86–88).

The multiplicity, fragmentation, volatility and complexity of the forms of organization of social life determine the changes in the perception of ca-

reer development and overcoming the tension between the experiences of the past and the possibilities of the future. Creating one's own person as an attractive "market product" should be accompanied by proactive behavior aimed at "creating" (and not "finding") a job and developing one's career, seen from a "perspective of agency" (Bańka, 2005, p. 35). This perspective is similar to the view espoused by Bolles, stating that "you will improve your efficiency and your sense of yourself as a person by 300% if you learn to think (...) of yourself as *an active entity*, helping to shape your own present environment and your own future, rather than a passive entity, waiting for the environment to shape yourself" (Bell, Staw, 2004, p. 232). The individual participates in the processes of "investment and renewal" of the capital career as a conscious creator of their own biography.

REFERENCES

- Adekola, B. (2011). Career planning and career management as correlates for career development and job satisfaction. A case study of Nigerian Bank Employees. *Australian Journal of Business and Management Research*, 2, 101–108.
- Adomaitiene, J., Zubrickiene, I. (2010). Career Competences and Importance of Their Development in Planning of Career Perspective. *Tiltai*, 4, 91–98.
- Allison, Ch. J. (2007). *Person-Environment Theory of John L. Holland*. In: *Proven Practices for Recruiting Women to STEM Careers in ATE Programs*. Lynnwood, 5/31/, 15–16.
- Bańka, A. (2005). *Proaktywność a tryby samoregulacji*. Poznań: Stowarzyszenie Psychologia i Architektura. Warszawa: NFDK.
- Bell, N.E, Staw, B.M. (2004). *People as sculptors versus sculpture: the roles of personality and personal control in organizations*. In: M.B. Arthur, D.T. Hall, B.S. Lawrence (eds.), *Handbook of career theory*. Cambridge: Cambridge University Press.
- Cossette, I., Allison, Ch.J., Donald, E. (2007). *Super's Life-Space, Life-Span Theory of Career Development*. In: *Proven Practices for Recruiting Women to STEM Careers in ATE Programs*, Lynnwood, 5/31/, 1–13.
- Cybal-Michalska, A. (2013). *Młodzież akademicka a kariera zawodowa*. Kraków: Impuls.
- Cybal-Michalska A. (2016) *Proactive Behavioral Orientation of a Subject as a Process of Investing in Career Capital in the World of "Boundaryless Careers"*. In: R. Goonetilleke, W. Karwowski (eds.), *Advances in Physical Ergonomics and Human Factors*, Proceedings of the AHFE 2016 International Conference on Physical Ergonomics and Human Factors, July 27–31, 2016, Walt Disney World®, Florida, USA: Springer International Publishing, pp. 931–942.
- De Vos, A., De Clippeleer, I., Dewilde, T. (2009). Proactive career behaviours and career success during the early career. *Journal of Occupational and Organizational Psychology*, 82, 761–777.

- Freeman, S. (1993). Donald Super: A Perspective on Career Development. *Journal of Career Development*, 19 (4), 255–264.
- Leung, S.A. (2008). *The Big Five Career Theories*. In: J.A. Athanasou, R. Van Esbroeck (eds.), *International Handbook of Career Guidance* (pp. 115–132). Springer Science + Business Media B.V.
- Misztal, B. (2000). *Teoria socjologiczna a praktyka społeczna*. Kraków: Wydawnictwo Universitas.
- Obuchowski, K. (2000). *Człowiek intencjonalny, czyli o tym, jak być sobą*. Poznań: REBIS.
- Parker, K., Turner, N., Williams, H.M. (2006). Modeling the Antecedents of Proactive Behaviour at Work. *Journal of Applied Psychology*, 3, 636–652.
- Patton, W., McMahon, M. (2006). *Career Development and Systems Theory. Connecting Theory and Practice*. Rotterdam - Boston - Taipei: SENSE PUBLISHERS.
- Peterson, G.W., Sampson, J.P. Jr., Reardon, R.C., Lenz, J.G. (1996). *A Cognitive Information Processing Approach to Career Problem Solving and Decision Making*. In: D. Brown, L. Brooks (eds.), *Career choice and development* (pp. 312-369). San Francisco: Jossey-Bass.
- Rosenbaum, J.E. (2004). *Organization career systems and employee misperceptions*. In: M.B. Arthur, D.T. Hall, B.S. Lawrence (eds.), *Handbook of career theory*. Cambridge: Cambridge University Press.
- Szumigraj, M. (2011). *Poradnictwo kariery*. Warszawa: Oficyna Wydawnicza Łośgraf.
- Szymański, M. (2010). *Ścieżki kariery studentów socjologii UAM*. Warszawa: Promotor.
- Ścibiorek, Z. (2009). *Dylematy rozwoju zawodowego*. Warszawa: PTM.
- Whittington, R. (1992). Putting Giddens into Action: Social System and Managerial Agency. *Journal of Management Studies*, 6, 695–696.

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Distinctive skills as a part of career projects

Introduction

Competencies and their recognition are crucial in the process of designing educational and professional careers. They also play an important role in the process of seeking employment and acquiring suitable employees. In the literature – mainly from the area of human resource management – various models of competence profiles are proposed (Whiddett, Hollyforde, 2003). These profiles are an inspiration for people designing their own educational paths. In pedagogical literature, the authors also indicate key competences in the modern labour market and analyse their importance in the general profile of a graduate of particular educational stages. They propose profiles of graduates of particular schools or majors, indicate the areas of knowledge and skills that – in the assumptions – are supposed to guarantee success in the labour market (Kwiatkowski, 2016). These proposals are the basis for the design of educational programs and counselling support projects for both young people and adults in need of consultation or assistance in reducing competence gaps. This perception of competence, however, means that decisions about what knowledge and what skills are needed in the labour market are made outside the educational context. This results in the subordination of educational goals related to the design of educational and occupational pathways to the dictates of the labour market (Solarczyk-Ambrozik, 2005).

In the pedagogical perspective, however, it should be recognized that counselling offers, in addition to the context of the labour market, should also consider the educational and developmental aspects taking into account such elements of career projects as interests, predispositions, preferences and decisiveness of individuals. The intention of such offers is not

only to match the resources of individuals to the needs of the labour market, but also to individual personal development, taking into consideration aspirations, motivations, professed values, and cognitive abilities and talents. Goals concerning educational and professional careers do not have to result only from the characteristics and demands of the labour market. The aim of this study is to reflect on educational opportunities to develop the attitude of responsibility for one's own career capital and proactivity in the area of design and implementation of individual career goals. The reflections will focus on the category of distinctive competences. The theoretical assumptions concerning this category of competence will be analysed. Methodical possibilities of developing it in the process of counselling support will also be indicated.

1. The competency definition

For the purpose of this article I adopt the definition of competence proposed by Steve Whiddett and Sarah Hollyforde (2003, pp. 13–15). The authors indicate that competencies can be understood as descriptions of tasks or expected outcomes of actions related to a specific job position or as behavioural descriptions of characteristics of individuals. This means that they are most often defined as the ability to effectively carry out specific job-related tasks or achieve desired, measurable results, or as the ability to implement specific behavioural patterns. In the context of certain professions and positions, ready-made, postulative templates of competency profiles of an employee are proposed. These profiles indicate both soft and hard competencies. They are then checked and assessed in recruitment procedures. Due to their behavioural nature, techniques such as assessment centre are used to identify them. When using these techniques, empirical (not just inferential) indicators are analysed, which in turn are assessed during job interviews.

While the above-outlined method of using competence profiles is justified in the processes of human resources management in organizations, it is questionable in the context of advisory goals designed in educational and developmental perspective, mainly due to the fact that it is aimed at matching the potential of an individual with the requirements and expectations of the labour market. Therefore, it is worth looking for such competency profiles, which are transferable and can be the basis for development projects. The competence pyramid model may be helpful here. Competences are analysed in it at four levels. The first and lowest level is the basic, fundamental competence. It includes the ability to write, read, calculate, but

also skills associated with the use of modern information technologies. This level of competence is seen as necessary to work on competences at subsequent levels. The second level is soft competences. This group includes all social competences and competences connected with the labour market and career planning. It is worth noting that this group of competences is transferable. They are needed in all professions and industries, and do not depend on the level of education. The third level is professional competences, specific for the given industry and professional environment. This group can include the skills that build professionalism. These are professional, up-to-date and specialized knowledge and high proficiency in performing professional tasks. The level of these competencies is often determined by aptitude, predisposition and talent. Well-used work and life experience is also important here.

The fourth level is a distinctive competence, characteristic of the individual. It is a competence that distinguishes one from other graduates of a particular field of study and other professionals. It may be specific, not widely available and highly specialized knowledge, a unique skill, a unique experience or practice not available to most people in the field. It could be knowledge of a little-used foreign language or specialized software. Distinctive competence gives an advantage in the labour market, allows to be noticed and positively remembered, it is a mark of recognition of a person, his specialization, something that distinguishes him from other candidates. Distinctive competence builds competitive advantage for individuals in their professions and industries.

It should be noted that we can also find another understanding of the concept of distinctive competence in the literature. This category can also refer to characteristics of certain groups of people – for example, people who achieve managerial, scientific or sports success. Based on research, traits that foster success or reduce the chances of success are categorized (Dąbrowski, 2016). In the model proposed above, a distinctive competence is understood as a trait, a skill that distinguishes an individual from other professionals or graduates of a particular field of study.

2. Distinctive competence in counselling and career design

At this point, a question can be raised whether education can be a distinguishing competence. However, it is difficult to formulate a clear answer here. Education is generally seen as a career resource. However, it is possi-

ble to point to situations in which it is not conducive to the realization of career plans and aspirations. The basic problems with this perspective are the mismatch of education, its poor quality or overeducation. Especially the last situation may be a cause of frustration for people who have invested a lot of time and money in education. Overeducation or overqualification refers to a situation in which a job candidate is overqualified for a particular position. It is a problem of people with the belief that the higher the education, the better the chances in the labour market and that people with higher education should receive higher salaries. Employers often look for employees with sufficient qualifications rather than the highest qualifications. This situation should trigger reflection on the role of education in the career resource profile. Formal education will not always prevail. In consulting work, the topic of overeducation is reflected upon in consultations for students and doctoral graduates, as well as individuals with a rich but inconsistent portfolio of university degrees.

Distinctive competence is an important element of career projects because the responsibility for its building and development lies with the individual. The educational practice proves that the counselling offer is often built in such a way as to provide a wide range of support and assistance to people being advised, on the substantive, informational and emotional levels. It is particularly visible in the offers focused on developing basic, soft and professional competencies. Clients may enjoy training, workshops, webinars, consultations and other forms of individual and group counselling, the aim of which is to implement the assumptions of programs developed by specialists. The activity of counsellors consists in deciding which proposal suits them best, which they are interested in and in more or less committed participation in classes or consultations. In the case of a distinctive competence the activity of the counsellor is minimized. The responsibility for the conception of one's own distinctive competence, its building and development lies with the client. If the aim of strengthening this competence is to build own career capital, which will distinguish the individual in the labour market, the idea and the way of its implementation cannot be indicated and suggested by the counsellor. The role of the counsellor in this respect is to strengthen the proactive attitude of the client towards their own educational and professional career. The counsellor can help in the process of analysing the context of the labour market or the characteristics of the industry in which the individual wants to develop professionally. Assistance can also be offered in the area of critical appraisal of the design of a distinctive competence in the context of the client's individual and social resources. However, the main task in this area is to build causal subjec-

tivity, which requires awareness, free will and reflexivity from individuals (Wnuk-Lipiński, 2008, p. 85).

Such an approach to distinguishing competence corresponds well with contemporary concepts of building career resources. One can indicate here, for example, the concept of professional capital. This concept was proposed by Andy Hargeaves and Michael Fullan (2012) in their work "Professional Capital. Transforming Teaching in Every School". In this concept, professional capital is a function of human capital, social capital and decision-making capital. However, the authors point out the need to emphasize the difference in how the term "human capital" is interpreted in the economic sciences and in the educational context. In the field of education and counselling, human capital is primarily knowledge and skills to participate, co-create, learn. Social capital, according to the authors, is primarily social resources. The third component of professional capital – decision-making capital, is defined as the ability to make independent judgments (Hargeaves, Fullan, 2012, p. 93). Understood in this way, capital is associated with categories such as intrapersonality, proactivity, reflexivity, and independence of thought. Decision capital refers to both thinking and acting. It allows to become independent from group thinking, the way of interpreting the world imposed by the media, social groups, but also other educational institutions and the job market. It makes it possible to take decisions aimed at the completion of individual goals and values, and have a realistic estimation of one's own resources and abilities in the context of planned goals. It allows for independence from school and university rankings, labour market forecasts and graduates' fate analyses. These data are still taken into account, but as one of many considerations influencing the design of individual career paths. It can be assumed that decision capital is to some extent related to the prevention of opportunistic attitudes.

Another concept demonstrating the importance of distinctive competence in career design is the differentiation of qualifications and competencies according to the categories of suitability and fit. These are categories proposed by Meredith Belbin (2003, pp. 55–57). The author proceeded from the premise that in today's labour market, formal education is not sufficient information about a candidate's suitability for a job. The author suggests that candidates should be evaluated both in terms of their suitability and their fit with the organizational culture of the company or industry. The suitability category refers to education, professional qualifications, licenses, certificates, work experience, and knowledge of required foreign languages. The fit category includes social competencies, personality traits, team functioning style, flexibility and the ability to learn new roles and tasks. Re-

cruitment experience proves that inadequate but fit people are more often employed on the labour market than mismatched and fit people. Therefore, when evaluating a candidate for a given position, we recognize to what extent he or she “fits” in the way of thinking and acting to the community and environment in which he or she is to work. It also diagnoses how and in what ways the candidate can enrich the work environment. The importance here is placed on unique hard skills, experience or resources associated with a high level of inter- and intrapersonal competence.

Distinctive competence can be considered to be the factor that is of particular importance in recruitment decisions made by employers. While directional education is a necessary factor, additional, individual-specific, unique factors will play a decisive role for many job candidates. This is an important consideration for counselling offerings, especially those provided in the educational system. In addition to a set of information and skills common to all, students should be encouraged to design their own career paths and ideas. Counselling should also develop intrinsic motivation to achieve these intentions.

3. Measuring of distinctive competences: Q-sort technique and working on beliefs

In counselling, it is important to be able to translate theoretical assumptions into practical solutions that enable the designed goals to be completed. When working on identifying or designing an outstanding competence, tests, questionnaires and other diagnostic techniques based on the assumptions of trait and factor theory do not work well. What is needed here are methodological solutions aimed at strengthening critical thinking about one's own beliefs concerning both the labour market and one's own career resources. In this context, it is worth pointing out two methodological solutions that foster the attitude of critical judgment and reflexivity. The first of them is working with the Q-sort technique, the second is working on beliefs.

Q-sort belongs to the group of psychometric techniques. It consists in sorting statements according to a preconceived criterion on a specific scale. Its creator, W. Stephenson, called it the Q technique. Today it is usually referred to as Q-sort. The set of elements that are subject to sorting is referred to as Q-set. It can be used repeatedly after changing the sorting criterion (Brzezińska, Brzeziński, 2004, p. 270). It is a popular procedure not only in education, but also in human resource management and other

fields in which recognition and evaluation of individual beliefs and values are assigned significant importance (Block, 1961). In counselling work, the Q-sort can have a wide variety of applications – e.g. in identifying values, beliefs, aspirations, needs (Tate, 1982).

A second methodological approach that can be useful in working on distinctive competencies is to work on individual beliefs. These are principles by which individuals define themselves, other people and reality. Beliefs are the basis of evaluations, interpretations, and judgments. Based on them, meaning and value are assigned. Sometimes they have the form of absolute and conclusive statements. On the basis of beliefs, a system of values and worldview is built. They constitute the perspective of viewing things, phenomena and processes. In counselling work, it is worth to look at them carefully, especially beliefs about the importance and role of education, learning, work, education, profession, career and success. These beliefs are often unconscious. They are modelled from the earliest years of life and provide a perspective for interpreting events. The counsellor's task is to help identify beliefs and their consequences for the way we think about educational and professional careers. This is not a simple task. Beliefs are most often revealed in situations of crises and failures. This is when questions about causes, patterns of action, valuing and assigning meanings are formulated. Working on beliefs is also important in conflict situations (including internal ones) and in the process of searching for alternative solutions. A particular moment in which it is worth to pay attention to beliefs are situations of making decisions about the next educational stages or choosing a profession. Through appropriately selected exercises or during a counselling conversation, the counsellor has a chance to recognize on what basis the client makes a choice. Such recognition gives a chance to indicate the consequences of the adopted way of thinking and the possible correction of assumptions. Beliefs based on stereotypes about professions or fields of study are particularly dangerous. In such situations, the counselling work can be directed to analyse the determinants of social evaluation of prestige and rank of particular professions.

Both this way of work and the Q-sort technique are excellent at identifying values, aspirations, needs, beliefs. The sets should be created in the context of the real counselling tasks and in relation to current and important issues for the advisors. The difficulty and at the same time the advantage of these methodological solutions is that they are tools to which there is no key. It depends on the counsellor's reflectiveness and competence whether he or she will be able to apply the data from these exercises accurately in the counselling process. These are diagnostic and methodical suggestions for

those counsellors who prefer the role of a critical interpreter, analyst and facilitator over the role of an expert. In such an understanding of counselling work, the aim is to shape not only skills, but also the habit of critical approach to data, information and facts. People being counselled are given the right to individual and unique interpretations and to independent career projects. It can be assumed that people who are able to independently confront their aspirations, needs and abilities with the expectations and challenges of the labour market will have a more creative approach to the task of designing their own distinctive competences. It can also be assumed that these individual projects will trigger commitment and internal motivation much better than postulates of building career capital, which is supposed to correspond to the structure and dynamics of changes on the labour market to the greatest possible extent.

Conclusions

Working on career projects requires one to consider many aspects. These include the identification of opportunities and threats on the labour market, a thorough diagnosis of one's own resources and limitations, recognition of sources of support and assistance. On the basis of such an assessment, one can design goals and sentences that bring one closer to realizing one's aspirations and plans. Bearing in mind that modern careers are often variable and unpredictable in nature, such a diagnosis and consideration are of a continuous nature. The kaleidoscopic character of careers means that constant attention is required to match individual resources to current career challenges. Distinctive competence, which was analysed in this article, is one of the elements that may give one an advantage on the difficult labour market. It can be highly specialized or transferable. It is important that it is well thought out and at the same time complementary not only to the expectations of the labour market but also to the individual's other career resources.

REFERENCES

- Belbin, M. (2003). *Twoja rola w zespole*. Gdańsk: Gdańskie Wydawnictwo Psychologiczne.
- Block, J. (1961). *The Q-Sort Method in Personality Assessment and Psychiatric Research*. Retrieved from: http://www.psychology.sunysb.edu/attachment/measures/content/Jack_Block_Q-sort_method_book.pdf [Access: 12.10.2021].

- Brzezińska, A., Brzeziński, J. (2004). *Skale szacunkowe w badaniach diagnostycznych*. In: J. Brzeziński (ed.), *Metodologia badań psychologicznych. Wybór tekstów*. Warszawa: Wydawnictwo Naukowe PWN.
- Dąbrowski, J. (2016). *Kompetencje wyróżniające pracowników określanych jako talenty, Sukces w zarządzaniu kadrami. Dylematy zarządzania kadrami w organizacjach krajowych i międzynarodowych. Problemy zarządczo-psychologiczne*. Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu nr 430. Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego.
- Hargreaves, A., Fullan, M. (2012), *Professional Capital. Transforming Teaching in Every School*. Columbia University.
- Kwiatkowski, S.M. (2006). *Standardy kwalifikacji zawodowych: rynkowe i szkolne*. In: A. Bogaj, S.M. Kwiatkowski (eds.), *Szkoła a rynek pracy*. Warszawa: Wydawnictwo Naukowe PWN.
- Solarczyk-Ambrozik, E. (2005). *Rynek a wykształcenie – szanse i bariery dostępu do edukacji dorosłych*. In: A. Kargulowa, S.M. Kwiatkowski, T. Szkudlarek (eds.), *Rynek i kultura neoliberalna a edukacja*. Kraków: Impuls.
- Tate, S. (1982). *Q-Sort as a Need Assessment Technique*. Retrieved from: http://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1020&context=cie_techrpts [Access: 15.10.2021].
- Whiddett, S., Hollyforde, S. (2003), *Modele kompetencyjne w zarządzaniu zasobami ludzkimi*. Warszawa: Oficyna Wydawnicza Wolters Kluwer.
- Wnuk-Lipiński, E. (2008). *Socjologia życia publicznego*. Warszawa: Wydawnictwo Naukowe Scholar.

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Work-home conflict among Israeli lawyers – working from home before and during the COVID-19 pandemic

Introduction

A study conducted on Israeli lawyers (prior to the COVID-19 pandemic, 2019) focused on their coping patterns related to work demands and family tasks, often conflicting. One of the research questions, significantly relevant to the pandemic, refers to working from home, in the context of work-home conflict. From late 2019, following the new pandemic challenge, the topic of working from home has become extremely important and practical to countless employees, including lawyers, around the world. Exploring patterns of coping with work-home conflict among Israeli lawyers was the main aim of the research. Additionally, the issues of working from home, and the intensity of the conflict and differences in coping patterns of women and men were examined. Another aim was to examine the relationship between types of the coping pattern applied to personal satisfaction.

The research findings emphasized that prior to the pandemic working from home was not an option for most lawyers. All lawyers used to work in their offices; some worked additionally from home, after their children were asleep. However, during the pandemic the tendency was reversed. Several employees in the public and private sectors started working from home, using different technologies and communication networks. Some institutions

and companies were believed to be more prepared for the change that was forced on them, while others less or not ready at all. Most lawyers had to join this trend as well in order to continue working, mainly from home, with the whole family, i.e. children and spouses around. The main research aim (prior to the pandemic) related to the lawyers' coping patterns regarding their home-work conflict, but, as a consequence of the pandemic, the current article focuses on the question of working from home, and introduces the findings and further recommendations following the transition from office work to work from home.

Practicing law involves challenging requirements. Working hours are long and urgent deadlines must be met. Clients usually have problems that need immediate attention. When courts are involved, deadlines set by law must be met in order to represent the client sufficiently. Another demand in this profession is usually billing hours, as every lawyer must produce them in order to charge clients. It is common for lawyers to work long hours in the office and take work home in order to work more hours. Participants' comments illustrate their experience while dealing with work-home conflict: *I try to square the circle, usually successfully, but sometimes it does not work out; There is no balance between working hours and home, it is not possible to have a normal private life, except on weekends (...); or great difficulty.*

Law can be practiced in different types of employment. Lawyers can be freelancers or employees, working in a private law firm as an employee or a partner, in an institution, a business company or a public entity. The characteristics of law practice can be different according to the type of employment, working demands and level of stress. Most workers lead a family life accompanied by the demands of their own profession.

1. Work-home conflict

Work-Home Conflict or Work-Family Conflict (WHC or WFC) is a known phenomenon in the labour market and its different aspects have been researched before. (e.g. Noonan, Corcoran, 2004; Halpern, 2005; Colombo, Ghislieri, 2008; Michel, et al., 2010; Ferguson et al., 2012; Allen et al., 2015). Work-family conflict is based on the premise that the demands associated with an individual's participation in one role can interfere with their participation in another role (Greenhaus, Beutell, 1985). According to Greenhaus and Beutell (1985, p. 77), work-family conflict is defined as "a form of inter-role conflict in which the role pressures from the work and

family domains are mutually incompatible in some respect. That is, participation in the work (family) role is made more difficult by virtue of participation in the family (work) role” (Greenhaus, Beutell, 1985, p. 77).

The conflict can be bidirectional: work-family conflict or family-work conflict. Scholars claim that the conflict is greater in the direction of work-to-family rather than family-to-work (Aryee et al., 1999, pp. 259-278; Netemeyer et al., 1996, pp. 400-410). For example, Colombo & Ghislieri (2008, pp. 35-55) found in their research that the interference from work into family was deeper than the interference from family into work.

Hall (1972) suggested a role conflict coping behaviour model; including three patterns of coping with work-family conflict (Hall, 1972, pp. 471–486):

1. Structural role redefinition: involves altering external, structurally imposed expectations relative to a person's position. This is an active attempt to change the objective requirements of the role. Examples could be the omission of some of the activities related to the role, support in performing the role from an external person, usually a family member, integration of the role and changing the definition of the role.
2. Personal role redefinition: involves changing one's expectations and perception of one's own behaviour in each position. The person changes their own perceptions about expectations of their role. Setting priorities inside the role and between the roles, prioritizing dealing with children sickness over dust cleaning at home, changing the attitude towards the role and ignoring some of the role's requirements and personal development could be examples of it.
3. Reactive role behaviour: entails attempting to find ways to meet all role expectations, assuming that demands are unchangeable and must be met. Examples could be planning and establishing in advance a schedule, working harder and lack of strategy. This behaviour creates excessive stress and burden outcome from the attempt to do everything that is required.

The first pattern of structural role redefinition was found by Hall (1972) to be the most effective one in dealing with work-family conflict, while the third one, reactive role behaviour, was found to be the least effective.

The flexible frame of working has been studied prior to the pandemic. Tiedje (2004), for instance, discovered that social changes in the structure of work led working people to create alternative work arrangements such as flexible work hours. Furthermore, Tiedje (2004, pp. 787–800) demonstrated that women, men and families redefine and create new templates of work and family arrangements. A study conducted by Hall et al. (2012) found that

work arrangements of reducing workload can contribute and facilitate the balance between work and family life. Reduced-load work arrangements allow people to maintain their career at work while at the same time participating in family life. Those results raise the question of whether working from home reduces or increases workload due to the absence of limited working hours.

The ability to work from home during the COVID-19 pandemic, in different countries and occupations, was studied by Gottlieb et al. (2020), who found that managerial and professional occupations can be performed at home, in contrast to elementary or machine-involved occupations, which cannot be completed from home. Lower income economy countries were found by them to have a lower ability to work from home than higher income countries.

Barrero et al. (2021) studied the topic of working from home during the COVID-19 pandemic, too; the study was conducted in the USA. The researchers concluded that work from home would stay there for good. They claim that after the pandemic ends, 20% of workdays will remain from home, compared to 5% prior to the pandemic. Those recent studies highlight the beginning of the change in relation to working from home that occurs in the working world, a change that might continue after the pandemic is over. However, the changes are not always expressed and actually they reflect additional differences between various socio-economic conditions, distinguishing between employees who have the ability to adapt to new situations and those who do not have that option.

2. Research methodology

2.1. Research variables

The research examined the predictability of different variables on the coping patterns and the conflict's intensity. The occurrence timing of Work-Home Conflict, as determined by stage in life, defined by the age of the eldest child in the family and stage in the career, defined by years of seniority at work. The connection patterns between family and work: - simultaneous pattern (family life and career begins at the same time) or continuous pattern (one role begins before the other role; family life first and work follows, or vice versa). The gender, work of the spouse, type of the framework (rigid/flexible) and type of workplace are additional variables which were examined in the research.

2.2. The research questions

Exploring the coping patterns related to work-home conflict among Israeli lawyers was the main aim of the research. In addition, the issues of working from home, the intensity of the conflict and differences of coping patterns between women and men were examined as well. The relationship between the types of coping pattern applied to the personal satisfaction is yet another aspect examined in this research.

Following the COVID-19 pandemic (from late 2019), the topic of working from home has become extremely relevant and practical to countless employees, including lawyers, in different places around the world. Therefore, the research question concerning working from home for lawyers was chosen as the core of the current article.

2.3. Snowball sampling

The research was conducted by snowball sampling, using an online questionnaire in lawyers' groups in Facebook and by forwarding the questionnaire to lawyers known by the researchers and through them to additional lawyers. The sample included 96 men and women lawyers, and contained 2 different groups: the first one included employees in private law firms and in the public service sector. The second group contained partners in private law firms and self-employed (not necessarily related to seniority).

2.4. The research tool

The questionnaire consisted of three parts; demographics questions, items about coping with the work-home conflict (as in Hall's questionnaire) and extra questions related to the conflict, added by the researchers.

Table 1 presents the participants' demographic characteristics. As it can be seen, most participants were women (60.4%), the majority were employees (47.9%), 31.3% self-employed and 20.8% partners. 91.7% of the participants were employed in private law firms, the rest in public law departments or legal departments in commercial companies. 81.3% of them were married, the rest were divorced, single or widowers. 63.3% of the participants had 2 or 3 children. 55% of them, which is equivalent to the fact that they were young by age, were low in seniority, between 0 to 10 years. Almost all the participants who took part in the research were Jewish (96.9%), living in the centre of Israel – 79.2% (the most crowded area in the country).

Table 1

The participants' demographic characteristics (N=96)

Variable	Categories	%	N
Gender	Men	39.6	38
	Women	60.4	58
Age	25-35	30.2	29
	36-46	36.5	35
	47-57	26.0	25
	58-67	6.3	6
	68+	1.0	1
Workplace	Private office	91.7	88
	Public office	6.3	6
	Legal Department in a Company	2.1	2
Years of seniority	0-5	34.4	33
	6-10	20.8	20
	11-20	26.0	25
	20+	18.8	18
Status in the legal profession	Employee	47.9	46
	Independent	31.3	30
	Partner	20.8	20
Marital status	Bachelor	9.4	9
	Married	81.3	78
	Divorced	7.3	7
	Widower	2.1	2
Number of children	None	10.0	9
	1	12.2	11
	2	32.2	29
	3	31.1	28
	4+	14.4	13
Residential area in Israel	North	10.4	10
	Central and Sharon	79.2	76
	Jerusalem and the Lowlands	8.3	8
	South	2.1	2
Religion	Jew	96.9	93
	Muslim	2.1	2
	Other	1.0	1

Source: Own work.

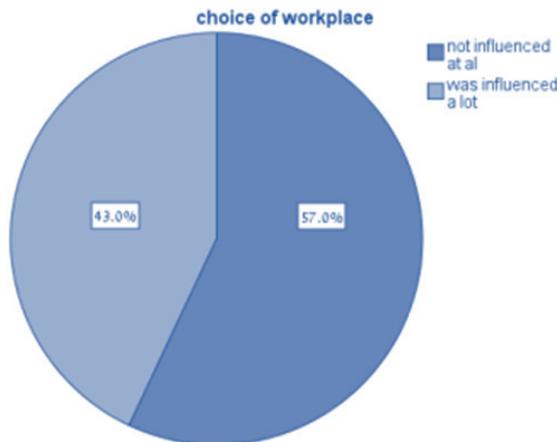
3. Research findings

The research was conducted prior to the pandemic (2019); consequently, the findings represent the lawyers' attitudes about working from home just before COVID-19 started and forced employees around the world, including lawyers, to work from home thus changing their normal behaviours. The research findings emphasized that before the pandemic working from home was not an option for most lawyers. All lawyers used to work in their offices; some worked additionally at home, after their children were asleep.

In order to learn about the participants' attitudes and their preferences regarding work-home conflict and working from home, they were asked if their workplace selection (public, private or company) was influenced by the number of hours of work and the ability to combine home and work. Figure 1 represents the participants' workplace choices.

Figure 1

Choice of workplace



Source: Own work.

Figure 1 shows that for most participants (57%) choosing their workplace was not influenced by those variables at all. A little less than a half reported that their workplace choice was very much influenced by the number of working hours and the ability to combine home and work (about 43%).

The participants were also asked about the place where their work is carried out.

Figure 2
Place of work

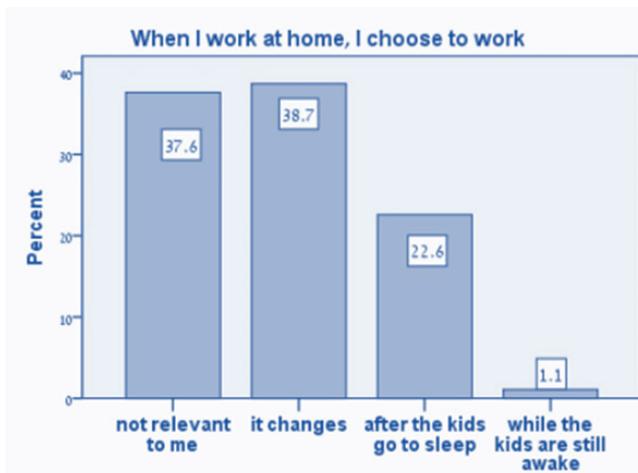


Source: Own work.

Figure 2 shows most participants reported that their work is mainly carried out in the office and in some cases at home (7.4%).

Furthermore, the participants were asked about their preferences when to work while working at home. Figure 3 represents the participants' answers.

Figure 3
The times of working at home



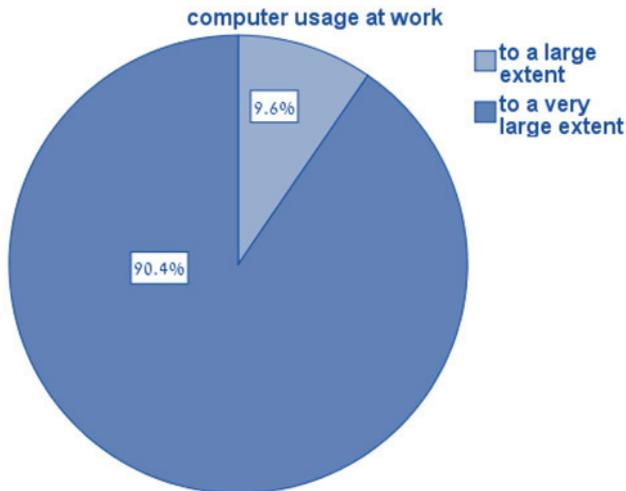
Source: Own work.

As can be seen in Figure 3, about 22% of participants reported that when they work at home, they choose to work after the children are asleep, 38.7% reported that this varies and 37.6% answered that the issue is irrelevant to them.

In order to check the participants' technological ability to work at home, they were asked, "To what extent does your work require using a computer?" Figure 4 relates to that question.

Figure 4

Computer usage level at work



Source: Own work.

As can be found in Figure 4, most lawyers who participated in the research (90.4%) reported that their work is carried out using a computer to a great extent. Hence, practically, working from home was an option for most lawyers, prior to the pandemic.

An additional question relating to the ability to work from home examined the flexibility in the working hours. The participants were asked: "To what extent do you think there is flexibility in your working hours?"

Figure 5 shows that most participants (43.6%) reported a great flexibility in their working hours, another 20% to a very large extent and in contrast, 36.3% of participants reported that such flexibility is rarely available, or it is not available at all.

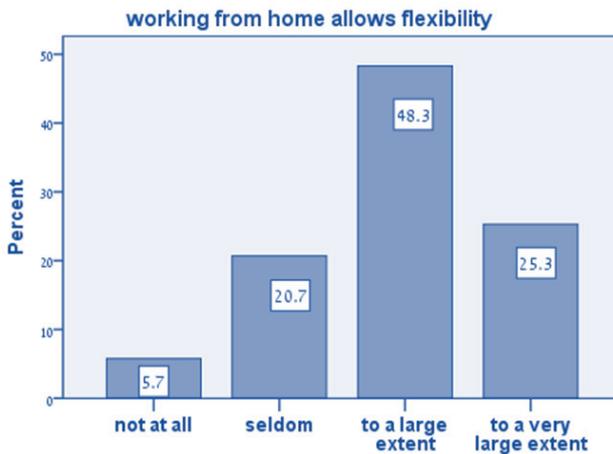
Figure 5
Flexibility in working hours



Source: Own work.

Furthermore, the participants were also asked in relation to working from home, “If you work from home (or also at home), to what extent you think working from home allows flexibility at work?” Figure 6 relates to the participants’ answers.

Figure 6
Flexibility in working hours when working from home



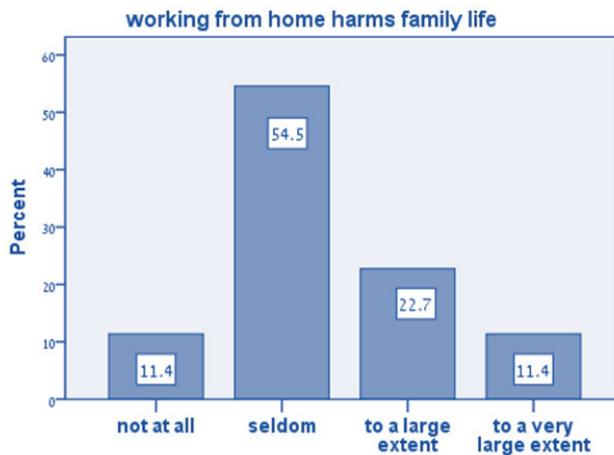
Source: Own work.

Figure 6 shows that most participants (73.6%) reported that working from home allows flexibility at work to a great and very great extent. The other (26.4%) claimed that working from home does not allow them any flexibility.

In an additional question relating to the topic of working from home, participants were asked, "If you work from home (or also at home), to what extent you think working from home harms family life?" Figure 7 represents the participants' answers.

Figure 7

The impact of working from home on family life



Source: Own work.

Figure 7 shows the majority of participants (65.9%) reported that working from home rarely harms family life, or it does not harm it at all. In contrast, 22.7% claimed that working from home greatly harms family life and another 11% even claimed that it does so to a great extent.

4. Discussion

Exploring lawyers' work-home conflict coping patterns was the main aim of the research. Following the global COVID-19 pandemic (late 2019), the focus in the current article relates to a significant sub-aim, i.e. the lawyers' attitudes and working habits in relation to working from home prior to the pandemic. Working from home was chosen as the article's topic because of its relevance to nowadays changing world; the changes in the way

employers and employees had and probably will have to deal with in the coming future. The COVID-19 pandemic demonstrates one of the greatest events ever happened to the human race in recent decades.

Following the research findings, before the pandemic working from home was not an option for most lawyers, as they used to work in their offices. The results are surprising since at the same time the lawyers claimed that working from home allows flexibility at work to a great extent, they have the necessary facilities for it and the majority also reported that working from home did not impact family life. Consequently, it can be concluded that prior to the pandemic, keeping work and family separate was significant for the participants. The lawyers' decision to work mainly from their offices was a clear decision reflecting their needs, ideas on how to simultaneously arrange their work and family, and those decisions did not result from constraints of any kind. Right after the research was conducted, the reality highlighted the need to change the way of thinking and acting in relation to working from home. The pandemic forced numerous workers around the world to adapt to the new situation, and consider working from home, even when that option was not preferred by them prior to the pandemic, but became a must to continue with their employment, careers and companies.

Different managerial theories emphasized for several years that the world is changing; subsequently, the working world must be changed as well, for example, in relation to newly created jobs, along with disappearing jobs, enlarging team work instead of individual work, etc. The famous book titled "Who Moved My Cheese?" by Spencer Johnson (1988) illustrates in a creative way the need to be relevant and aware to the changes in the working world. Has it happened? Have countries and companies taken into account those recommendations and been indeed ready to the changes forced by the pandemic in general and to agilely transferring their employees to home working, in particular? One of the domains, for instance, that was caught not to be ready enough is the educational system in many countries. Although educational research has claimed for years that the learning system should switch from traditional class teaching to alternative ways, in several places their recommendations have not been applied. Consequently, teachers and students experienced difficulties adapting themselves to online teaching.

Conclusions

COVID-19 is perhaps the first huge pandemic in the last decades, but probably not the last one. The new challenge imposed should guide decision makers that sticking to what is known and convenient is not the correct

way. It indicates that the uncertain future is already present, and it might demand organizations and employees to be flexible as much as needed, in a short and creative way and time.

Transferring work from working places to home affects not only a specific employee who should find a place where they can work at home, in what hours, arrange the family towards the change, but also the employment world in general, for example, less demand for offices/buildings space, office employees (cleaning people, catering, secretaries and the like). When the pandemic started, lawyers were forced to work from home. It can be assumed that at least part of the lawyers who claimed in the research, prior to the pandemic, that they do not work from home because of the negative influence on their families and although it gives them flexibility, changed their attitudes about working from home and will continue to work like that in the future.

An important conclusion and as a result an essential recommendation for further research is that subsequent to those changes, employees will have to learn how to define work-home boundaries, which according to previous research is a significant issue, and for several people difficult to deal with. Defining those boundaries in advance, being aware of “my preferences”, but at the same time being able to learn how to react and perform in uncertain situations or changes that are not related directly to new technologies, demands, trends, but unexpected ones, might be a huge benefit to organizations, companies and the employees._

REFERENCES

- Allen, T.D., French, K.A., Dumani, S., Shockley, K.M. (2015). Meta-analysis of work-family conflict mean differences: Does national context matter? *Journal of Vocational Behavior*, 90, 90–100.
- Aryee, S., Luk, V., Leung, A., Lo, S. (1999). Role stressors, interrole conflict and well-being: The moderating influence of spousal support and coping behaviors among employed parents. *Hong Kong Journal of Vocational Behavior*, 54, 259–278.
- Barrero, J.M., Bloom, N., Davis, S.T. (2021). Why working from home will stick. *National bureau of economic research, NBER Working Paper*, 28731, 1–70.
- Colombo, L., Ghislieri, C. (2008). The work-to-family conflict: Theories and measures. *TPM*, 15 (1), 35–55.
- Ferguson, M., Carlson, D., Zivnuska, S., Whitten, D. (2012). Support at work and home: The path to satisfaction through balance. *Journal of Vocational Behavior*, 80, 299–307.
- Gottlieb, C., Grobovsek, J., Poschke M. (2020). Working from home across countries, *Covid Economics*, 71–91.

- Greenhaus, J.H., Beutell, N.J. (1985). Sources and conflict between work and family roles. *The Academy of Management Review*, 10, 76–88. <http://dx.doi.org/10.2307/258214>.P.77
- Halpern, D.F. (2005). Psychology at the intersection of work and family: Recommendations for employers, working families, and policymakers. *The American Psychologist*, 60, 397–409.
- Hall, D.T. (1972). A Model of Coping with Role Conflict: The Role Behavior of College Educated Women. *Administrative science quarterly*, 471–486.
- Hall, D.T., Lee, M.D., Ernst Kossek, E., Las Heras, M. (2012). Pursuing Career Success while Sustaining Personal and Family Well-Being: A Study of Reduced-Load Professionals over Time. *Journal of Social Issues*, 68(4), 742–766.
- Michel, J.S., Mitchelson, J.K., Pichler, S., Cullen, K.L. (2010). Clarifying relationships among work and family social support, stressors, and work–family conflict. *Journal of Vocational Behavior*, 76, 91–106.
- Netemeyer, R.G., McMurrian, R., Boles, J.S. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology*, 81(4), 400–410.
- Noonan, M.C., Corcoran, M.E. (2004). The Mommy Track and Partnership: Temporary Delay or Dead End? *The Annals of The American Academy of Political and Social Science*, 596(1), 130–150.
- Spencer, J. (1988). *Who Moved My Cheese?* New York: G.P. Putnam's Sons.
- Tiedje, L.B. (2004). Processes of change in work/home incompatibilities: Employed mothers 1986–1999. *Journal of Social Issues*, 60(4), 787–800, <https://doi.org/10.1111/j.0022-4537.2004.00386.x>

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Women's contribution in al-Mahğar literature

Introduction

The article presents women's contribution to al-Mahğar literature (the literature of Arab authors who emigrated to the West) from an-Nahđa (Renaissance) until the present day. Throughout history, feminist literature received an adequate attention as was the case with other kinds of literature. The reason for this circumstance is that feminist literature has been characterized by its transmission of the women's feelings, sensations or opinions concerning many social, cultural, and political issues as well as other aspects of life at both local and global levels. Even though the women novelists were distant from their homeland, it was not an obstacle to share with the readers the events and issues that are related to women in their homeland who, despite all the circumstances and the challenges surrounding them, still perform their role, which sometimes equals or exceeds that of men. The geographical remoteness was not perceived by male-writers, in general, or female-writers, as an obstacle, but rather an impetus to express their opinions in many social and political aspects. As for the concept of women's literature, it is a sort of literature that women write to express issues and aspects related to their privacy; it is a space in which they tell about their experiences and vision of things from their own personal perspective. The contribution of male writers in writing about women falls within the issue of defending women and their rights. The terms of 'female narrative' have multiplied, and many have disagreed about it and about its naming. The aim of the article is to reveal the new features of the Mahğar literature from the 19th century until the 21st century, referring to the original works, and scholars' studies and opinions in this field.

1. Al-Mahğar literature

During the 19th and 20th centuries, there were several circumstances that urged a group of writers and intellectuals to emigrate from the Arab countries, specifically from the Levant and Lebanon towards North and South America, Canada, Brazil, Argentina, Chile, and Venezuela (Hafāğī, 1973, p. 8). On the one side, the economic circumstances, restrictions posed on farmers, increase in taxes and spread of pests in agricultural crops were the reason for the emigration; on the other side, there was the psychological side, where comes the suppression of freedom, deprivation, and the control of clergy (Al-Aštar, 2002, pp. 12–13). The migration was a necessity to begin a new life, an ambition, and a desire to get more opportunities than those provided in their countries (Hafāğī, Muḥammad, 1973, p. 19). Al-Mahğar literature belongs to Arab authors who had emigrated to the West (Kūfītš, 1989, p. 7)¹. Al-Mahğar Arab authors were divided into two groups: the first is the Northern Mahğar-Diaspora which represents north America, whose members were characterized by the freedom in their literature and quality of it. The most notable are Ğubrān Ḥalīl Ğubrān, Mīḥāīl Nu‘ayma, Īliya Abū Mādī, Nasīb ‘Arīḏa and others, who established the Pen League – “ar-Rābiṭa al-Qalamiyya” (An-Nā‘ūrī, n.d, pp. 17-19)². As stated in its constitution, the goal of the league is to inject Arabic literature with an energetic soul, lift it out of the idleness and traditions, infuse a new life into its veins and position it in a status to make it a global immortal literature (Hafāğī, 1973, p. 88).

The second is the group of the Southern Mahğar-Diaspora which represents south America. The group established the Andalusian League “al-‘Uṣba al-Andalusiyya”³, which is an important league for Arab Mahğarī writers. It became their colloquium, and its magazine their stage for expressing their thoughts. The Andalusian League assisted in crystallizing Arabic literature in San Paulo, Brazil, which became prominent in the history of modern Arabic literature (Hafāğī, 1973, p. 28). The Andalusian League received its name due to the impact of the Andalusian literature on the Mahğarī writ-

¹ The importance of this literature stems from the fact that it has contributed towards new trends between the Arab conservative literary heritage and foreign literatures (Kūfītš, 1989, p. 7).

² The Pen League (1920-1931) was established in the Northern Mahğar. It included several writers and thinkers headed by Ğobrān Ḥalīl Ğobrān. Their literary production was basically prose and poetry. (An-Nā‘ūrī n.d, pp. 17-19).

³ The Andalusian League (1933-1947) originated in the southern Mahğar – South America and Brazil. Its founders are Mišāl Ma‘lūf, who was its first head, Dāwūd Šakūr, Nāšir Zaytūn and others (Hafāğī, 1973, pp. 26-29).

ers, especially in terms of music and *Muwašahāt* (Hafāġī, 1973, pp. 91–92). Al-Mahġar literature is characterized by “its broad meditative approach, its longing and depth, its liberation from the constraints of tradition, and its human spirit (Qāqīš, 1985, p. 11). The bonds of thinking connect both the *Pen League* and the Andalusian League; newspapers and magazines were calling for the new awakening (Hafāġī, 1973, p. 92). Mahġarī writers, particularly in the north, had a special interest in narrative literature (Hafāġī, 1973, p. 181). The contribution of women to that literature was limited; their influence on literary production was not like that of men e.g. Ġubrān or Nu’ayma, or Rayhānī, in poetry. However, some women writers have outshone in journalism and literature from the Southern Mahġar, e.g. Salmā Sāyig (who was a member of the Andalusian League), Anṭūn Šakūr, Naẓīr Zaytūn, Mārī ‘Aṭallah, and others (an-Nā’ūrī n.d., pp. 35–36, 181)⁴.

As for the concept of feminist literature, it is the sort of literature that women write to express issues and aspects related to their privacy; it is the space in which they tell about their experiences and vision of things from their own personal perspective. The contribution of male writers in writing about women falls within the issue of defending women and their rights. The terms of ‘female narrative’ have multiplied and many have disagreed about it and about its naming. Terms such as ‘women’s literature’, ‘feminist literature’, ‘female literature’, ‘women’s literature’, ‘woman’s literature’ (related to the woman), or even ‘human literature’ emerged. According to Toril Moi, “feminist literature is not linked to any political trend or a biological structure, but rather it is a phenomenon born out of culture” (Šafūrī, 2011, p. 2). Mary Eagleton adds that women’s literature “is the sort of literature that seeks to reveal the special subjective aspect of women away from those aspects that literature has considered for ages; that is, women’s literature is the literature that genuinely expresses the special nature of female experience in isolation from traditional concepts. It is the literature that embodies women’s experiences in life (‘Abās, 2013, p. 53).

In the field of feminist narrative writing, al-Qāḍī notes the existence of three phenomena that were the reason behind the superiority of the masculine narrative over the feminine (Al-Qāḍī, 1992, p. 29)⁵. The first is the lack

⁴ In addition to Maryāna Da’būl Fāhūrī, the owner of the magazine “al-Marāḥil”, there is Anġalā ‘Ūn Šaliṭā, an author and artist who published in several newspapers, especially the magazine “al-Marāḥil”. And Salwā Salāma Aṭlaš owner of “Karma” magazine (an-Nā’ūrī, n.d., pp. 35–36).

⁵ Al-Qāḍī mentioned the existence of a statistical study conducted by lhām Ġālī for Arab novels for the period between 1965 and 1976, through which it was found that 92% of the novels were written by men and only 8% were written by female writers (Al-Qāḍī, 1992, p. 29).

of narrative production. The second phenomenon relates to the women who stopped writing or did not continue to do so, except for a few of them who published one piece or two, and then announced that the end of their writing. This is due to women's commitment to their social and family-related responsibilities, which are seen as obstacles that could hinder their work as writers. This reality was not limited merely to Arab female-writers, but it was also the case for European female-writers. During the 18th and 19th centuries, English female-writers either rejected their professional role as writers, or they were bothered by this role due to the complications their professional life caused. The success the female-writers yearned to achieve was fraught with many dangers, struggles and conflicts. The third phenomenon that was evidently shown in the feminist narration is the woman's insistence on presenting her feminist concern as a subject that attains the greatest presence. This situation does not mean that women lack topics to be presented through their rich life experiences, but rather because of their desire to announce the special suffering of women and to call for changing that reality (Al-Qāḍī, 1992, p. 30).

As for the term "feminist literature", its appearance in the West during the first half of the 19th century sparked controversy among critics. There were those who objected to the fact that literature is classified according to sexual criteria and not according to objective literary standards. As for feminist critiques, some have seen the term as a definition that suits women's literature because it differs from men's literature in its understandings and experiences. It is worth mentioning that the Arab world experienced the same controversy as the one that had happened in the Western world. Several Arab women writers rejected the term because it was a term invented by men, which detracts the literature of women. However, lately, the Arab feminist criticism played an effective role in encouraging Arab female writers to accept the term for its sophistication and the way it differentiates Arab women literature and their active role in this cultural heritage (Şafūrī, 2011, p. 6). Despite what has been circulated about the feminist literature and despite the fact that there is a lack of clarity about the term 'women's literature' in the Arab world, as opposed to the Western world which has brought about an almost complete agreement about the term, however, what distinguishes it and makes it privileged is that it is a sort of literature written by women in which they display their concerns and vivid experiences free from the constraints of the society and masculine authority. The woman writes her thoughts down; she writes from her heart; she knows more than men about herself, body, feelings, and thoughts; she can express that by using her own unique technique so men cannot compete with her.

2. Arab female writers in the al-Mahġar

The changes that took place in the Arab world beside the political, economic, and social fluctuations had a clear impact on the emigration of some Arab people, especially Arab writers, to the West in search of a better life and a broader horizon. Emigration played an important role in the lives of the writers, and their writing relied on a repository of their memories and experiences. The people who emigrated from the Arab countries, especially from Lebanon and Syria, to the West since the late 19th century were divided into two categories; the first one emigrated to North America and established "ar-Rābiṭa al-Qalmiyya", whereas the second emigrated to South America, especially Brazil, and established "al-'Uṣba al-Andalusiyya" (an-Nā'ūrī, n.d., pp. 17-30). They worked on their literature free from restrictions such as the artistic methods or the multiplicity of the topics. Their works dealt with "homesickness, meditation, humanism, depth of feeling towards nature, ingenuity of description, the kind lyric in poetry and freedom from religion" (an-Nā'ūrī, n.d., p. 70). Female writers presented various topics in their novels. They dealt with their issues from different aspects using their own style and ways of accessing these situations via different perspectives. In the 1990s (Al-Maġlis al-A'lā liṭ-ṭaqāfa, 2004, al-muġalad 1, p. 47)⁶, the woman's character appeared free from the suppression of the male authorities in some of the novels. Women imposed their bodies and used them as they wished, away from the restrictions imposed on them by the male community, such as Laylā Ba'albakī⁷ novel, "Anā Aḥyā". As for Naġwā Barakāt⁸, she followed a creative direction which Edwārd al-Ḳarāt, the novelist, called the Aṭayār al-'Uṣṭūrī al-Mu'āṣir "The Contemporary Mythical Stream", or "a trend that uses myths, imagination, and folk tales

⁶ With the end of the civil war in Lebanon. (Al-Maġlis al-A'lā liṭ-ṭaqāfa 2004, al-muġalad 1, p. 47)

⁷ Laylā Ba'albakī (1934-), a Lebanese novelist and storyteller, lives in London. She worked in the Secretariat of the Lebanese Parliament in the period 1957-1960. She practiced the profession of journalism. She was sentenced because of her story collection "Safinat Ḥanān 'ila al-Qamar" in 1963, on charges of offending public morals, but she was acquitted. Among her works, there is the novel "Anā Aḥyā" in 1958, and "al-Āliha al-Mamsūḥa" in 1960 (Al-Maġlis al-A'lā liṭ-ṭaqāfa, 2004, al-muġalad 1, pp. 152-153).

⁸ Naġwā Barakāt (1960-) is a Lebanese novelist who was born in Beirut and emigrated to France because of the war in Lebanon. She works as a journalist and radio scenario writer. She won the 'Best Lebanese Creativity Award' for the year 1996. Her literary works include: the novels "al-Muḥawil" in 1986, "Bāṣ el-Awādim" in 1996, "Ḥayāt wa-Ālām Muḥammad bin Silāna" in 1995, and "Yā Sālām" novel in 1998 (Al-Maġlis al-A'lā liṭ-ṭaqāfa, 2004, al-muġalad 1, p. 159).

at the same time as it raises issues that reflect the course of life with its scenes and characters, whether in a historical or contemporary situation” (Al-Mağlis al-A‘lā liṭ-ṭaqāfa, 2004, al-muğalad 1, p. 46). Hodā Barakāt⁹ texts formed a qualitative phenomenon in the general Lebanese narrative discourse that complements the post-civil war period, with which the issue of masculinity and femininity intersected with war (Al-Mağlis al-A‘lā liṭ-ṭaqāfa, 2004, al-muğalad 1, p. 44). Then, there was the model of the new woman that emerged in the novels of the 1970s. This woman was open to collective concerns, and derived the events of her novels from the social and political realities of life. She was the free woman who believed in her personal destiny. She was the conscious and mature woman who always strived to enrich her inner world. She refused to waste her energy to struggle with the man; she rather considered him to be a partner with whom to create a better life on the private and public levels, as shown in Ḥamīda Na‘na’ novels¹⁰. There are many female novelists who supported the novelist woman's journey through their narratives. They dealt with many issues using their own style; among them are Dunā Ṭālib¹¹, Samīra al-Māni‘¹², ‘Alyā Mamdūh¹³, Hodā ‘Abdil Moḥsin Rāšid¹⁴. There is a group of female novelists and writ-

⁹ Hodā Barakāt (1952-), a Lebanese novelist and storyteller, worked in education, journalism, translation, and radio. She works as a journalist in Paris. Her novels include: “Ḥağar ad-Diḥk in 1990, *Ahl al-Hawā*” in 1993, “Ḥarīṭ al-Miyāh” in 1998, and her story collection, “Zā‘rāt” in 1985 (Al-Mağlis al-A‘lā liṭ-ṭaqāfa, 2004, al-muğalad 1, p. 161).

¹⁰ Ḥamīda Na‘na’ (1946-), a Syrian novelist and journalist, lives in Paris. She works in Arab and foreign press. Her creative works include her novels, “al-Waṭan fi al-‘Aynayn” in 1979, and “Man Yağru’ ‘alā aš-Šawq” in 1989 (Al-Mağlis al-A‘lā liṭ-ṭaqāfa, 2004, al-muğalad 1, pp. 283–284).

¹¹ Dunā Ṭālib (1963-), Iraqi storyteller and novelist. She was born in Basra and lives in Denmark. She has a fictional collection titled “Ḥarb Nāmāh” in 1988. (Al-Mağlis al-A‘lā liṭ-ṭaqāfa, 2004, al-muğalad 3, p. 106).

¹² Samīra al-Māni‘ (1935-), an Iraqi storyteller and novelist. She was born in Basra and has lived in London since 1965. She is the deputy editor-in-chief of the magazine “al-‘Iğtirāb al-Adabī” published in London. Her literary works include the following novels: “as-Sābiqūn wal-Lāḥiqūn” in 1972, “at-Tunā‘ya al-Lunduniyy” 1979, “Ḥabil aš-ṣurra” 1990, and other novels (Al-Mağlis al-A‘lā liṭ-ṭaqāfa, 2004, al-muğalad 3, p. 111).

¹³ ‘Alyā Mamdūh (1944-), Iraqi novelist and storyteller. She was born in Baghdad and currently lives in Paris. She published in newspapers and magazines. Her novel “Ḥabāt an-Naftālin” was published in 1986, and translated into several languages: English, French, Dutch, German, and Italian. Her novels include: “Laylā wa ṭ-Ti‘b” in 1980, and “al-Wala’” 1995, and others (Al-Mağlis al-A‘lā liṭ-ṭaqāfa, 2004, al-muğalad 3, p. 114).

¹⁴ Hodā ‘Abdil Moḥsin Rashīd is a Saudi writer. She lives in London and works as a broadcaster for the BBC. Her novels are: “‘Abat” in 1977 and “Ġadan Sayakūn al-Kamīs” in 1977 (Al-Mağlis al-A‘lā liṭ-ṭaqāfa, 2004, al-Muğallad 4, p. 117).

ers in the West who write in foreign languages such as Āsya¹⁵, Ġabbār, Laylā Hawārī¹⁶, Nādyā Ġālim¹⁷ and Yasmīne Zahrān¹⁸.

Suzān Abū al-Hawā (IMEU – Institute for Middle East Understanding 2015)¹⁹ is considered one of the female writers who is distinguished by a special style of writing. In her novels, she depends on the element of suspense, and shows all the advantages of the Palestinian issue in the novel in a fascinating way that encourages the reader to delve into its events. Her first novel, “Baynamā Yanām al-‘Ālam”²⁰, has been published in 19 countries (Abū al-Hawā, 2012, p. 479). The events of the novel relate to the entity of the reader because it touches something inside him/her. It deals with many topics, so that the political, social, and historical reality of the Palestinian issue was the greatest influence in crystallizing the themes and main ideas in the writings of Suzān Abū al-Hawā. Among the many themes in the novel, she presented the role of women in the community. She touches upon many aspects, such as the woman's permanent role in her family and society. The Palestinian woman was a model for the diligent loyal woman of the land, the wife, the mother, and the struggler that confronts everyone who tries to harm the stability of her life. Taking the novel “Baynamā Yanām

¹⁵ Assia Jabbar (1936-), an Algerian novelist and storyteller. She was born in Algeria and lives in Paris. She has devoted herself to literary writing since 1967 (Al-Maġlis al-A‘lā liṭ-ṭaqāfa, 2004, al- Muġallad 4, p. 205). Her novels are written in French.

¹⁶ Laylā Hawārī (1958-) was born in Morocco and then emigrated with her family to Belgium. Munā Laṭīf Ġaṭṭās (1946-), a poet, a novelist, a poetry-theater director, and a composer of Egyptian folk music. She lives in Montreal (Al-Maġlis al-A‘lā liṭ-ṭaqāfa, 2004, al- Muġallad 4, p. 229). Her novels are written in French.

¹⁷ Nādyā Ġālim (1941-) is an Algerian writer. She was born in Algeria and lives in Canada. At the end of the 1970s, she oversaw social affairs with the Union of Algerian Writers (Al-Maġlis al-A‘lā liṭ-ṭaqāfa, 2004, al- Muġallad 4, p. 232). Her novels are written in French.

¹⁸ Yasmīn Zahrān (1933-), a Palestinian novelist. She lives in Paris. She worked in the field of education at UNESCO. Her novels include: “al-Laḥn al-Awwal min Falastīn” in 1991, and “Ḥārīt al-Bayādir” in 1999 (Al-Maġlis al-A‘lā liṭ-ṭaqāfa, 2004, al- Muġallad 3, p. 237). Her novels are written in Arabic.

¹⁹ Suzān Abū al- Hawā (1970-), was born to a Palestinian family living in the “aṭ-Ṭūr” area of Jerusalem. Her father said that they were expelled at gunpoint. At that time, her mother was studying in Germany and thus could not return. Then they were reunited in Jordan before going to Kuwait, where Susan was born in 1970. Suzān Abū al- Hawā moved to live in the States when she was a teenager, graduated from North Carolina University and got her MA in Neuroscience, then she began her career in the medical sciences. In July 2001, Abū al- Hawā established Palestine Stadiums. IMEU-Institute for Middle East Understanding, *Susan Abulhawa: Novelist and Humanitarian*, <https://imeu.org/article/susan-abulhawa-novelist-and-humanitarian> [Access: 10.11.2015]. Her novels are written in English and have been translated into several languages including Arabic.

²⁰ „Mornings in Genin” is the English name of the novel. The Arabic name “Baynamā Yanām al-‘Ālam”.

al-‘Ālam” as a model, the author deals with several topics such as love, emigration, land and home, motifs of family separation, emancipation of women, masculine authority and religion. As for the character of the hero in the novel, it was represented by Amāl, who narrated the events very precisely and went along with them. She became a growing character; she fell in love; she got angry, she was a wild girl, curious, bold, strong, and weak at the same time. The central characters were Dālyā the mother, the strong and silent wife, who endured tragedies and calamities and was accused of a sin she did not commit. She lost the ones she loved, firstly Bāsima, her mother-in-law, and then her son Ismā‘il, and then her husband Ḥassān, who in turn played one of the roles of the central characters. The events centred around his wife and his three children whose father was the source of inspiration, the strength behind their resilience, and their strong motivation to study. The writer’s style and her presentation of the themes in “Baynamā Yanām al-‘Ālam” tell the story of a nation, created by female fingertips, with a passionate affection. She colours her writing with delicacy and softness without reducing her strength and the greatness of the language.

Abū al-Hawā indicates that the topics that occupy her mind are “the homeland, which is an everlasting topic, the formation of identity, the search for identity, motherhood, homelessness and diaspora” (BBC News, 2015)²¹.

Another writer - Ḥanān aš-Šayḥ²² - was among those who contributed to the novelist renaissance in Lebanon. This qualitative shift started in the 1970s (Al-Maḡlis al-A‘lā liṭ-ṭaqāfa, 2004, al-muḡalad 1, p. 43). In 1980, she published a novel titled “Ḥikāyat Zahrā”, whose main character Zahrā presents the fate of an oppressed female with the fate of a paradoxical society (Al-Maḡlis al-A‘lā liṭ-ṭaqāfa, 2004, al-muḡalad 1, p. 43). She embodies the female-victim of parenthood and, on the other hand, the victim of the war. Zahrā’s character went through many forceful circumstances and her suffering from the male society, starting with the domination and taunting of her father, and the preference of her brother over her. This confirms the principle of the male mentality in addition to the violation of her body by her neighbour and then her uncle. She was searching for her miserable identity in vain even after she met the sniper and her relationship with him

²¹ From the interview conducted with Suzān Abū al-Hawā (BBC News, 2015).

²² Ḥanān aš-Šayḥ (1943-) is a Lebanese writer and novelist. She lives in London. She finished her studies in Cairo. Her novels have been translated into English, French, and Dutch. Her works include: “Intiḥār Raḡul Mayyit” 1970, “Faras aš-Šayṭān” 1975, “Ḥikāyat Zahrā” 1980, “Wardat aš-Šaḥrā” 1982, “Barīd Bayrūt” 1992, “Ukanisu ašamsa ‘an as-Suṭūḥ” 1994, “Misk al-Ġazāl” 1986, “‘Adrā’Lundunstān” 2015 (Al-Maḡlis al-A‘lā liṭ-ṭaqāfa, 2004, al-muḡalad 1, p. 138).

and her attempt to understand the true causes of the war. She also talks about her reflections and questions about the woman's role in stopping the war; yet at the end she fails when the sniper shot her after she told him that she was pregnant. The character of Zahrā represented the woman who suffered from the war and the patriarchal authority, which she strongly rejected. What distinguishes (Yūnis, 2018)²³ “In‘ām kaġa ġi” (‘Abd ar-Raḥmān, 2018)²⁴ novels are the evocation of her homeland and her attempt to transmit historical events and facts; she says: “no matter how far one is from his hometown, his language, memory, tastes, images and songs keep taking him there” (Yūnis, 2018)²⁵.

Conclusions

During the last third of the 20th century, women's writing developed and went into several directions. Authors elevated with their writing through their experience and by surrounding it with time and space (Al-Maġlis al-A‘lā liṭ-ṭaqāfa, 2004, al-muġalad 1, pp. 17-21). Women's contribution to the academic scientific research to examine the literature of women has helped making a qualitative leap at the thematic and technical levels in their literature (Şafūri, 2011, p. 486).

What differentiates these female-writers is that despite their presence in the diaspora, they dealt with social and political issues in the Arab world. They talked about them through their narrative personalities, so that women had roles no less important than men. In Suzān Abū al-Hawā's novel, “Baynamā Yanām al-‘Ālam”, Dālyā represents the strong struggling mother whereas Amāl shows the loving daughter, who conveyed to the reader the events of the novel under the occupation and dislodgment. In Ḥanān aš-Ših's novel “Ḥikāyat Zahrā”, Zahrā represents the character of the dreamy girl who suffered from the rigors of the patriarchal system, but also contributed to the transmission of the events and woes of the war.

²³ The novelist has four novels: “al-Ḥafīdah al-Amrīkiyya”, “Ṭašārā”, “Swāqī al-Qulūb”. From an interview with the novelist on the Bayan Site, from the website al-Byān.

²⁴ In‘ām kaġa ġi (1952-) is an Iraqi novelist, writer, and journalist. She has lived in France since the 1970s. She works in the press, translation, and is a reporter for two Arabic-speaking newspapers. She has won several international awards and honors, most notably the grand prize for 'The Arabic Novel' for her novel “Ṭašārā”, which was translated into French. She also entered the shortlist of the 'Arabic Novel Prize Poker' twice for her novels “al- al-Ḥafīdah al-Amrīkiyya”, “Ṭašārā”, “Swāqī al-Qulūb”. M. ‘Abd ar-Raḥmān., In‘ām kaġa ġi Riwā‘iyya taktub ‘an al- ‘Irāq li- tu‘āqib nafsahā. Mawqī‘ al-Yawm as-sābi‘. From the website al-Yawm Asābi‘.

²⁵ From an interview with the novelist on the Bayan Site.

And, in In‘ām kaġa ġi “al-Ĥafida al-Amrikyā”, the story of Zinā, the granddaughter of a colonel in the Iraqi army, who, after leaving the country and emigrating to America, returned to her country as a translator in the ranks of the American army, where she conveyed a picture of the political and social situation in her homeland. It can be said that the three female novelists have common points among them. They are women who live in the diaspora. They support the issues of women and their role in pushing the intellectual journey and raising social issues according to their own perspectives. Their distance from the homeland did not prevent them from sharing the events and issues related to women in their homeland who, despite all the circumstances and challenges surrounding them, still perform their role, which sometimes equals or exceeds that of men. The geographical remoteness was not perceived by male-writers, in general, or female-writers as an obstacle, but rather an impetus to express their opinions in many social and political aspects. Thus, we can see that women's literature of the Arab diaspora in the West is characterized by strong connection with their homeland.

REFERENCES

- Yūnis., ‘A. In‘ām kaġa ġi: *Aktub li-‘Odawwin sīrata ‘Irāq Zalzalathu al-Ĥurūb*. <https://www.albayan.ae/books/author-book/2018-02-13-1.3184787> [Access: 13.02.2018].
- ‘Abās, ‘A. (2013). *Faḍā‘at Nasawiyya Mumārasāt fī al-Adab wan-Naqd*. Dār Wāil lin-našir wat-tawzī’, ‘Ammān.
- Abū al-Hawā, S. (2012). “Baynama Yanam al-Alam. Mu‘asasat Qaṭar lin-našir, aṭ-Ṭub‘a al-‘ulā, ad-Dawḥā”.
- Al-Aštar, ‘Abd il-Karīm, (2002). *Awrāq Maġariya, Buḥūt wa- Muqārabāt Aḥādīt wa- Muḥāwrāt Rasā’il*, Dimašq: Dār al-Fikr.
- Al-Maġlis al-A‘lā liṭ-ṭaqāfa (2004), *Dākiratun lil-mustaqbal, Mawsū‘at al-Kātiba al-‘Arabiyya (1873-1999)- al-Ġazīra wal-Ķaliġ wal-Yaman wal-Kātibāt bil-luġāt al-Aġnabiyya*, al-Muġalad ar-Rābi‘. Mu‘asasat Nūr lid-Dirāsāt wa-Abḥāt al-Mar’a al-‘Arabiyya, al-Qāhira.
- Al-Maġlis al-A‘lā liṭ-ṭaqāfa (2004), *Dākiratun lil-mustaqbal, Mawsū‘at al-Kātiba al-‘Arabiyya (1873-1999) – al-‘Irāq, falastīn, al-‘Urdu wal-Maġrib*, al-muġalad aṭ-ṭālit, Mu‘asasat Nūr lid-Dirāsāt wa-Abḥāt al-Mar’a al-‘Arabiyya, al-Qāhira.
- Al-Maġlis al-A‘lā liṭ-ṭaqāfa. (2004), *Dākiratun Li-lmustaqbal, Mawsū‘at al-Kātibah al-‘Arabiyyah (1873-1999) - Lubnān wa-Sūriyyā. al-Muġalad al-awwal*. Mu‘asasat Nūr lid-Dirāsāt wa-Abḥāt al-Mar’a al-‘Arabiyya, al-Qāhira.
- Al-Qāḍi I. (1992), *ar-Riwāya an-Nasawiya fī Bilād aš-Šām, as-Simāt an-Nafsiya wa-al-Faniya 1950-1985*, al-Aḥālī lit-Tibā‘a wan-našir wat-tawzī’, Dimašq.
- An-Nā‘ūrī ‘Ī. (n.d), *Adab al-Maġar*. Dār al- Ma‘arif bi-Miṣr, al-Qāhira.

- BBC News, 'Ālam al-Kutub- Liqā' ma' ar-riwā' iyya al-Filastīniyya al-Amrikiyya Suzān Abū al-Hawā. Retrieved from: https://www.bbc.com/arabic/multimedia/2015/11/151120_books_world_susan_jenin [Access: 20.11.2015].
- Hafāgī M. (1973), *Qiṣat al-Adab al-Mahġarī*. Dār al-Kitāb al-Lubnānī, Bayrūt.
<https://www.youm7.com/story/2018/5/5/%D8%A5%D9%86%D8%B9%D8%A7%D9%85-%D9%83%D8%AC%D9%87-%D8%AC%D9%89-%D8%B1%D9%88%D8%A7%D8%A6%D9%8A%D8%A9-%D8%AA%D9%83%D8%AA%D8%A8-%D8%B9%D9%86-%D8%A7%D9%84%D8%B9%D8%B1%D8%A7%D9%82-%D9%84%D8%AA%D8%B9%D8%A7%D9%82%D8%A8-%D9%86%D9%81%D8%B3%D9%87%D8%A7/3778417> [Access: 05.05.2018].
- IMEU-Institute for Middle East Understanding, *Susan Abulhawa: Novelist and Humanitarian*, <https://imeu.org/article/susan-abulhawa-novelist-and-humanitarian> [Access: 10.11.2015].
- Kūfītš, As'ad, (1989). *Naẓariyat al-Ibdā' al-Mahġariya*, *Dirāsa fī Adab al-Mahġar*, Dimašq: Maṭba'at Etiḥād al-Kutāb al-Arab.
- Mawqī' al-yawm as-Sābi': M. 'Abd ar-Raḥmān., In'ām kaġa ġi Riwā' iyya taktub 'an al- 'Irāq li- tu'āqib nafsahā. Mawqī' al-Yawm as-sābi'.
- Qāqīš S. (1985), *Waqfa ma' Udabā' al-Mahġar*. Maktabat Šarikat Kādima lin-našri wat-tarġama wat-tawzī', al-Kuwīt.
- Šafūrī M. (2011), *Dirāsa fī as-sard an-nasawī al-'arabi al-ḥadīṭ (1980-2007)*, maktabat Kul- Šay', Ḥayfā.

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Illness, identity and mutability in Nicole Krauss' "Man Walks into a Room"

Introduction

In the introduction to her seminal work, *Illness as Metaphor*, Susan Sontag writes: "Illness is the night-side of life, a more onerous citizenship. Everyone who is born holds dual citizenship, in the kingdom of the well and in the kingdom of the sick. Although we prefer to use only the good passport, sooner or later each of us is obliged, at least for a spell, to identify ourselves as citizens of that other place" (1978, p. 3). In today's world, illness has become one of the most debated themes that interact with, emerge from, and represent the postmodern condition. At no time is it more relevant than following the spread of a global pandemic that leaves local physical, mental, social and emotional ramifications in its wake. Illness in general, and "postmodern illnesses" in particular, have become therefore, whether consciously or subconsciously, a part of the life of every person. One way of dealing with the fears associated with the issue of illness and death is through its "popularization" as a source of entertainment in media, through television and books alike. Survivors of illnesses are hailed as heroic figures, while victims are at time an inseparable and acceptable part of the narrative. After all, no true heroic quest would be complete without its fallen heroes. This article will explore Nicole Krauss' novel *Man Walks into a Room* (2002). By examining the novel's depiction of illness, memory and identity, it will attempt to understand the significance of illness and its effect on the character's life and development, with the hope of shedding light on humanity's relationship with the ill and illness in general in a postmodern society.

Human fascination with the idea of memory loss is not a new one. We have seen it reflected in our stories, be they in a written or visual

form, time and time again, from romance novels, where the protagonist forgets a loved one, to thrillers where the character is forced to face his/her inner darkness, and question themselves. The contemporary classic movie *Memento* (2000) by Christopher Nolan depicts a character that uses a convenient re-occurring memory loss to perpetuate a vendetta against his wife's killers, long after said killers have been punished, all the while tattooing his plans and next "killer" on his body, thus, figuratively and literally writing his own story on his body. This occurs after a friend uses him time and time again to kill people, under the guise that they are the "killers"; all of this culminating in the protagonist taking agency and choosing said friend as the next "killer". Memory loss, be it through an accident, an unforeseen illness, or the all-too-real Alzheimer's disease, has long occupied our thoughts and our imaginations. What makes a person him/herself without his/her memories? Are we the product of a collection of life experiences? And who do we become when we lose them? In Nicole Krauss' novel *Man Walks into a Room* (2002), the protagonist Samson faces these same questions. When it comes to the idea of the character who suffers memory loss, and who is attempting to piece together his/her life, and discover who s/he is, Krauss' novel is far from being the first. Well-known examples (which also lead to better known film adaptations) include Philip K. Dick's short story "We Can Remember it for You Wholesale" (1966) and Robert Ludlum's Bourne series, starting with *The Bourne Identity* (1981). These examples, however, while written post World War II, can still be said to present memory loss through a modernist lens, and ideas of subjectivity. Samson's illness, on the other hand, and its depiction in the story, can be said to be postmodern in nature.

In his book *Illness and Culture in the Postmodern Age*, David Morris describes postmodern illnesses as something that is "as distinctive as the films, cars, computers, and space shuttles that help define the era following World War II. It takes shape from specific historical convergences between biology and culture" (Morris, 1998, p. 3). While the debate remains regarding the historical "time-frame" that identifies a postmodern creation, Morrison focuses on an important element, i.e. "culture". A postmodern illness cannot be discussed without delving into postmodern society; they are irrevocably linked, inasmuch as postmodern society helps shape the illness, and give it its characteristics. In addition to some illnesses being a product of postmodern culture, such as eating disorders and body dysmorphia, the postmodern world can, in fact, be represented by several of the illnesses that are prevalent in it. Take for instance the depression, anxiety and stress that is associated with Facebook, Twitter and

Instagram culture; or more recently, and potently, the myriad of mental health issues that derive from social isolation, which while being brought into light due to a global pandemic, have long preceded it among many people, some of whom, relied, exclusively, on the Internet for socializing purposes, and in more extreme cases, have suffered from what the Japanese term as Hikikomori (which is acute social withdrawal). It is this multiplicity in postmodernity's characteristics which leaves room for many outlooks on its essence, a multiplicity that extends even to its metaphors, and is perhaps one of its more tangible "symptoms". Though it is difficult to systematically and coherently define post-modernity, multiplicity of narratives as opposed to the traditional master-narrative, fragmentation and unreliable narrators are some of its recurring ideas. From multiple personality disorder, which represents the postmodern individual as being torn apart in different directions by a number of forces pulling at him, to the "incurability" and uncertainty represented by AIDS, one is able to come up with multiple metaphors for the postmodern era (Morris). Novels that can be said to encompass metaphorical representations of postmodernity through their characters' illnesses, include, but are not limited to: Dalton Trumbo's *Johnny Got His Gun* (1939), which focuses on a soldier who loses his limbs, face and any ability to communicate with the world, except through limited head movements; Ralph Ellison's *Invisible Man* (1952), which tackles race, identity and the unconscious; Ken Kesey's classic *One Flew Over the Cuckoo's Nest* (1962), which, among other things, carries themes relating to mental illness; and Richard Power's *The Echo Maker* (2006), which focuses on a character suffering from Capgras Syndrome, his loss of self and belief that his sister is an imposter.

1. Samson Greene: no-man and everyman

In her book *Illness as Metaphor*, Susan Sontag writes that illness is both a landscape of biological disease and a socially constructed system of meaning. True enough Samson Greene's amnesia in *Man Walks into a Room* seems to transcend the restrictions of its biological characteristics and means of identification; it has large metaphorical significance. Though unbeknown to him, Samson's amnesia makes him a perfect postmodern subject; with it, he is lost and de-centred. Additionally, his initial brain tumour also presents an adequate postmodern metaphor. The tumour, if viewed as a metaphor for postmodern society, brings about a new understanding of society, and people in it. Samson, as the subject, is attacked by

a malignant entity, one that attaches itself to his brain, putting pressure on it, perhaps to some degree controlling it – society at its strongest. With the removal of the tumour, Samson loses the memories he acquired since becoming a part of and a subordinate to society; which is the only way to truly be free of its chains.

At the beginning of the novel Samson is found, adequately enough, wandering the Nevada desert, lost and disoriented; though it is close to Las Vegas, the perfect symbol of capitalist postmodern America, the desert is nevertheless outside of it. As Samson says, that's where you go when you “find your brain scorched [and] uninhabited” (Krauss, 2003, p. 71). Later on, his doctor Ray will call it a “sacred place of simultaneous being and nothingness...a proving ground in which the sense of individuality is obliterated on the way to achieve a higher state” (Krauss, 2003, p. 91). After being found in the desert, Samson is whisked away to a hospital where it is discovered that he has a brain tumour, the size of a cherry, which will need to be removed. The removal of the tumour, it is said, will cause permanent memory loss, the extent of which will not be known until it is done. As Samson himself later summarizes the danger that he was in:

A little to the left or right and I might not have remembered how to go to the bathroom. I might have existed in some eternal moment, with no memory of the minute that's just passed. I might have lost my ability to feel. I'm lucky sure. What I lost is, in the grand scope of things, almost...negligible. (Krauss, 2003, p. 44)

Yet it is not negligible, and his unique situation places him in the extraordinary position of needing to begin life a second time, without the burden or aid of old memories. If one were to speak in computer metaphors, then one would say that the “formatting” of his computer/brain has wiped his memory-chip clean. As part of an experiment that Samson agrees to participate in, memories of another individual – Donald, as transferred into his brain. The point made by Krauss is that the transfer from Donald is upsetting, Samson hates the experiment, and feels a sense of loss. Conversely, free from the doctors, he eventually remembers his mother's grave in a sort of non-computer way, which is all pretty mysterious, and that burying of brain slides, representing the tumour that carried the memories along with them, is doubly so. One might say that, at his postmodern, Samson manages to not be a computer. Which reiterates the question that presents itself throughout the novel: “what is an individual?” Are we defined by something deep, unchangeable, and indestructible? Or are we a sum of our life's expe-

periences? Samson, whose brain was stripped away of all the memories he acquired as an adult, is forced to explore these questions, while being plagued by a nightmarish set of his own:

It's true that there's grief: it wakes me in a cold sweat thinking, Who am I? What did I care about? What did I find funny, sad, stupid, painful? Was I happy? All of those memories I accumulated, gone. Which one, if there could have been only one, would I have kept? (Krauss, 2003, p. 44).

2. Homeless in America: a postmodern hero's journey

Samson draws attention to himself as a character, by embodying the traditional traits of the “hero” in a postmodern novel. He is a sort of orphan-hero, abandoned by his father at a young age, to be raised by his mother. He loses his memory, ostensibly a precious object, and sets off on a journey of self-discovery, and self-realization. Even a “journey” into the empty space in his head is presented as a great quest: “He moved like a man who knew the danger, the seriousness, of his mission. He moved through it backward and swept away his footsteps” (Krauss, 2003, p. 51).

Yet perhaps what ultimately makes Samson the perfect postmodern hero is his initial rebellion against being a postmodern subject. In *Treatise*, David Hume describes his “Copy Principle” as the first principle in the science of human nature. He adds that all “our simple ideas in their first appearance are deriv'd from simple impressions, which are correspondent to them, and which they exactly represent” (1.1.1.7). Similarly, with her eyes fixed on the TV, postmodernity's prime tool in turning people into copies, Anna, Samson's wife, summarizes the reality of a postmodern person saying:

You know, sometimes I get the feeling that we're just a bunch of habits... The gestures we repeat over and over, they're just our need to be recognized... I mean that without them we would be unidentifiable. We'd have to reinvent ourselves every minute. (Krauss, 2003, p. 39).

Though this statement focuses on what defines a person as an individual, mainly his/her habits, and of course experiences, it nevertheless raises the important issue of the underlying similarities that all postmodern subjects possess. It is not surprising that the “new” invention that captures Samson's interest is cloning. He even wonders if they will be able to clone humans, not realizing that they do not need science and medicine in order

to achieve that, that it is already happening. Our habits, therefore, are reduced to be merely small ways in which to stand out, and be distinguished from other people. Still, this also brings to mind Jacques Derrida's ideas regarding copies and photography.

The ways in which the archive, the signature, and the copy of the photograph work to preserve a memory while also threatening to put it under erasure, "signing on" to memory while also silently moving to displace it, provide Derrida with the space into which the memory of deconstruction—to be understood in the double meaning of the genitive—can be translated. Has not one of the movements of deconstruction always been the conservation of a memory, of disallowed and marginalized, even repressed, modes of knowing? (Derrida et al., 2010, XXVIII).

Derrida can also be seen as relevant to another aspect of Samson's story. In his essay "Structure, Sign, and Play in the Discourse of the Human Sciences", which was published in his 1987 book *Writing and Difference*, Derrida uses the metaphor of "play" as a way to de-centre structures based on binary opposites. Both of these concepts rely on the creation of irregularities and slight mismatching, which is needed, as is the case with machines, for continuous function. Similarly, Samson's lack of memory de-centralizes him; yet he is set in sharp contrast with other characters among which is his former self. Samson's doctors ignore "play" and attempt to treat him like a computer. But even computers require "play" to continue operating. Thus, these characters are unable to offer Samson the type of assistance he needs, which leads to him escaping them. Even though they themselves can be said to be de-centred, they attempt to treat others as centred, perhaps under the false illusion that said cantering is achievable, even in their own case.

The postmodern characters in the story are, in a sense, homeless. When he goes to his New York "home" Samson finds out that he has lived there for merely five years, "before that he had lived ten blocks south, before that downtown, and before that in California, and so on back through innumerable rooms with their qualities of light, their different views" (Krauss, 2003, p. 19). He lacked stability, and thus a real sense of belonging. Another character that lacks a true home, though for different reasons, is Ray. Ray's house is a statement of position and money, built as an architectural wonder, which made it star several times in different magazines. But as Samson comments, it is not a comfortable place to raise a family.

Anna originally lives with Samson in an apartment given to them by the University. Since it comes with the job, it can never be a real home to her.

And Lana, Samson's student, comes from a distant town, where she never felt at home, lives in a small apartment, but leaves it to go to California where she makes an acquaintance and stays at his house, because it "meant [she] didn't have to bother looking for a place" (Krauss, 2003, p. 98).

None of these people seems to be able to comprehend the concept of a home. The new Samson *can*. Though after he loses his memories, Samson leaves his house, and is supposedly "homeless"; it is then that he truly begins to acquire the concept of home. He feels at home with himself, and so the world becomes his home. As a postmodern hero, he himself to some degree becomes universal.

3. Doctors and the dehumanization of the body

In *Man Walks into a Room* doctors are described as almost cannibalistic in their vulgarity when it comes to learning the profession. It is as if the putting on the white robe of medicine strips them of their humanity, and turns them into a different species altogether. The novel tells of students of medicine who do not finish dissecting the corpses in the lab, and so, hack off body parts, and take them to their dorms wrapped in newspapers; like grave-robbers. Even Ray, the doctor who is trying to "plant" memories in Samson's head, and ostensibly "help" him, is one of this "barbaric breed". As a student, at night, while the woman who would later become his wife sleeps, he observes her, not as a person, but as body parts:

He watched her sleep and struggled to see her as she was, but what he saw instead were her muscles and bones. He saw right through the skin to where her femur connected to her tibia by way of the ligaments, to the hairy web of nerves and the delicate forest of her lungs, to the abstract heart pumping blood through her arteries... She turned and looked at him, and for a moment she seemed not to recognize his face. (Krauss, 2003, p. 156).

This dehumanization of the person, this view of him/her as a subject of study is typical to all physicians in the novel. At the beginning Samson was considered a "minor celebrity, [by his doctors], a one-in-a-million case" (Krauss, 2003, p. 27), which speaks plenty of an age where "fame" is easily gained, and easily lost, through extraordinary events. The contemporary concept of "Internet Famous" is the perfect example of such fleeting, at times, inconsequential form of fame. In a world that lacks uniqueness, there is an underlying yearning for that which is different. But the fast pace

in which the world seems to function leads to the old being constantly and quickly discarded in favour of the new. Even Samson's miraculous case must abide to culture's norms. "[W]ithin a week or two, once his case had been discussed and marveled at in grand rounds, it was filed away and the doctors seemed to lose interest" (Krauss, 2003, p. 30-31). They are not interested in human beings, but in case-studies. Lavell, who treats Samson during the early stages of his new reality, and who appears to befriend him, seems to Samson "more loyal to the organ of the brain than the personality it produced" (Krauss, 2003, p. 32). Samson, even with his "empty memory bank", recognizes the surgical didacticism that surrounds the physicians. Later when Samson asks about the identity of another patient, he gets a military-like response from Lavell. But instead of a name, rank, and serial number, he gets a name, illness, and case study associated with the patient – the emphasis being on the case study:

Marietta? She has Tourette's, a very severe case. It makes her tic like that. She has an overpowering impulse to mimic whatever she sees...A colleague of mine, smart guy, wrote a case study of her. Whether the individual Marietta truly exists or if the impulse, so all-consuming, makes her just a phantasmagoria of a person. (Krauss, 2003, p. 41)

The question that remains, however, is how a physician, to whom Marietta is nothing but a test subject, can manage to recognize if she still exists and if she is the one interacting with him, or if the disease is "possessing" her body. It is a criticism of an age when human life has lost its true value, when doctors start treating diseases and not people.

4. Reinventing the self

Morris describes one of the many narratives that deal with illness by saying that "this illness is constructed as a story that begins with a rejection of self-denial and with an embrace of desire, no matter how odd or unbecoming". He goes on to discuss the person carrying the illness, claiming that he creates "a distinctively postmodern self-determined to expand rather than shrink under the advance of a life-threatening illness" (Morris, 1998, p. 45). Though Samson's malady is not life-threatening, it is nevertheless "self-threatening". He is in a position of total loss; he needs to start his life over, at a point in time when seemingly he has everything going for him. He has a wife, a dog and a house; he is a distinguished English professor who

wrote an acclaimed book on American tradition. And yet, somehow, he discards everything and starts anew.

He leaves his house, his former self's home, which is full of his essence; separates from his wife and dog; and is, with his consent, dismissed from his position at the university because of his incapability to teach. All of these changes may thrust him into a state of chaos, with no grounding, no basis to support him; yet it is precisely this lack of grounding that helps him shape a new personality for himself, one he is more comfortable with, one that he lost somehow along the line in his quest into adulthood, in his journey through life in a capitalist society. From the moment he opens his eyes to this new world, this new state of being, he feels that his past self does not suit him, he thinks "of the man in [the pictures] not as himself but as a stranger" (Krauss, 2003, p. 24). He simply does not like that individual. While leafing through old books, trying to understand that person, he comes across a half-finished letter he had written his wife. This letter evokes criticism in him, as he feels "a sudden fury, that the man he used to be could easily trail off in midsentence, that he could forget to finish a letter to his wife with impunity. A man who could go away and come back, who could write home or not, who could leave off from the page and disappear into the afternoon- and nothing would be held against him" (Krauss, 2003, p. 24). Perhaps in addition to his anger at this man for being able to get away with irresponsibility, he is also angry at him for not living up to his full potential, for somehow fading in the background of himself. This connects well with the images of fading away present throughout the novel in connection with his amnesia, for perhaps through this new "objective" view of himself, he is able to recognize a lack of substance in his former self that makes him unable to leave even a small mark on the world. His memories, his experiences or as mentioned before – his habits are what made him recognizable, and without them he is nothing. Samson is angry, because his former self has faded away and no one held that against him, but perhaps what he is really angry about is that he has faded away and no one *noticed*. And so, with this comes new understanding that "the life [his wife] was trying to return to him he didn't want" (Krauss, 2003, p. 63) he feels the need to refashion and reinvent himself. In a way, Samson's life is very similar to what Arthur Frank wrote about saying:

Critical illness offers the experience of being taken to the threshold of life... From that vantage point you are both forced and allowed to think in new ways about the value of your life. Alive but detached from everyday living, you can finally stop to consider why you live as you have and what future you would like,

if any future is possible. Illness takes away parts of your life, but in doing so it gives you the opportunity to choose the life you will lead, as opposed to living out the one you have simply accumulated over the years. (Frank, 1991, p. 1)

With repeated complaints that he does not feel comfortable in his old clothes, for he feels it would be like stepping “into the role of Samson Greene like a character in the movie who assumes the clothes and car, who steps into the shoes, of another man” (Krauss, 2003, p. 21); and with his need to dress differently, Samson presents the image of a man who is reinventing himself. He does not care that he might evoke ridicule when discarding his business suits in favour of shiny blue shoes; he is now able to shed society's hold on him, and find his true self, his true happiness, and perhaps to some degree, make his small mark on the world.

5. Memory, pain, and the inscription of experience

There are obvious differences between Samson's condition and Alzheimer's disease (AD), mainly the fact that he is young, and capable of making new memories, building a new life without constantly forgetting basic functions in his everyday existence. However, on a closer inspection one finds many similarities between the two conditions, through imagery, and even through statements made by the characters. At one point, Anne, Samson's wife, who up till that moment was what might be described as his main “caretaker”, breaks down during his attempt to “test” her, and her knowledge of his life (mainly his childhood, a past that he *can* remember), she tells him that if he wants a test, he should test what he knows about *her*. When he responds that he does not know, she tells him: “you don't know. *You don't know!*” then goes on to say: “And the most awful part of it is that *I still love you*. I've lost you and yet you're still here. *To taunt me*. Can you understand? Do you have any empathy at all for what it's like?”. Lost yet present, both illnesses seem to strip away “from us everything in our culture, from families to personal identities, that gives our lives meaning” (Morris, 1998, p. 237) to some degree. It is not surprising therefore that Samson's uncle seems to suffer from actual AD; the one live person Samson is able to remember is losing everything.

Samson wonders at first at “tactile memory”, thinking that he should perhaps somehow remember his wife. As if our life experiences should be recorded on our bodies; as if those bodies should be able to somehow recognize people and objects that are important to the people we were,

even if our brains do not. Indeed, similar to the tangible approach taken in *Memento*, this idea of inscribing, almost "tattooing" the body with information is repeated several times throughout the novel. Later on, Samson tells Lana, a past student of his, about a new experiment involving the inscribing of great books onto roach DNA with the idea that "[w]hen it reproduces it will pass the book on and eventually, when there's a nuclear disaster and [everyone's] wiped off the face of the earth, these indestructible roaches will be the carriers of Western Civilization" (Krauss, 2003, p. 66). Putting aside the old idea of everyone dying from nuclear war, while only the cockroaches remain, which is postmodern in all aspects, even in its disregard for originality, and its focus on nuclear war; and while the idea of roaches being the carriers of Western Civilization is loaded with signification; it is the idea of inscribing the bodies of these roaches with information that holds the true significance. It opens the door to the idea of bodied as vassals of something significant, be it experience, memory or knowledge. Lana elaborates on his idea by suggesting the possibility of it being done to human beings, the possibility of tattooing "our DNA with Goethe maybe, or Shakespeare or Proust, so that we would be born with the memory of the Madeleine or full of *Hamlet*" (Krauss, 2003, p. 66). Later on, Samson participates in an experiment that focuses on inscribing him with memories, even someone else's, because he feels as if he is unable to exist without them.

Conclusions

In the end, even with the help of forgetfulness, people are unable to exist free of the bonds of culture, stifling as they may be. As Samson concludes:

And somewhere maybe someone else was forgetting everything he ever knew, giving up the ghost of an old life, entering a new emptiness. A man halfway through his life, putting his book facedown on the desk, turning a corner, and disappearing into the future. And the doctor would learn of this man. When the time was right, he would call him. And the man who forgot everything, even his own wife, would come. Knowledge was seductive and emptiness was perishable, and he couldn't stop his mind from filling again, the way a can left outside fills with rain. The man wanted, again, to be worthy, and so he would surrender himself up, and the transferred memory would come through, shattering the silence forever. And then the man would open his eyes, shell-shocked and betrayed. (Krauss, 2003, p. 236)

Despite Samson's sense of betrayal, he knows he cannot live without memory. Though he has freed himself of the chains of society, finding himself surrounded by it, he strives to re-chain himself; because he is unable to live within it, but at the same time separate from it.

Morris writes that illness "in the postmodern age is understood as fragmentation, and what we seek from the process of healing is to be made whole" (Morris, 1998, p. 67). Though Samson struggles with his illness, through the device of his illness he is able to tap into an inner force that helps him achieve his true objective, an objective. Through his illness, he is able to achieve wholeness; so, in a way, the illness itself becomes a cure; a cure not against itself, but against a bigger issue, which is the restlessness of the postmodern subject. By the end of his story, Samson is able to find a balance between his life as a postmodern subject and as an outsider.

REFERENCES

- Derrida, J., Bass, A. (2010). *Writing and difference*. London: Routledge & Kegan Paul.
- Derrida, J., Fort, J., Richter, G. (2010). *Copy, archive, signature: A conversation on photography*. Stanford, CA: Stanford University Press.
- Dick, P.K. (1966). *We can remember it for you wholesale. The Magazine of Fantasy & Science Fiction*. New York, NY: Mercury Press.
- Ellison, R., Finkelstein, H. (1952). *Invisible man*. Collection: Library of Congress.
- Frank, A.W. (1991). *At the will of the body: Reflections on illness*. Boston: Houghton Mifflin Company.
- Hume, D., Selby-Bigge, I. (1896). *A treatise of human nature*. Oxford: Clarendon Press.
- Kesey, K. (1962). *One flew over the cuckoo's nest* [novel]. New York: The Viking Press.
- Krauss, N. (2003). *Man walks into a room*. New York: Anchor Books.
- Ludlum, R. (1981). *The Bourne identity*. New York: Bantam Books.
- Morris, D.B. (1998). *Illness and culture in the postmodern age*. Los Angeles: University of California Press.
- Nolan, C. (Director). (2000). *Memento* [movie]. Newmarket Films. Ltd.
- Powers, R. (2006). *The echo maker*. New York: Farrar, Straus and Giroux.
- Sontag, S. (2001). *Illness as metaphor and AIDS and its metaphors*. New York: Picador.

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The new dimension of generational differentiations

Introduction

We live in times of extremely rapid civilizational progress, primarily generated by the intensive development of modern information technologies. At the same time, it is accompanied by dynamic transformations of the culture of consumer capitalism, dominant in the Western world of today, stimulated by the promotion of the ideology of individualism at the micro-scale (Messner et al., 2008) and the spread of the neoliberal doctrine at the macro scale (Passas, 2000; Mączyńska, 2014). The above processes have led to a specific state of global normative deregulation, diagnosed in detail by Nikos Passas as early as 2000 (see: Passas, 2000). In the following years, the process of deepening anomie on a global scale further intensified with its scope covering all spheres of human activities, from politics and economy to family life (see: Wrzesień, 2017, 2019). Normative deregulation has become the norm in the surrounding modernity, and it has not omitted the world of generations. One of its symptoms is the appearance of a new form of generational differentiation in recent times. These differentiations transcend the hitherto existing divisions, introducing a new quality to the world of generations, mainly in Western societies, which are the subject of this text. Nevertheless, due to the progressing globalisation, various manifestations of the discussed transformations can be found nowadays in almost every part of the world.

‘Generation’ has become a fashionable concept in recent years. Its use can be observed both within and outside the academic sphere. Sometimes its presence in the areas of public or political discourse is a particular added value. It allows, for example, politicians or publicists to systematise and explain the processes of historical change better than using the terms of social

class or nation, referring to events which in the lives of individuals turned out to be essential points of their biographies. It is also conducive to evoking a sense of community bonds, identifying social inequalities and injustices, and areas of conflict and impending crises (cf. White, 2013). However, the fashion for the concept of 'generation' has caused it to become a peculiar "tourist", travelling across diverse spheres of analysis while moving dangerously away from the sociological theory of generations, which has its long-standing and well-established position in this scientific discipline.

For this reason, we increasingly observe more or less unfortunate visits of generation-tourist notion in various non-sociological spaces. From the perspective of the sociological generational theory, it is generally used in an inappropriate way there. It is not without reason that I mention here Mieke Bal's (2002) travelling concepts theory. Observing the actions of some journalists, politicians, and scientists, one can get the impression that they were too enthusiastic about her thesis of the "concepts' power of flexibility" (Bal, 2002, p. 60). Despite the undeniable theoretical charm of Mieke Bal's approach, some of the journeys of notions, especially the fashionable ones, lead to a kind of "dysregulation" (another manifestation of contemporary anomie) of consistent (and well-functioning) conceptual models allowing us sociologists to explain sets of phenomena or processes that interest us. They may, admittedly, be a harbinger of changes, being a symptom of the incommensurability of disciplinary matrices (using Thomas Kuhn's (1970) perspective). However, by causing specific turmoil, they make it difficult for researchers to work efficiently, at least for a while.

The notion of 'generation' became fashionable again about 10–15 years ago and experienced numerous such journeys as "in a spirit of adventure" (Bal, 2002, p. 23). Unfortunately, the sociological theory of generations achieves little benefit from these expeditions. The main beneficiaries are the spaces of journalism and sciences that analyse the forms of people's collective lives in ways far different from sociological ones. For this reason, before discussing the new dimension of generational differentiation referred to in the title, I will begin with a brief, synthetic introduction to the spaces of the conceptual model of the sociological theory of generations, which I use in my own research work.

1. Generations – the conceptual model of the sociological theory

Generation is a heterogeneously perceived category in sociology. The very mechanism of generation formation is understood in two different

ways, which has led to creating two orientations of analyses of the world of generations: historical and cultural. According to the assumptions of the historical orientation, which began with Karl Mannheim's works (1928/1952), historical events are generation-forming factors based on which new generation communities are created. These are both events painfully affecting entire societies, such as wars, revolutions or economic crises, and much less traumatic, but significant from the historical point of view, periods of economic boom, peaceful political transformations or substantial "acceleration" of civilizational development. During these periods, youth, while shaping their identities, are strongly influenced by historical events shaping their lives and creating new generations. According to this orientation, in historical periods devoid of significant events, generations may not rise at all. Thus, taking over the historical orientation assumptions and looking for simple causal relations, one can say that, for example, since the transformation breakthrough took place in 1989, Generation '89 was created.

The formation of new generations is explained differently in cultural orientation, initiated by Georg Simmel's considerations (1908). Here, it is believed that generations are created and also shaped against the background of historical events, but the events themselves do not have a "generation-forming power". More important in this view is what happens to the youth under the influence of "new historical situations"; how young people react to historical events, and how they are reflected in their consciousness. For the proponents of cultural orientation, to which I count myself, a generation is a group with characteristics of a peer category, created on the ground of a community of thoughts and behaviours, which are a reaction to a "new historical situation", and not a simple consequence of historical events. Referring to the above example, in line with the cultural orientation, we should say that it was not the transformational breakthrough of 1989 that created Generation '89. However, a whole set of norms, values, aspirations, interests and attitudes that were the reaction of young people to the fall of the previous political system in Poland and the beginning of a new one is responsible for forming this generation group. The assumptions of cultural orientation in the theory of generations are now more common in sociology. According to it, I will define a generation as "the sum of all people belonging to a given cultural circle who, based on a common historical and social situation, show similarity in attitudes, motivations and value systems" (Griese, 1996, p. 80).

Regardless of which of the described orientations we are going to adopt, each generation has its generation-forming situation, only occasionally a generation-forming event – a common generational experience, as

Jan Garewicz (1983) wrote (e.g. war, revolution, economic crisis, political transformation, but also specific experiences of leisure and work time, media events or forms of participation in culture). When analysing generational factors, I prefer to use the term 'generational situation', as generational events happen only to a few generations. The remaining ones are shaped as a consequence of a series of events, phenomena and processes. The term 'situation' reflects them much more precisely.

Another problem we encounter trying to precisely define the scope of the term we are interested in is how we perceive a generation as a whole. A generation is most often characterised as a large community, including all, or almost all, representatives of several adjacent cohorts. However, in the sociological theory of generations, we can also find descriptions of smaller generational "incarnations", which are groups occurring within generations. Both viewpoints coexist, and separating them from the perspective of the hitherto existing knowledge on generational worlds formation seems to be a mistake. As José Ortega y Gasset wrote (1961, pp. 14-15): "a generation is not a handful of outstanding men, nor simply a mass of men; it resembles a new integration of the social body, with its select minority and its gross multitude, launched upon the orbit of existence with a pre-established vital trajectory". Based on my own long-term research experience, I assume that generational groups exist in two, not mutually exclusive forms. These are generational elites and close generations.

Generational elites are peculiar vanguards of broader generational communities, with a strong generation-forming innovative potential. They create a generational legend (Garewicz, 1983), i.e. a set of norms, values, signs, symbols, models and patterns of behaviour, which are the most important for a given generation. Further on, this legend usually spreads over the whole wider generational community, becoming the most critical generational identification factor for all people of approximately similar age. On the other hand, close generations are generational groups that, unlike generational elites, which are only an important "point" on the map of the entire generation, include all representatives of several adjacent generations. They are successive, consecutive links responsible for the continuity of the generation change process. They are communities with extended peer groups' features, with a maximum age range of 5–8. Close generations are responsible for easing tensions in generational change by confronting norms, values, and patterns of behaviour between neighbouring close generations, which is crucial in intergenerational cultural transmission. The differentiation of individual close generations' boundaries is a consequence of the socio-cultural situation during generations' formation. Dynamic social changes accelerate the emer-

gence of new close generations and result in narrowing their boundaries. In contrast, the social system's stabilisation favours the broadening of close generations' frames (see: Wrzesień, 2003, 2009).

Generations are also characterised by a specific state of *generationality*, a concept introduced to sociology by Jan Garewicz (1983). In my works, I use it slightly differently than the author mentioned above. In my perspective, it is the state of our collective and individual generational originality/"uniqueness", both recognised from the outside and sometimes more or less realised by ourselves – the participants of the continuous process of generation change. It is a set of many interrelated elements, constituting the specific profile of particular generational groups, which, thanks to them, gain an easily recognisable place in history.

To analyse generationality, I use the terms of the generation's social identity, sense of generational affiliation, and generation' identification traits. Generationality is shaped during our greatest generational creativity, which occurs approximately between 19 and 26. At that time, during our "domination" in the youth culture market, we shape the social identity of our generation in addition to our own personality and individual identity.

The social identity of a generation is understood in the objective sense. It is symbolic belonging to temporal and territorial segments of social reality – our "here and now of youth", recognisable "from the outside" by our observers and influencing the attitudes, norms, values or realised patterns of behaviour manifested by us (also in later life). On the other hand, when we become aware of this social identity of our generation, we experience the sense of generational affiliation, which is composed of such elements as a) the sense of common experiences, which may, to a greater or lesser extent, determine life career paths; b) the sense of common interests, norms, values and behavioural patterns, which manifests itself in the realised lifestyle, and c) the sense of solidarity.

The sense of generational affiliation is generationality in the subjective, internal sense – the awareness of participation in the generation being shaped. Meanwhile, a generation's social identity is an objective fact, a set of features that distinguish a given community or group in the process of generation change. It is an external sign of generationality, which we learn through our generational groups' identification traits manifested in the lifestyle. These, in turn, are sets of factors "placing in time" successive generational groups, among which I include: norms, values, patterns, sets of signs and symbols, which, depending on the social situation, may – all together or only some of them – influence opinions, attitudes and undertaken actions. These features form more complex structures, responsible for variations in

such spheres of individual activity as work, leisure time, participation in culture, relations between close generations and fashion.

In sociological analyses of generations, there are two viewpoints on the relationship between generations' formation and the awareness of this fact by their members. The first assumes that generations are communities created by individuals who feel a sense of generational affiliation, characterised by generational awareness or a common collective worldview (Świda-Ziemba, 1999). On the other hand, the adherents of the second standpoint, to which I include myself, assume that generations are communities within which the awareness of generation creation may be weak or non-existent. A common generational situation or common generational experiences do not necessarily lead to a common awareness of creating a generation. In recent years, the phenomenon signalled here has strongly marked its presence among Polish youth (and, I believe, not only). Nevertheless, it should not be forgotten that the sense of generational affiliation is a feature that often becomes active only years later when we evaluate our common, important, generational experiences of our youth from a more distant perspective.

Concluding this brief overview of the conceptual model I use in my generations' analyses, our attention will turn to the generational differentiations referred to in the title. The generational differentiation process is an element of generational change and defines internal diversity mainly within broader generational communities. We distinguish two types of internal generation differentiation: vertical and horizontal differentiation. Vertical differentiations manifest themselves mainly in the intensification of isolationist tendencies between neighbouring close generations. They appear both within the broader generational community and on the border between two broader generational circles. On the other hand, horizontal differentiation is characterised by the presence of a significant number of cultural diversities within generations (preferences, fashions, fascinations, subcultures). However, their multiplicity and multiformity do not necessarily imply mutual rivalry (see: Wrzesień, 2003).

2. Emerging of global generations

The domination of consumer capitalism, promotion of the ideology of individualism, expansion of neoliberalism, globalisation, accelerated technological development and progressing global anomie generated by all the processes mentioned above are the most significant elements of youth's generational situation since the beginning of the 21st century. Becoming

a fact in the process of civilizational changes, globalisation has also become another fashionable notion, encouraging researchers to use globalisation perspectives in descriptions of phenomena they are interested in. Thus, analyses of global generations have entered the spaces of the world of generations (Edmunds, Turner, 2005; Beck, 2008; Beck, Beck-Gernsheim, 2009). We will stop for a moment at some of the authors' remarks mentioned above to decide whether we have dealt with global generations.

June Edmunds and Bryan Turner (2005) argued that the first global generation was the 1960s generation. Undeniably, the youth of the 1960s and the exceptionally expressive culture they created significantly marked their presence in the Western world's history. Nevertheless, the representatives of basically two generations, the Silent Generation and Baby Boomers in the USA, were noticeably different from their Western and Eastern Europe peers. Indeed, the youth counterculture of the 1960s had many common features in different parts of the world, including a particularly emphasised political commitment. However, protests at American universities, the French May '68 or the Polish March '68 were something else, and sometimes these events are lumped together. Besides, it is not to the "1960s generation", as a whole, that we owe the rich set of innovations of the contemporary dominant culture of the West; it is primarily the result of the transmission and diffusion of elements of hippie (sub)culture. The most significant modifications of the dominant culture that hippies initiated were, among others: the cult of youth, ecological organisations and green parties, new trends in feminism, the movement for equality of homosexual preferences, the struggle to guarantee human rights, healthy lifestyles and the production of healthy food, the care for physical fitness and self-improvement, the popularity of psychological methods of solving life problems, the acceptance of new forms of upbringing and the socialisation of children. These changes may have occurred because the time of alternative culture¹, beginning around 1970, transposed earlier hippie ideas, which took on more institutional shapes, materialising in the form of movements and organisations (e.g. Greenpeace, Gay Liberation Front).

Similarly, the 9/11 generation was cited not only in the texts by June Edmunds and Bryan Turner, or Ulrich Beck and Elisabeth Beck-Gernsheim. Unquestionably, the World Trade Center's attack and the subsequent war on terrorism were generational events for youth entering the age of shaping the generation's social identity at the beginning of the 21st century. Nevertheless, as Ulrich Beck (2008) rightly observed, these

¹ As understood by Jerzy Wertenstein-Żuławski (see J. Wertenstein-Żuławski, 1990).

events did not have to be reflected in the same way in the consciousness of young people in various parts of the world, resulting in similar opinions, attitudes, or actions. The same occurred with the migration crisis, counteracting global warming or the Covid-19 pandemic. Besides, since the Vietnam War, it is difficult to acknowledge the exact generation-forming role of various traumatic events according to the perspective of Karl Mannheim's theory of generations cited by the authors indicated. Moreover, the Vietnam War was a significant event exclusively for American youth. As I indicated above, generations are nowadays shaped due to the fuse of many different processes and phenomena. Only some of them gain a more significant status in the generational situation understood in this way. Global processes definitely play a role in shaping contemporary generations, but I consider it premature and unjustified to adopt a global perspective of their perception. The political, economic, cultural and social specificities of various places still play a decisive role here. The transnational fractions of the global generation indicated by Ulrich Beck and Elisabeth Beck-Gernsheim (2009) are, in fact, significant elements of the generational situation of the youth in the 21st century, including, in particular, the constellation of the Uncertain Generation discussed by Ulrich Beck. The uncertainty experienced by young people in highly developed countries due to the difficulties encountered in the labour market coexists with postponing independent entry into adulthood. This situation resulted in young people not leaving the family home and returning to it after graduation or the first independent adulthood fiascos (Wrzesień, 2009). Failure in taking on adult roles and adulthood responsibilities so far naturally fulfilled has become a severe problem in many societies in the 21st century and one of the identification traits of the emerging generations².

As early as 2005, June Edmunds and Brian Turner saw the Internet as a global generation-forming power, pointing to its guaranteed speed of communication, global reach and the possibility of simultaneous participation in global generational experiences, especially those of a traumatic nature. Nevertheless, neither the terrorist attacks of recent years, nor the migration crisis, nor the struggle with the Covid-19 pandemic proved the emergence/existence of a global Internet Generation in any convincing way. Similarly, although it has become a sign of our times, activity on social networking sites has not translated into generational trends either. Young people who spend plenty of time online do not create strong interpersonal bonds there, let alone generational bonds co-responsible for shaping the

² This pattern already emerged in Generation X and became fully established in Generation Y.

generation's social identity and the sense of generational affiliation. If collective actions are activated, sometimes diagnosed as "generational", for example, in defence against global warming, they usually have the character of "flash mobs", sometimes a series of them. However, they are forgotten as quickly as they appear. Until the next time, when we can do "something" together again, not necessarily for the same cause.

The Internet is only one sphere of the technological and civilizational revolution taking place before our eyes. The dynamic development of computer and telephone technologies contributed to creating a united telephone and Internet space at the beginning of the 21st century, which coincided with introducing a set of possibilities conventionally referred to as Web 2.0. Personal computers and mobile phones have significantly influenced the shape of the new reality surrounding us. The world has "shrunk", and our presence in it can be experienced permanently, not only at home, school or work, but almost everywhere, at any time, from the level of our own mobile devices. A unique role in this process was played by introducing the first iPhone by Apple in 2007. The emergence of a device with a large touchscreen and without an analogue keyboard, positioned in the market as a combination of mobile phone, entertainment platform and instant messenger, caused an utterly new impulse. Although the smartphone, as a technologically advanced type of mobile phone, already existed, it was iPhone with its "new idea" that set the directions for further developing the phone-internet space.

Thanks to widespread, increasingly complex online activity, we have all become providers of countless amounts of information, and their complex analyses (far beyond the computational capabilities of our brains) have activated the next stage of the ongoing revolution. Big Data analysis systems, algorithmic decision making (ADM), deep learning in machine learning, leading towards more perfect forms of artificial intelligence (AI), the Internet of Things (IoT) are just a few examples of its symptoms. We are already beginning to face the consequences of all of them. More and more often, people's fates are decided not by other people or even blind chance, but by numbers, points, results – effects of operations performed by algorithms. These processes are most intense in Western societies and highly developed Asian countries, such as Japan, South Korea and China. Nevertheless, due to the progressing globalisation, various manifestations of the changes we are interested in can be found nowadays in almost every corner of the world.

Algorithmisation, i.e. the use of algorithms as a kind of universal remedy helpful in realising various tasks, has appeared in almost all human activity areas, including the spaces of new ideologies. For example, according

to the assumptions of dataism, which accepts the superiority of data over all other elements of the realities that surround us and are co-created by us, the universe is understood as a stream of data, and the contribution to their processing determines the value of every entity and phenomenon (Bloom, 2000; Kelly, 2010; Hidalgo, 2015; DuBravac, 2015; Harari 2018). As Yuval Noah Harari warned, dataism “is the current scientific dogma”, and this dogma “is changing our world beyond recognition” (Harari, 2018, p. 166). It all happens because humanity is increasingly unable to cope with the deluge of data, despite, or perhaps due to, the introduction of further technological innovations and the creation of new capabilities. In the world of politics, these have led to the formation of another ideology underpinning the new system of governance that is algocracy. Algocracy is a political, economic and social system created using algorithms to collect, collate and organise data based on which decisions are made (Aneesh, 2009; Danaher, 2016). Nowadays, this new form of the political and social system increasingly makes its presence felt in highly developed countries, with a peculiar form of it in China’s Social Credit System (see China Law Translate, 2021). Admittedly, today it is not yet the case that AI systems are taking over, but even such prospects seem to be quite real in the near or distant future (Bostrom, 2016; Kaplan, 2019). Today, it is the people in charge of governance and the exercise of power, including state governments, who combine information technology innovations with the existing rules of legal systems and market mechanisms to form the bases of algocratic systems (Aneesh, 2009).

It is still difficult to defend the thesis of global generations’ existence because the specifics of time and place have not entirely lost their generation-forming power. Nevertheless, we are currently observing the occurrence of a new form of generations’ differentiation, which is on a global scale.

As a result of rapid civilizational changes, mainly due to the dynamic development of new information technologies, a new dimension of intra- and intergenerational divisions has emerged – a new form of generational differentiation. They appear in a “new world” consisting of two spaces of the present – the sub-world³ of the present past and the sub-world of the present future. The two sub-worlds in some areas overlap and merge to form boundary spaces, and their liminality (cf. Martin, 1985; Turner, 2008) creates new qualities.

The sub-worlds of the present past and the present future are spaces inscribed within various realities constructed in contemporary times that surround us, starting with the world of everyday life on a micro-structural

³ As understood by Peter Berger and Thomas Luckmann (1991).

scale and ending with the sub-worlds of politics or business on a global scale. These are specific perspectives modifying the course of actions taken, shaped both using systems of norms and values, the consequences of socialisation and social control, and based on negotiations and mutual arrangements of the actors defining diverse mutual interaction situations. These are specific “schemata” for perceiving the realities surrounding us, co-created by us, and similar “schemata” for taking action in these realities through the performance of various social roles. The sub-world of the present past does not have to be characterised by the domination of a traditionalist or extremely conservative orientation. As well as the sub-world of the present future does not mean a pro-futurist orientation of actions taken. On the other hand, both spaces symbolise particular individuals’ place in and relation to the quickly occurring civilizational changes, which also does not have to determine the complete lack of ability to join the current transformations or take advantage of their benefits. What I have in mind here is rather “the way”, or to be more precise, “the ways” of performing the role of a representative of one’s generation⁴ in the broader contexts of the changing present time.

3. Modifications in the process of generations’ differentiations

In the analyses presented in this text, I focus my attention on modifications to the features characterising generations’ social identity, leading to changes in their differentiation processes. More specifically, the diagnoses of changes in the world of generations presented in this text refer to three generational groups: the baby boom generation, called Baby Boomers in the United States (born 1946–1960), the generation after Douglas Coupland book (1991) referred to as Generation X (1961–1983) and Millennials (Generation Y), i.e. people born approximately between 1984-1998. All the

⁴ The role of a representative of one’s generation is de facto a role set created based on individuals’ choices from among the existing scenarios of taking on particular social roles in a given place and time. It is a role in the performance of which we can find a set of a generation’s identification traits. Its modifications of taking and performing determine the distinctiveness of generational groups and are co-responsible for the specificity of creating their social identity. These modifications constitute the basis of the style characterising, in a given place and time, the everyday life of firstly young and then increasingly older generational groups. However, they often remain not fully realised by acting individuals (see: Wrzesień, 2003).

indicated frameworks are conventional, as the classification into particular generational groups, according to the accepted sociological perspective on generation analysis, is determined by the manifestations of the generation's traits in everyday life and not by the mere fact of birth in a given year (see: Wrzesień, 2003, 2009). Similarly, I do not treat the names mentioned above as the names of global generations. They are only a mental shortcut for orientation in time, with the proviso that the location of places must be taken into account individually in each case. Thus, the social identity of the generation of people classified by us as Generation X may noticeably differ depending on the features of societies and cultures from which they originate and live.

The new sub-worlds of the “new world” being formed nowadays are increasingly inhabited by “new people”. Their ways of defining situations and taking actions in the dynamically changing realities they live in are modified. The trend indicated above does not concern only the youngest among the Millennials. The process of intensive civilizational transformations is de facto an element of the socialisation process to which they are subjected from the beginning of their lives, which situates them in the areas of the present future and seems to be, for these age categories, a natural state. Besides, the process of shaping the social identity of their generation has not yet finished.

Today, both in inter- and intra-generational relations, two types of realisation of the role of the representative of one's generation are more and more visible. I will conventionally use the terms “people of the past” and “people of the future” here. Despite living together in the same contemporary spaces, the former and the latter live as if next to each other, in two parallel, although interpenetrating spheres: the present past and the present future. They benefit from the effects of the same course of civilizational changes. However, they perceive them from different perspectives and participate in them in a slightly different way, although apparently, these differences do not exist. Of course, the extreme poles are filled with many different “shades of grey”, and the two types indicated above should be treated as ideal ones (Weber, 2004).

3.1. “People of the future”

“People of the future” can be found in all the generations we are interested in; however, there are fewer of them in the older generation groups for objective reasons. Among the youngest of the Millennials, “people of the future” constitute the majority. Not all characteristics discussed be-

low must define “people of the past” and “people of the future” in their full range. They constitute only a set of distinguishing features, helpful in qualifying individuals to particular types of realisation of the role of a representative of one’s generation. Nevertheless, considering the civilisation processes we are interested in, the division into “people of the future” and “people of the past” seems more crucial than their belonging to particular generational groups.

The activity of “people of the future” fits into the dataist perspectives of co-creating the realities around us. They carry out this through a more or less intensive realisation of the dataist slogan: “If you experience something — record it. If you record something — upload it. If you upload something — share it” (Harari 2018, p. 173). “People of the future” do not part with their smartphones (sometimes tablets), and they treat constant connectivity with the virtual world as one of the foundations of existence. They enthusiastically use the emerging novelties of information technology and use the wealth of their possibilities to create new forms of joint participation.

A particular value for “people of the future” is precisely the participation in a parallel – not parallel Internet-telephone space. The world of “people of the future” ceases to be divided into real and virtual. It is replaced by one real-virtual reality in which the fluidity of borders gives the appearance of their absence. For the “people of the future”, the boundaries between virtual and real space have become so blurred that what they can experience through online activity is just as important as their experiences in the real world. In this way, “people of the future” create boundary territories, and their liminality is significantly changing the generational sub-worlds constructed so far. However, in reality, new technologies, including those used by smartphones, isolate “people of the future” from the real world and cause them to increasingly lose the ability to experience it without an electronic gadget.

In addition, due to a specific permanent immersion in online spaces, “people of the future” have weaker direct communication skills. They prefer short, simple messages, so they prefer to communicate via emails, text messages, social networking sites, instant messaging, chat rooms, forums and the like. They replace words with emoticons and “likes” to express their emotions and approval or disapproval. The desire to get as many “likes” and comments as possible is a powerful motivation for them to act.

“People of the future” are also characterised by a specific perception of “people of the past”. They treat them a little as if they were unwanted guests-intruders in “their world”, a world that has only just begun and started with the advent of their generation. The younger “people of the future”,

the more this tendency intensifies. For “people of the future”, “people of the past” are like “landing forces” of norms, values and patterns of behaviour that do not fit into the present future. Many examples of the orientation sketched above can easily be found in online spaces, although it is most often linked to the specifics of intergenerational relations. “Do you remember the times without mobile phones, smartphones and the Internet? If so, you are a visitor from the past. The future belongs to Generation Z, who were already born with a Facebook account and Wi-Fi in the umbilical cord” (Rojewska, 2021). The perception of the past by increasingly younger “people of the future” is well illustrated by the following quote. “Civilisation no longer exists. There is no Internet. Nor television. Nor mobile phones. There is nothing to remind you that you are a human being” (Onet.pl, 2019). Although this is an excerpt from Manuel Loureiro’s book review, the statement that our humanity is evidenced by access to a mobile phone or the Internet reflects the way people born after 1990 view reality.

“People of the future” are hardly susceptible to the hitherto effective mechanisms of social control systems. The intensity of this trait seems to be directly proportional to age. The younger they are, the less susceptible they are. The modifications of socialisation processes initiated in the mid-1980s (Wrzesień, 2009, 2014), which caused many changes leading to disruptions in the existing social control systems, are responsible for this fact (Wrzesień, 2017, 2019). Parents gradually distancing themselves from the old methods introduced a new quality within the intra-family socialisation and control systems. The fluidity and vagueness of the boundaries of the applicable rules have become a central feature. Consequently, the withdrawal of allegiance to the existing norms (anomie) has become increasingly common. “People of the future” are more likely to disobey or modify existing norms than “people of the past”.

It is mostly for this reason that the Social Credit System was created in China. Admittedly, in this country, we have seen a defining development of anomie in times of prosperity (Durkheim, 2005), which led to the collapse of the existing normative systems (Persson et al., 2015). Nevertheless, the effectiveness of the algorithmic ways of calling people to order and working out desirable behaviour introduced there may soon be a new form of social control addressed to the “people of the future” outside the Middle Kingdom. Likewise, even now, we may notice algorithmic decision-making systems (ADM) introduced all over the world, as well as the slowly growing popularity of personal assistants (intelligent virtual assistant – IVA, or intelligent personal assistant – IPA), such as, for example, Siri, Cortana or Alexa. The AI-based personal assistants developed each year will probably soon become part of

the new social control systems, helping people act under existing normative regulations or refrain from behaviour that deviates from them. I think that “people of the future”, living simultaneously in two spaces, real and virtual, subjected to permanent evaluation and control in the network (because they constantly upload and share), seem to be susceptible to management mechanisms through algorithms. Thus algocracy will not arouse negative emotions in them. “People of the future”, who are looking for quick and straightforward answers to their questions and uncomplicated solutions to problems, may be better served by clear messages based on algorithms – messages that leave no room for interpretation, discussion or polemic.

3.2. “People of the past”

For “people of the past”, the process of rapid civilizational change, which is taking place before their eyes and with their participation, is like a play with attractive scenes in which they decide to take part from time to time. They do not record and share everything they participate in and do not check all the time how many likes they have gained. It does not mean that they do not consciously leave digital traces on the web. They have accounts on social networks and use smartphones. For them, however, the use of technological novelties functionally serves to increase the quality of life; it is a gateway to new possibilities, treated without emotion, like a refrigerator, also very useful in everyday life. Therefore, in this case, the boundaries between real and virtual space are not blurred.

“People of the past” find themselves better than “people of the future” in spaces of direct communication. It does not mean that they do not use email, texting and instant messaging. “People of the past” are also active on social media, and they do not shy away from running errands, for example, at the bank via chatbots. However, face-to-face interactions and telephone conversations are still the most satisfying type of relationship for them, one they prefer if they can choose.

In socialisation and control interactions, the “people of the past” are basically subject to rules that have been developed and tested for years. Of course, it does not mean that they do not exceed the applicable norms. Due to the progressing global anomie (cf. Passas, 2000), the tendencies towards disobedience by “people of the past” intensify, too. Nevertheless, the processes of bringing the insubordinate “people of the past” to order and developing desirable behaviour in them – the main objectives of social control systems (cf. Sztompka, 1967) – do not require significant modifications of the control mechanisms used so far.

Unlike “people of the future”, “people of the past” may be more critical of emerging new forms of social control, including those of algocracy and dataism. Because they prefer face-to-face contact in communication and understandable conduct rules, solutions based on algorithms may seem incomprehensible and artificial to them, and therefore arouse resentment, fear and even hostility. They want explanations, they would like to explain themselves and talk about the problem, but algorithmisation does not allow this. Therefore, algocracy does not seem to be a desirable system in which “people of the past” will feel comfortable. The frantic pace of technological progress has meant that they have had too little time to adapt to change, to revise their habits, their way of thinking and perceiving reality and their place in it. While the smartphone, apart from its numerous additional functions, is still a phone and can be used or not, algorithmic reality (and soon also artificial intelligence) is starting to surround everyone, leaving them no choice.

Moreover, it can be perceived by “people of the past” as an alien created by global, transnational corporations rather than local governmental or commercial institutions. Unfortunately, those who do not want to go with the flow of the global technological revolution will no longer be able to live in their own way, peacefully on its periphery, but will be forced to adapt. Otherwise, they will be deprived of the opportunity to function in the modern world. “People of the past” may therefore have a stronger tendency to question algorithmic decisions (ADM systems), pointing out their unreliability or unfairness.

“People of the past” also position themselves as supporters of the existing social order more often than “people of the future”, which, for example, we could observe in recent years in the spaces of defenders of the Constitution in Poland. “People of the future”, contrarily, are more willing to engage in actions concerning the future of our planet and spectacular happenings, which they can boast about online. The common ground for “people of the past” and “people of the future” is, for example, Facebook or Twitter. We find both here. Similarly, the common ground is in the numerous post-start-up areas of new business forms of companies such as Airbnb, Uber, Netflix or Spotify. These are the border spaces of the sub-worlds of the present past and the present future. They are an interesting and important scene of an outlining division. “People of the past”, for example, see Airbnb as a continuation of earlier trends of the travel market, once symbolised by Interhome or Novasol, and later Booking.com. However, for the “people of the future”, the reality indicated here begins (literally and figuratively) with Airbnb. It also applies to the other examples cited above.

Someone at this point may say that “people of the past” and “people of the future” have always been around. Some adapt to change more quickly, others more slowly, others not at all. Today, however, two unprecedented elements have a decisive influence on the nature of this division. Firstly, there are currently two parallel realities – the real one and the virtual one. A kind of schizophrenic duality characterises the world, and for some people living in it, both sub-worlds are equally important. Secondly, in times gone by, no innovation affected the lives of all people. One could give them up and live as before (no railways, no cars, no television, no telephone, and the like). Nowadays, information technologies are omnipresent and pervasive, and the associated algorithmisation and artificial intelligence affect every individual’s life, even against their will.

Moreover, in the past, “people of the future”, being innovators of civilizational change, continued earlier trends without completely cutting themselves off from them. Despite their substantial impact on people’s lives, the steam engine, electricity or radio were the successors of earlier forms of propulsion, energy or communication. Today’s “people of the future”, being the innovators of change, continue what came before only to a small extent and break with the tradition of civilizational development more often.

Someone else will say that this is nothing new. After all, the processes discussed here were diagnosed and explained earlier by Margaret Mead (1970) and Marc Prensky (2001). It is not so. The main difference between the presented considerations and Margaret Mead and Marc Prensky’s concepts is that the basic category differentiating generations was the age, for the authors mentioned above. I emphasise an utterly different division level in my analyses, which is independent of the age variable and exceeds age limits. This perspective broadens the spectrum of exploration in the world of generations. It adds to reflections on new forms of generational identity formation of newly emerging generational groups (Gardner, Davis, 2013; Wrzesień, 2015; Twenge, 2017), previously absent paths of analysis of changes occurring in generations already existing and still present on the generational scene. Despite the naturally imposing similarities in the times described by Margaret Mead (and of course earlier), the impact of innovations modifying the processes of civilisation changes was incomparably weaker than today and left a certain margin of choice to individuals. Today, this is no longer the case, and the effects of this fact are noticeable in all age groups. Marc Prensky’s concept, on the other hand, from the point of view of the generation theory, is at least incomplete. This is because “digital natives” did not create “their world” but owe it to “digital immigrants”, to innovators such as Steve Jobs, Bill Gates or Elon Musk, and the like, born before 1980, that is, according to Marc

Prensky, digital immigrants. Moreover, many of the “ordinary” representatives of the pre-1980 generations have dynamically co-created and continue to create “lands” of digital natives. They, in turn, become both peculiar beneficiaries and “victims” of technological progress, which also warrants cautious interpretation of the impact of the course of civilizational change on the formation of the identification features of new generations (see: Wrzesień, 2015, 2016). Besides, at the time of the creation of Marc Prensky’s concept, the scale of influence of modern information technologies on various spaces of reality created by people was incommensurably smaller, even insignificant in comparison with what we are dealing with today.

Conclusions

The tendencies discussed above shape a new dimension of the generation differentiation process, which, being an element of the generation change process, defines internal differentiations mainly within broader generational communities. The current division into sub-worlds of the present past and the present future together with “people of the past” and “people of the future” who inhabit them is a new form of generation differentiation. These differentiations go beyond the boundaries of the existing generations, adding a “third dimension”, which is shaped alongside the vertical and horizontal differentiation diagnosed so far.

“People of the future” can differ significantly in age, but through similarities in normative preferences, values and behavioural patterns, they can easily find common ground. For example, “people of the future” from Generation X can easily find common ground with “people of the future” from Millennials. A similar mechanism also applies to “people of the past”. In the period of the formation of a generation’s social identity, “people of the future” and “people of the past” carry numerous identification traits of their generations in the lifestyle and are their recognisable representatives. However, they differ in their positioning in the areas of the present past and the present future and in a different manner of realising the role of a representative of one’s generation.

The dynamics of today’s civilizational changes favour the intensification of intra-generational divisions. “People of the future” have more in common with similar representatives of other generations than with “people of the past”, who come from their own generation group. Therefore, an attitude to the ongoing changes and active participation in them plays a fundamental role. As a result, existing intra-generational bonds are broken, which may necessitate a new definition of these generations once more.

REFERENCES

- Aneesh, A. (2009). Global Labor: Algoratic Modes of Organization. *Sociological Theory*, 27(4), 347–370.
- Beck, U. (2008). Global Generations in World Risk Society. *Revista CIDOB d'Afers Internacionals*, 82-83, 203–216.
- Beck, U., Beck-Gernsheim, E. (2009). Global Generations and the Trap of Methodological Nationalism For a Cosmopolitan Turn in the Sociology of Youth and Generation. *European Sociological Review*, 25(1), 25–36.
- Berger, P.L., Luckmann, T. (1991). *The Social Construction of Reality. A Treatise in the Sociology of Knowledge*. London: Penguin Books.
- Bloom, H. (2000). *Global Brain. The Evolution of Mass Mind from the Big Bang to the 21st Century*. New York: John Wiley & Sons. Inc.
- Bostrom, N. (2016). *Superinteligencja. Scenariusze, strategie, zagrożenia*. Gliwice: Helion.
- China Law Translate, (2021). *Legal Documents Related to the Social Credit System*. Retrieved from: <http://www.chinalawtranslate.com/en/social-credit-documents/> [Access: 2.04.2021].
- Cicourel, A. (1973). *Cognitive Sociology*. Harmondsworth: Penguin.
- Coupland, D. (1991). *Generation X: Tales for an Accelerated Culture*. New York: St. Martin's Press.
- Danaher, J. (2016). The Threat of Algorocracy: Reality, Resistance and Accommodation. *Philosophy and Technology*, 29(3), 245–268.
- DuBravac, S. (2015). *Digital Destiny: How The New Age Of Data Will Transform The Way We Work, Live and Communicate*. Washington: Regnery Publishing.
- Durkheim, E. (2005). *Suicide: A Study in Sociology*. London & New York: Routledge.
- Edmunds, J., Turner, B. S. (2005). Global generations: social change in the twentieth century. *The British Journal of Sociology*, 56(4), 559–577.
- Gardner, H., Davis, K. (2013). *The App Generation: How Today's Youth Navigate Identity, Intimacy, and Imagination in a Digital World*. New Haven and London: Yale University Press.
- Garewicz, J. (1983). Pokolenie jako kategoria socjofilozoficzna. *Studia Socjologiczne*, 88(1), 75–87.
- Garfinkel, H. (1967). *Studies in Ethnomethodology*. Englewood Cliffs: Prentice-Hall.
- Griese, H.M. (1996). *Socjologiczne teorie młodzieży*. Kraków: Impuls.
- Harari, Y.N. (2018). *Homo deus. Krótka historia jutra*. Kraków: Wydawnictwo Literackie.
- Hidalgo, C. (2015). *Why Information Grows. The Evolution of Order, from Atoms to Economies*. New York: Basic Books.
- Kaplan, J. (2019). *Sztuczna inteligencja. Co każdy powinien wiedzieć*. Warszawa: Wydawnictwo Naukowe PWN.
- Kelly, K. (2010). *What Technology Wants*. New York: Viking Penguin.
- Kuhn, T. (1970). *The Structure of Scientific Revolutions*. Chicago: The University of Chicago Press.
- Mannheim, K. (1928/1952). *The Problem of Generations*. In: *Essays on the Sociology of Knowledge* (pp. 276–320). London: Routledge and Kegan Paul.

- Martin, B. (1985). *A Sociology of Contemporary Cultural Change*. Oxford: Blackwell.
- Mączyńska, E. (2014). *Anomia – jej przyczyny i ekonomiczne następstwa*. In: S. Drzyżdżyk, M. Gilski (eds.), *Oblicza mądrości. Z czego wyrastamy, ku czemu zmierzamy* (pp. 77–106). Kraków: Scriptum.
- Mead, G.H. (1934/1967). *Mind, Self, and Society*. Chicago: University of Chicago Press.
- Mead, M. (1970). *Culture and Commitment: A Study of the Generation Gap*. New York: Natural History Press.
- Messner, S.F., Thome, H., Rosenfeld, R. (2008). Institutions, Anomie, and Violent Crime: Clarifying and Elaborating Institutional-Anomie Theory. *International Journal of Conflict and Violence*, 2(2), 163–181.
- Onet.pl (2019). *10 hiszpańskich powieści ostatnich lat, które trzeba znać*. Retrieved from: <https://kultura.onet.pl/ksiazki/10-hiszpańskich-powieści-ostatnich-lat-kto-re-trzeba-znac/k0lkqh1> [Access: 30.03.2021].
- Passas, N. (2000). Global Anomie, Dysnomie, and Economic Crime: Hidden Consequences of Neoliberalism and Globalisation in Russia and Around the World. *Social Justice*, 27(2), 16–44.
- Persson, M., Vlaskamp, M., Obbema, F. (2015). China rates its own citizens – including online behaviour. *“De Volkskrant”*, April 25. Retrieved from: <https://www.volkskrant.nl/nieuws-achtergrond/china-rates-its-own-citizens-including-online-behaviour~b4c0ae0e/?referer=https%3A%2F%2Fwww.google.com%2F> [Access: 11.04.2021].
- Prensky, M. (2001). Digital Natives, Digital Immigrants. *On the Horizon*, 9(5), 1–6.
- Rojewska, M. (2021). *Milenialsi, pokolenie Z, Y, X, generacja baby boomers - kto to?*. Retrieved from: <https://interviewme.pl/blog/pokolenie-z> [Access: 21.03.2021].
- Schütz, A. (1974). *Der sinnhafte Aufbau der sozialen Welt*. Frankfurt a. M: Suhrkamp.
- Simmel, G. (1908). *Soziologie. Untersuchungen über die Formen der Vergesellschaftung*. Leipzig: Duncker & Humblot.
- Świda-Ziemba, H. (1999). *Wartości egzystencjalne młodzieży lat dziewięćdziesiątych*. Warszawa: Wydawnictwo ISNS UW.
- Sztompka, P. (1967). Teoria kontroli społecznej. *Kultura i Społeczeństwo*, 11(3), 131–149.
- Turner, V. (2008). *The Ritual Process. Structure and Anti-Structure*. New Brunswick and London: Aldine Transactions.
- Twenge, J. M. (2017). *iGen: why today's super-connected kids are growing up less rebellious, more tolerant, less happy and completely unprepared for adulthood (and what this means for the rest of us)*. New York: Atria Books.
- Weber, M. (2004). The 'Objectivity' of Knowledge in Social Science and Social Policy. In: S. Whimster (ed.). *The Essential Weber* (pp. 359-404). London – New York: Routledge.
- Wertenstein-Żuławski, J. (1990). *To tylko rock'n'roll*. Warszawa: ZAKR.
- White, J. (2013). Thinking generations. *British Journal of Sociology*, 64(2), 216–247.
- Wrzesień, W. (2003). *Jednostka – rodzina – pokolenie. Studium relacji międzypokoleniowych w rodzinie*. Poznań: Wydawnictwo Naukowe UAM.
- Wrzesień, W. (2009). *Europejscy Poszukiwacze. Impresje na temat współczesnego pokolenia polskiej młodzieży*. Warszawa: Wydawnictwo Naukowe PWN.

- Wrzesień, W. (2014). Modyfikacje wzorów socjalizacyjnych w rodzinie w czasach nałogowych konsumentów. *Ruch Prawniczy, Ekonomiczny i Socjologiczny*, 76(3), 261–280.
- Wrzesień, W. (2015). Pokoleniowość współczesnej polskiej młodzieży. *Władza Sądzenia*, 7, 37–55.
- Wrzesień, W. (2016). Kilka uwag o pokoleniowej sytuacji współczesnej polskiej młodzieży. *Ruch Prawniczy, Ekonomiczny i Socjologiczny*, 78(1), 229–241.
- Wrzesień, W. (2017). Współczesne oblicza anomii. *Ruch Prawniczy, Ekonomiczny i Socjologiczny*, 79(4), 285–304.
- Wrzesień, W. (2019). O (de)kompozycjach współczesności. *Ruch Prawniczy, Ekonomiczny i Socjologiczny*, 81(3), 251–265.
- Zimmermann, D.H., Pollner, M. (1971). *The Everyday World as a Phenomenon*. In: J.D. Douglas (ed.). *Understanding Everyday Life: towards a reconstruction of sociological knowledge* (pp. 80-103). London Routledge and Kegan Paul.

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Intercultural learning of academic students during the short-term international exchange

Introduction

Students' international educational mobility, including study and practice exchange, is an important element of the internationalization process of higher education institutions. It is a global trend accelerated by the creation of a global university market and international rankings of HEI, as well as national parametric assessment (Arabkheradmand et al., 2015; Bowles, Murphy, 2020). One of the consequences is the increasing level of students' mobility (e.g. within Erasmus+), which is welcome at universities. Long-term exchanges, students' mobility benefits, motives, obstacles and their influence on exchange programme participants are well researched (Bauloz et al., 2020; Bryła, 2014; Dąbrowska-Resiak, 2019; EC, 2018; FRSE, 2020; Marciniak, 2017, 2019, 2021, 2021a; Rumbley, 2011; Souto-Otero, 2019). As it turns out, short-term stays abroad might be complimentary as far as the transfer of knowledge and skills in an international context is concerned.

In the paper, we shed light on one of the international strategies, i.e. short-term international exchange, addressed at mixed groups of students (Domański, 2019, p. 14; Syryusz-Wolski, Piotrowska, 2011). We focus on international mutual group exchange which demands collaboration between groups of students representing two countries and taking the role of a host

and guest interchangeably. The phenomenon is analysed on the example of the “Intercultural Learning” programme conducted and coordinated by Marina Metz at EHD University of Applied Sciences (Evangelische Hochschule Darmstadt, Germany).

1. The internationalization of higher education as context for intercultural learning at academia

The external context of the internationalization of Higher Education institutions (HEI) consists of global processes, phenomena resulting from state policy, governmental and international decisions, but also from local conditions (e.g. city policies). The internal conditions include the resources of individual universities and strategies for their development (Domański, 2019, pp. 10-13). The level of HEI internationalization has become very important also due to the rules of parametric assessment. The creation of international HEI rankings leads to an intensification of the internationalization process, and also promotes the creation of a global higher education market and competition in this area (Arabkheradmand et al., 2015, pp. 10–19; Engwall, 2020, pp. 180–189; Palfreyman, Tapper, 2014, pp. 172–191). There are plenty strategies for promoting HEI as “mobile-friendly” institutions while managing them. They can be aimed at activities outside the country – “internationalization abroad”, e.g. internships, study visits, as well as at home universities – “internationalization at home”, e.g. language courses (Arabkheradmand et.al., 2015; Domański, 2019).

The analysis of global trends shows a constant increase in educational mobility among academic students indicated by numbers of them taking part in education abroad (OWD, 2020). This trend manifests itself through the completion of a part of the studies abroad rather than through entire programmes taken outside the country of one's origin (Karatekin, Taban, 2018). The Bologna Process implemented since the 1990s was aimed to contribute to the increase in the quality of education (its recognition), accessibility of higher education and student mobility, as well as facilitate their entry into the labour market (Dybaś, Dziemianowicz-Bąk et al., 2012; Bryła, 2014; Lipnicka, 2017).

The Erasmus+ Programme is considered to be one of the greatest successes of the European Union (EC, 2018; Souto-Otero, 2019). The increase in student mobility observed thanks to it prompted researchers to formulate a thesis about the advent of the “Erasmus generation” (Brown and others, 2014, pp. 17-18). The results of systematic research among Erasmus+

participants and graduates show numerous benefits for the participants themselves and for the social context (EC, 2018; Marciniak, 2017, 2019, 2021a; Souto-Otero, 2019). Some of the most motivating aspects that encourage students to participate are: increasing the skills and competences of participants (e.g. linguistic, cultural, adaptation, openness to diversity), increasing employability and self-esteem, expanding social networks (Lesjak et al., 2015; EC, 2018; Dąbrowska-Resiak, 2019; Souto-Otero, 2019, pp. 76, 329–334; FRSE, 2020).

The list of obstacles in educational mobility has also been identified. Hans Vossensteyn proposed the five-element model that compares key limitations of foreign mobility, including: personal motivation, HE system compatibility, financial barriers, awareness and Erasmus conditions (Vossensteyn et al., 2010, pp. 41–42). This list can be further extended by adding social relations that are not taken into account directly (Bryła, 2014, pp. 148–158; Marciniak, 2019, 2021a, 2021b).

The local and global comparative analyses on the motives, barriers and inequalities in accessing international educational exchange are well identified (Bauloz et al., 2020; Rumbley, 2011; Dąbrowska-Resiak, 2019; FRSE, 2020; Marciniak, 2019, 2021a, 2021b). However, the existing analyses are usually conducted among students participating in exchanges for the whole study programme or its parts (the period of one academic semester or academic year). They do not clearly indicate whether they can apply to short-term international exchanges as well, which is discussed within the paper.

The international student mobility “boom” is also due to the development of intercultural learning concept. It is based on the theoretical assumption of cross-cultural interaction-oriented learning (culture awareness approach) with the aim of encountering other cultures sensitively and without prejudice. In terms of content, the focus is not on the norms and values of a certain foreign culture, but on the attitudes of the participant that sharpen intercultural sensitivity (Bolten, 2016; Götz, 2006). Consequently, the concept is based on the theories of situated cognition (Clancey, 1997; Greeno et al., 1996) and subject-scientific learning (Holzkamp, 1995) in intercultural situations through education and reflexion (Scherr, 2001). Intercultural learning develops the ability to perceive intercultural situations in their complexity, regulate one's actions adaptively, in order to ultimately cooperate and achieve the goals with the foreign cultural partners (Kammhuber, 2000, p. 2). The idea can successfully apply to needs of the intercultural education professionals who don't have to be “learning theorists”. They can improve the quality of teaching within programmes while being aware of key learning issues (Mestenhauser, 1988).

2. The evaluation of “Intercultural Learning” project

This paper is focused on the short-term international exchanges. It is understood as an addition to offers such as long-term stays abroad (internships and semesters abroad), which also offer systematic transfer of knowledge and skills in an international context. The emphasis is not on the one-way short-term exchange (group trips abroad, individual visits, inquiries etc.), but on mutual group exchange, which demands collaboration between groups of students representing two countries. This paper analyses the phenomenon based on the example of the “Intercultural Learning” project conducted and coordinated by Marina Metz at EHD University of Applied Sciences (Evangelische Hochschule Darmstadt, Germany).

The “Intercultural Learning” (IL) project is based on the findings of already existing collaborations and thus expands on the experience in an international and intercultural learning model. The project was developed and tested at five universities: Evangelische Hochschule Darmstadt (Germany), State University Kostroma (Russia), Adam Mickiewicz University Poznań (Poland), State University Vanadzor (Armenia) and State Linguistic University (Minsk, Belarus). The project has been developed within the last eight years at those universities, becoming an integral part of their extra-curriculum academic training offer and worked out with didactic and methodologically subject-specific learning. It contains the combination of three interacting learning areas: Communication, Interaction and Acquisition of Knowledge (Information). The didactic and methodical structure includes theoretical inputs as well as application-oriented and personality-building methods of interactive learning.

The participants are students and lecturers/teachers from partner universities. The structure of the activities taken within the project conveys a mutual relation: participation in a study trip (up to two weeks) to a partner university (the role of a guest) and organization of the stay for the group of visiting students (the role of the host).

The project was monitored with regard to the permanent collection of information on success criteria, their analysis and evaluation. The evaluation was conducted in the form of final assessment among its participants. At the end of each mutual exchange programme, evaluation was run to check the objectives, design and methods used. The evaluation allowed to modify future editions of the programme, and establish international teaching and learning opportunities in the future (formulating realistic goals, assessing and balancing financial, temporal and personal resources of partner universities and their students).

To make the evaluation process a comparable research tool (between editions), an accompanying questionnaire titled “Evaluation of professional exchange for students” was designed and developed - questionnaire authors: Marina Metz and Olga Skriabina (Metz, Skriabina, 2022). The questionnaire consisted of eight questions and was available (translated) in three languages: German, English and Russian. The questionnaire survey was accomplished in 2014/2015/2016/2018 (editions of the programme in Germany – Russia), 2015/2016 (Germany – Belarus) and 2016/2018 (Germany – Poland). A total of 360 students between the ages of 19 and 35 took part in the survey. Students filled the questionnaire voluntarily and anonymously after participating in the programme. A part of the questionnaire was retrospective (about motivation and obstacles to participate as well as expected outcomes). The main part was focused on the efficiency in learning programme planning and implementation, acceptance, level and areas of (dis)satisfaction of the participants. Analysing students’ answers to the evaluation questionnaire allowed us to reconstruct their experiences during participation in the IL programme.

3. Experiences of participants of “Intercultural Learning” project – from practical framework to consolidation of professional skills

Taking into account the previous studies and analysis of the phenomenon by other researchers (Bryła, 2014; GO, 2009; Narkiewicz–Niedbalec, Kołodziejska, 2015; Rumbley, 2011; Vossensteyn et al., 2010; Marciniak, 2017, 2019, 2021a, 2021b), we investigated several main categories defining students’ experiences related to the participation in the IL project (a short-term educational mobility programme). The categories that emerged from the analysis are: 1) organizational context; 2) curriculum – programme and host-guest perspective; 3) cultural experience (immersion in everyday life); 4) communication in foreign language; 5) professional development. We decided to describe students’ international experience in a professional context following those categories and illustrated them with quotes (students’ answers to open-ended questions of evaluation questionnaires).

(1) Organizational context and economy

It is of key importance for universities to determine and examine structural framework conditions (formal, financial and organizational requirements) before the start of the project. The organizational aspects of project planning and implementation include the acquisition of participants, offi-

cial invitation from the host university and application for visas, calculation of the expected costs: transportation, accommodation, meals, and design of the learning and cultural programme. The specifics of the learning process also have to be taken into account (e.g. organization of the exchange during lecture-free times, exam times, public holidays in the respective countries, credit systems for learning achievements). Universities can use different resources to organise exchange projects, e.g. if a university has free space in a student dormitory, it can be made available to guests free of charge. The support of each university does not have to be identical, but it is crucial to take into account all possibilities.

The project financing is designed as “patchwork financing” in terms of financing sources. This includes: 1) the funding/grants from different organisations such as the DAAD (Eastern partnerships), German-Polish Youth Cooperation (PNWM/DPJW) etc., 2) universities' own resources (accommodation, meals) and 3) students' contribution (visa, trips to the consulate and activities outside the programme), which is approx. 15% of the total costs. Most of the participating students consider this proportion to be appropriate and bearable for their personal budget. However, some students cannot bear these costs independently and therefore rely on the support of their families.

(2) Curriculum (programme) and the host-guest perspective

The programme covers academic and cultural content. The academic elements include theoretical background (e.g. lectures, conferences) and practical subject-specific content (e.g. workshops, visiting the student's practice facilities - social and educational institutions). The cultural programme contains official elements (e.g. city tour, museums) and non-formal leisure activities (e.g. barbecue, game evenings, bowling, laser tag, picnic, pub crawl). Sometimes it is difficult to clearly distinguish between those elements.

The academic learning process in the form of conferences, “round tables” and workshops is an integral part of the programme. In this context, the results of the evaluation show that much of the learning content and the structure of the course are similar at all partner universities. The content of the programme is delivered as the combination of academic curriculum elements and interests of the students.

The reflection meetings (usually at the end of the day) have proven to be a useful part of the programme. The academic programme (workshops, courses, students' conferences etc.) is organized by the teachers (who act as project managers). In the first year, the project managers were

also responsible for the cultural programme. Students were only asked for suggestions. In the further editions of the project, more responsibility was transferred to the students. As a consequence, students not only made suggestions, but also calculated the costs, looked for sponsors for activities if necessary, and ran the programme under the guidance of the assigned “day managers”.

To understand the organizational framework of the IL programme, it is crucial to explain the guest-host concept. The idea is that students who register for an international subject exchange go through an identical learning programme in the respective country. In the preparatory phase, they will acquire in-depth knowledge of the host country, get to know its social structures and special features of social work there, attend the language training, meet former participants of exchange experiences. In the implementation phase, the hosts (students at the host university) design the programme for their guests completely independently. In addition, host students are responsible for the implementation of the programme, take care of the guests and try to make their stay interesting and pleasant. The guests can make suggestions and express their interests beforehand. The project provides for the change of roles during a project phase (those who were hosts in their own country become guests when they make the revisit). The concept of “day managers” has proven successful in the implementation. Those “day managers” take over the planning (content, time and logistics of the activities) and implementation for both the guests and the hosts on a given day.

Most students had positive experiences with the diversity of the programme. In the academic aspect, it was described as participation in *very interesting lectures and conference*, with a lot of *fun with the courses and learning programme*. Unfortunately, the programme is always compressed, so students often desire to *make the programme more relaxed*. Students who were hosts indicated in their evaluation: the initial reluctance of the guests (*they didn't want to cause any inconvenience*); while it was of high importance for them to *take good care of the guests*. They have also observed gratitude and sadness when saying goodbye. Evaluating from the perspective of a guest, students were able to gather experience thanks to the hospitality of the hosts, although some organisational matters were listed among the disadvantages of the programme (e.g. condition of the facilities or unfamiliar food). Guests usually expressed gratitude toward hosts' *efforts to make the visit optimal*.

The past few years showed that in each group there were particularly committed participants who took on most of the responsibility. They invested a lot of time and energy in the implementation of the programme

and acted very independently. There were also students who took part in recreational activities only occasionally or who did not take part at all. They usually explained their lack of participation with their lack of time. Over the years, a group of very committed participants, the “veterans”, established themselves as hosts after graduation. They organized supervisions in their facilities, engaged family members into programme, took part in the informal activities and shared their experiences with new participants.

(3) Cultural experience – “immersion” in everyday life

Students participating in the programme acquire new experience of interacting in a foreign cultural environment. When evaluating the programme, participating students described their motivation. The first place on the list of incentives was given to urge to *acquire knowledge of the country; get to know a new country and culture*. It is important for them to *see everything with your own eyes, form your own opinion*.

The project gives students the opportunity to immerse themselves in real everyday life at university but also out of it: to communicate and interact with people in public transport, on the street, in a shop/museums/discotheque. Especially in the first days of the trip, many “guests” find themselves in a state of excessive, non-reflective admiration for the unfamiliar. In addition, “guests” are exposed to a permanent accumulation of new information and impressions. Their experiences are similar to those covered by the first stage of a “culture shock”, which is described as euphoria. At the same time, they experience stress and fear of doing something wrong. The students' confessions (evaluation results) and observations show that the mix of labile emotions often leads to emotional overload, which has considerable effects on a personal level and on relationships in a group (e.g. collective actions). Emotional overloading creates a strong feeling of being overwhelmed that the students sometimes *do not recognize themselves* or that leads them to be *surprised with their unusual behaviour*. Emotional overload used to be usually released after the first two to four days and students no longer complained about exhaustion and tiredness. They learn to deal with overwhelming impressions, process them and use their existing skills to encounter intercultural situations.

It should be emphasized that students associate most everyday situations with positive, pleasant emotions and fun. Most of them experience *friendliness, openness, willingness to help* in the host country. However, everyday life situations are not always pleasant and may lead to simple misunderstanding or impatience, or even to open conflicts. Once they happen,

students have to find a constructive solution. Those negative experiences in a foreign cultural environment may strengthen students' resources, but they may also lead to insecurity and promote stereotypical thinking and perception. In fact, many difficult situations that occurred during the project were not associated with *cultural peculiarities*, but with a specific condition of those involved in the conflict (e.g. with the *intoxicated condition*). The combination of positive and negative emotions strengthens constant informal learning process, promotes tolerance and leads to *rethinking what is one's own and what is foreign*.

(4) Communication in foreign languages

When asked about their motives for participating in the IL project, students very often indicated *practicing foreign language*. At the same time they were afraid of *language barriers*. Communication experiences with limited linguistic resources are an extremely important part of the learning process. These experiences are gained in everyday and academic contexts. At the beginning of the project, almost all students point at the anxiety connected with their communication skills and foreign language abilities. In this context, the experiences with regard to the content and quality of the school instruction are rated predominantly sceptically and negatively. Inadequate knowledge of foreign languages *is seen as the biggest stumbling block in communication* and in getting along abroad. That is why there is an offer to take part in linguistic training before the trip. It includes overcoming uncertainties about the common stem in both languages. Topics covering "academic education/university" and "free time" are particularly suitable for determining future mutual understanding. Language training gives students security and self-confidence in advance. At the same time they experience that communicating in a foreign language is not a simple translation from mother tongue – it is much more complex than purely academic language acquisition (vocabulary, grammar etc.). During training, it is important to restructure speaking behaviour, e.g. with exercises including the task of conveying a message to the co-communicator. All those skills are important for creating and maintaining meaningful relations of students from different countries.

The majority of students participating in IL projects have knowledge of some foreign languages, especially English, that they learnt at school. Thus, direct communication in everyday life is quite likely (even without the already mentioned training). Using a common foreign language (English) by participants of IL projects makes none of groups privileged (nobody is a native speaker). Students notice that the English pronunci-

ation of the participants (e.g. German accent) differs so much from the standard native-speaker pronunciation that students' first attempts at understanding each other can fail. During evaluation, students emphasised their motivation to understand one another. One of three main motives for participation in the programme is *meeting new people, making new contacts, friends*. Communication experiences with limited linguistic resources are hardly possible without non-verbal communication and technical support. Gestures, facial expressions, images, the use of smartphones and electronic translators accompany the communication and learning process of the students. Based on students' feedback, those IL meetings brought general positive attitudes: the feeling that *people are looking forward to meeting me* and *friendliness*.

(5) Professional development

In the survey, participants of IL projects show motives connected with individual development. They expect: *getting new perspectives* and *expanding academic knowledge*. They would often like to *know academic training abroad* and extend social network (e.g. *making professional contacts and communication with the students of the host country*).

During the programme, in an academic context, students learn to find adequate forms of professional communication. The scientific terms are almost identical in all European languages. They sound different in the flow of speech, but through simple listening exercises and the use of key words, subject-related contexts become understandable. The experiences of participants of the IL project indicate that practically all students are able to grasp subject-related content after a short period, so that the overall context and specific topics can be understood without an interpreter. Students are often surprised with this effect – it is described as *unexpected discovery*, a *source of pride* and motivation for them.

While comparing results from before and after participation in the programme, an interesting phenomenon can be observed: for students with little or no experience abroad, the language barrier was the main obstacle to their plans. The participants in/after the exchange, on the other hand, regret having *insufficient time for professional discussions*, which requires a common basis for communication. This result makes it clear that the IL expanded the communicative skills of the students to such an extent that they did not longer notice their “insufficient” language for professional discussions. Students also indicated limited time for detailed discussions of professional topics among the disadvantages of the programme.

Conclusions

The analysis of students' experiences from the "Intercultural Learning" programme reveals multiple benefits from participation in the short-term international exchange. Based on the evaluation of this short-term international exchange (after analysing students' statements), we were able to expand most of the characteristics typical for mobility programmes (academic exchange for a semester or academic year). It applies to both advantages (motives, incentives, benefits) and disadvantages (losses, obstacles) (Bauloz et al., 2020; Bryła, 2014; Dąbrowska-Resiak, 2019; EC, 2018; FRSE, 2020; Marciniak, 2017, 2019, 2021a, 2021b; Rumbley, 2011; Souto-Otero, 2019). Most notably, the categories revealed are connected with: organisational context, the quality of the mobility, curiosity of academic programme of universities, taking host and guest role, cultural experiences (adaptation, diversity), learning foreign languages, intercultural communication, personal growth, professionalization and broadening social networks. The significance of the influence from the participation in the programme might seem to be limited due to a time of the project (2 weeks for face to face contact), which is much shorter than regular exchange (e.g. during Erasmus+). On the other hand, given the preparation phase and high level of personal engagement expected from participants, the experience might be essential, which is confirmed by the students: *In summary: exhausting, beautiful, exciting, impressive, learning-rich, fascinating, recommendable!* (participant, Russia-Germany exchange 2018).

The analysis of students' statements revealed that the experiences and phenomenon evoked by participation in short-term mutual exchange programmes (with the interchangeability of host and guest roles) are congruent (in terms of content) with the motives, obstacles and effects of participation in the long-term exchange. The experiences that they gather through participation in the project and preparations (training) for it might clearly lead to the intensification of formal and informal learning processes and the developing key competencies (Marciniak, 2018; Marciniak, Przybyszewska, 2017; Metz, Skriabina, 2022). The overwhelming impact of the participation in programme is perfectly expressed with a student's confession:

I was able to learn so much about other cultures and people, about other worlds, about myself, about my fellow students, about our studies. Some of it consciously, some totally unconsciously. I think I've already changed through the exchange,

my perspective has expanded and become more open. I question political situations more and am more interested in the perspective of other countries, because it was only through contact with foreigners that I had the opportunity to become sensitive to them. And I am infinitely grateful for every moment, every good and bad experience. (participant, Russia-Germany exchange 2015; Poland-Germany exchange 2016).

The initiatives based on the “Intercultural Learning” programme and other forms of short-term mutual exchange are worth including in the curricula of academic teaching or extracurricular offer of universities. They might be an interesting complement (or alternative) for the regular exchange programmes (e.g. within Erasmus+) in the internationalization strategies of universities (Arabkheradmand et al., 2015, pp. 10–19; Domański, 2019; Engwall, 2020; Palfreyman, Tapper, 2014; Syryusz-Wolski, Piotrowska, 2011). It may be an extremely useful tool in the process of “re-building” students' mobility after the COVID-19 outbreak which shattered the mobility opportunities and students' attitudes toward it.

REFERENCES

- Arabkheradmand, A., Shabani, E.A., Zand-Moghadam, A., Samadi Bahrami, H., Derakhshesh, A., Rahimi Golkhandan, A. (2015). *An Introduction to the Internationalization of Higher Education: Essential Topics*. Lanham, Boulder, New York, Toronto, Plymouth: University Press of America.
- Bauloz, C., Vathi, Z., Acosta, D. (2020). *Migration, inclusion and social cohesion: Challenges, recent developments and opportunities*. In: M. McAuliffe, B. Khadria (eds.), *World Migration Report 2020* (pp. 184–206). Geneva: International Organization for Migration (IOM). Retrieved from: <https://publications.iom.int> [Access: 24.03.2021].
- Bolten, J. (2016). Interkulturelle Trainings neu denken. *Interculture Journal*, 15(26), 75–92.
- Bowles, H., Murphy, A.C. (2020). *English-Medium Instruction and the Internationalization of Universities*. Cham: Springer, Palgrave Macmillan.
- Brown, R., Guereño-Omil, B., Hannam, K. (2014). *Erasmus mobility and employability research*. In: P. Bryła, T. Domański (eds.), *The impact of the Erasmus programme on mobility and employability* (pp. 11–26). Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
- Bryła, P. (2014). *International student mobility in Poland – a literature review on tendencies, motivations, and obstacles*. In: P. Bryła, T. Domański (eds.), *The impact of the Erasmus programme on mobility and employability* (pp. 135–164). Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

- Clancey, W.J. (1997). *Situated cognition: On human knowledge and computer representations*. Cambridge University Press.
- Dąbrowska-Resiak, J. (2019). *Erasmus... and what next? Tracer study on education and careers of Polish students participating in Erasmus mobility projects*. Warszawa: Fundacja Rozwoju Systemu Edukacji.
- Domański, T. (2019). *Internacjonalizacja szkół wyższych – polskie uczelnie na tle zagranicznej konkurencji*. In: Ł. Sułkowski, R. Seliga (eds.), *Internacjonalizacja i marketing uniwersytetów* (pp. 9–31). Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.
- Dybaś, M., Dziemianowicz-Bąk, A., Krawczyk-Radwan, M., Walczak, D. (2012). *Szkolnictwo Wyższe*. In: *Raport o stanie edukacji 2011* (pp. 121–168). Warszawa: IBE.
- Engwall, L. (2020). (red.), *Missions of Universities*. Cham: Springer Nature Switzerland.
- European Commission. (2018). *Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Mid-term evaluation of the Erasmus+ programme (2014–2020)*. Brussels: European Commission. Retrieved from: <https://eur-lex.europa.eu/legal-content/FR/TXT/?uri=COM:2018:50:FIN> [Access: 04.10.2019].
- FRSE. (2020). *Erasmus+, Program Operacyjny Wiedza Edukacja Rozwój, Europejski Korpus Solidarności – raport 2019*. Warszawa: Fundacja Rozwoju Systemu Edukacji.
- Götz, K. (2010). *Interkulturelles Lernen / Interkulturelles Training*. München und Merzig: Rainer Hampp.
- Greeno, J.G., Collins, A.M., Resnick, L.B. (1996). *Cognition and learning*. In: D.C. Berliner, R.C. Calfee (eds.), *Handbook of educational psychology* (pp. 15–46). New York: Macmillan Library Reference USA, Prentice Hall International.
- Holzkamp, K. (1995). *Lernen: Subjektwissenschaftliche Grundlegung*. Frankfurt M.: Campus-Verlag.
- Kammhuber, S. (2000). *Interkulturelles Lernen und Lehren*. Wiesbaden: Springer VS.
- Karatekin, K., Taban, M. H. (2018). Global Citizenship Levels of Polish University Students and Turkish Erasmus Students in Poland. *Acta Didactica Napocensia*, 11(1), 41-59. <http://dx.doi.org/10.24193/adn.11.1.4>
- Lesjak, M., Juvan, E., Ineson, E.M., Yap, MHT, Podovšovnik Axelsson E. (2015). Erasmus student motivation: Why and where to go? *Higher Education*, 70, 845–865. <https://doi.org/10.1007/s10734-015-9871-0>
- Lipnicka, M. (2017). *Implementacja Procesu Bolońskiego w europejskim szkolnictwie wyższym. Porównawcza analiza instytucjonalna Polski i Niderlandów*. Lublin: Wydawnictwo Katolickiego Uniwersytetu Lubelskiego.
- Marciniak, M. (2017). Młodzież akademicka wobec mobilności w czasach płynnej nowoczesności. *Forum Oświatowe*, 29(1), 65–76.
- Marciniak, M. (2018). Studenckie strategie korzystania z mediów – blokada osiągnięć akademickich? *Konteksty Pedagogiczne*, 10, 157–167.
- Marciniak, M. (2019). Porozumiewanie się w językach obcych jako wyzwanie dla uczestnictwa młodzieży akademickiej w zagranicznej mobilności edukacyjnej. *Podstawy Edukacji*, 12, 205–220.

- Marciniak, M. (2021a). Jakość kształcenia na uczelniach zagranicznych a mobilność edukacyjna studentek pedagogiki. *Wychowanie w Rodzinie*, XXV(2), 305–320. <http://doi.org/10.34616/wwr.2021.2.305.320>
- Marciniak, M. (2021b). Uznawalność okresu studiów za granicą jako uwarunkowanie mobilności edukacyjnej studentek pedagogiki. *Lubelski Rocznik Pedagogiczny*, 40(3), 269–286. <http://dx.doi.org/10.17951/lrp.2021.40.3.269-286>
- Marciniak, M., Przybyszewska, D. (2017). *Gry sieciowe a rozwój kompetencji społecznych młodzieży*. In: M. Klichowski, H. Krauze-Sikorska (eds.), *Świat małego dziecka: Przestrzeń instytucji, cyberprzestrzeń i inne przestrzenie dzieciństwa* (pp. 389–399). Poznań: Wydawnictwo Naukowe UAM.
- Mestenhauser, J.A., Marty, G., Steglitz, I. (1988). *Culture, Learning, and the Disciplines: Theory and Practice in Cross Cultural Orientation*. Washington D.C.: The National Association for Foreign Student Affairs (NAFSA).
- Metz, M., Skriabina, O., (2022). *Interkulturelles Lernen für junge Erwachsene: Fachaustausch für Studierende sozialer Berufe*. In: M. Metz (ed.), *Interkulturelle Kommunikationskompetenz bei Kinder und Jugendlichen* (pp. 127–158). Wiesbaden: Springer Fachmedien, ein Teil von Springer Natur.
- OWD, *Our World in Data*. Retrieved from: <https://ourworldindata.org> [Access: 20.04.2021].
- Palfreyman, D., Tapper, T. (2014). *Reshaping the University: the Rise of the Regulated Market in Higher Education*. New York: Oxford University Press.
- Rumbley, L. (2011). *Review of the existing literature on mobility obstacles and incentives*. In: U. Teichler, I. Ferencz, B., Wächter (eds.), *Mapping mobility in European higher education. Volume I: Overview and trends. A study produced for the Directorate General for Education and Culture (DG EAC) of the European Commission* (pp. 190–204). Brussels: European Commission. Retrieved from: <http://www.acup.cat> [Access: 20.12.2019].
- Scherr, A. (2001). Interkulturelle Bildung als Befähigung zu einem reflexiven Umgang mit kulturellen Einbettungen. *Neue praxis*, 31(4), 347–357.
- Souto-Otero, M. (2019). *Erasmus+ Higher Education Impact Study. Final Report*. Luxembourg: Publications Office of the European Union.
- Syrusz-Wolski, T., Piotrowska, B. (2011). *Internacjonalizacja: mobilność studentów*. In: W. Martyniuk (ed.), *Internacjonalizacja studiów wyższych* (pp. 43–55). Warszawa: Fundacja Rozwoju Systemu Edukacji.
- Vossensteyn, H., Beerkens, M., Cremonini, L., Huisman, J., Souto-Otero, M., Bresancon, B., Focken, N., Leurs, B., McCoshan, A., Mozuraityte, N., Pimentel Bótas, PC, de Wit, H. (2010). *Improving participation in the Erasmus programme. Final report to the European Parliament*. Brussels: European Parliament. Retrieved from: <https://researchportal.bath.ac.uk/en/publications> [Access: 15.12.2017].

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Embracing linguistic diversity in the classroom

Introduction

It is estimated that multilingual individuals constitute between a half to two-thirds of the global population (Baker, Wright, 2011, p. 66) and multilingualism has become prevalent worldwide like never before in human history (Aronin, Singleton, 2008). Therefore, language diversity in the community and educational settings cannot be ignored by the educational system.

In the first half of the previous century, the dominant ideologies favoured strong and linguistically homogeneous nation-states, and early bilingualism research documented cognitive disadvantages for immigrant and linguistic minority children, considering bilingualism a source of mental confusion (e.g., Saer, 1923; Darcy, 1963). The turning point came when Peal and Lambert (1962) showed an IQ advantage for bilingual children in French immersion educational programs in samples counterbalanced on socio-economic status (SES) and language proficiency. More recent research demonstrates that especially children from low-SES backgrounds benefit from bilingualism (Hartanto et al., 2019) and even monolingual children benefit cognitively from being raised in multilingual environments (Fan et al., 2015). However, decades of monolingual educational approaches established a situation in which many teachers continue using only the target language in class, convinced that bilingualism might confuse a child.

1. Background

The present study aims to investigate Israeli teachers' beliefs and attitudes towards multilingualism in general and the role of students' prior language in language learning. Israel is considered as “one of the more complex cases of a modern multilingual and multicultural society” (Leikin et al., 2012, p. 2). The official languages used in the country are Hebrew and Arabic, however other languages are widely used in the multicultural Israeli community. For instance, a multilingual child in Israel may speak Hebrew at school, Russian, Arabic, or Amharic at home, and learn English as his/her third language.

Hebrew remains the preferred language of official communication, school, and academic system of Israel. Students in the Arab sector are required to learn Hebrew as the second national language as well (Venugopal, 2017). Children of new immigrants (Olim) who speak a language other than Hebrew at home are obligated to use Hebrew in the educational system. Hebrew is the language of instruction in Jewish secular and religious schools, yet it is important to mention that many of the Israeli students are raised in bilingual or even multilingual environments. They are expected to switch to Hebrew the moment they enter the Israeli school system.

Israel is a relatively young country established in 1948 mostly by immigrants from Europe. From the very beginning of the State of Israel (since 1948 – early 1950s), the Israeli educational system was influenced by the dominant “melting pot” ideology which, in practical terms, meant that the major aim of education was “...for all citizens to become Israelis as soon as possible, and acknowledge the primacy of Hebrew regardless of their home culture and language” (Feuerverger, 2001, p. 57). Two major goals were set for the young Israeli educational system. One was to integrate immigrant children into the new society and form a new kind of Jew – the New Israeli (Israeli Hadash); the other was to “eradicate the negative connotations of Diaspora Jewry – symbolic of the Nazi destruction of European Jews during World War II” (Feuerverger, 2001, p. 57). This policy led to an unofficial suppression of Jewish Diaspora languages such as Yiddish, German, Romanian and Polish. Citizens were encouraged to speak Hebrew rather than their native languages. Hebrew was to become part of the newly formed Israeli identity.

The educational curriculum has only turned to the Diaspora heritage appreciation since the big wave of immigration hit the country in the 1990s. Two educational programs for new immigrants were published in 1978 and 1994. The need for the New Hebrew Curriculum (2007) stemmed from the

changes that took place in Israeli society, culture, and education at the beginning of the 21st century.

The new curriculum was developed by the committee consisting of educational officials and researchers: professor Blum-Kulka (Hebrew University) and Dr. Brosh-Weiss (Tel Aviv University). It formulated recommendations based on the earlier research. The authors made clear references to studies (Bialystok, 2001; Tabors, 2003) that changed the widely held belief that acquiring a second language is much easier for younger children. The authors pointed out that the marvellous abilities of young children to acquire a new language are to a large extent an illusion: “young children adapt to a native accent relatively easily and when they converse without a shadow of a foreign accent (even in a limited vocabulary) it creates the illusion of high competence, which is not the case” [New Hebrew Curriculum (2007, p. 2); *translated by LT*].

Research into older children who acquired Hebrew after arriving in Israel shows that these children experience difficulty using the language during the school years. Levin, Shohami, and Spolsky (2003) examined the academic achievement of children from the former Soviet Union and Ethiopia in the 5th, 6th and 9th grades in two subjects, mathematics and Hebrew, and compared it to the achievement of students who use Hebrew as their home language. The results showed that immigrant (Olim) children from the former Soviet Union and Ethiopia perform worse than native Hebrew speakers even after having lived in Israel for five to eleven years. Citing Levin, Shohami, and Spolsky (2003), the authors of the New Hebrew Curriculum (2007) state that children whose prior language differs from Hebrew “have to master 'literate discourse', literate-school language, which is vastly different from the 'conversational discourse' needed for communication in everyday life. The obvious conclusion is that immigrant children of all ages need greater support in the process of learning the new language” [New Hebrew Curriculum (2007, p. 3); *translated by LT*].

The New Hebrew Curriculum (2007) acknowledges the cultural and linguistic diversity of the Israeli society, pointing out that although it was perceived as homogeneous in the past, it has in fact always been multilingual and multicultural. It recognizes students' varied cultural backgrounds and suggests using students' language skills and language learning styles as an asset in teaching Hebrew as a second language:

Hebrew acquisition will be done while preserving the student's mother tongue and culture, and relying on the cultural and linguistic baggage ... The purpose of teaching is to develop a linguistic service that will enable the learner to use

Hebrew successfully for his/her various needs. The main goal of teaching Hebrew as a second language is to ensure that at the end of the learning process children whose home language is not Hebrew will be able to use Hebrew orally and in writing in a wide variety of language situations and different social contexts at the level of the children of the same age who speak Hebrew as their home language [New Hebrew Curriculum (2007, p. 7); *translated by LT*].

The discussion so far demonstrates that the New Hebrew Curriculum (2007) formulates recommendations that are consistent with present-day knowledge about bilingualism and its effects on children. The present study aims to check how well these recommendations are understood and applied by teachers in the Israeli system of education.

2. Previous research

Teachers' attitudes towards bilingualism have been researched in a limited number of studies. Lee and Oxelson (2006) examined teachers' attitudes toward heritage language maintenance. A group of 79 K-12 public school teachers in California took part in the study. A survey instrument of 42 questions was developed to check teachers' beliefs and attitudes about bilingual students' heritage language. ESL teachers who took part in the study strongly agreed that maintaining and improving proficiency in the heritage language has a positive impact on the academic success of linguistic minority students. However, the participants who did not obtain language teaching training were indifferent or even negative towards heritage language preservation. They also did not see themselves helping their monolingual students in heritage language maintenance. The study emphasizes the significant role of educators' attitude towards multilingual students' heritage language in helping them to promote, and embrace a language-rich environment, ensuring their academic and social achievement. The authors note: "Issues of linguistic and cultural diversity and language learning are no longer the concerns and challenges of language specialist teachers, but a critical educational matter that involves all teachers regardless of the content area" (Lee, Oxelson, 2006, p. 463).

De Angelis (2011) used a modified version of the questionnaire developed by Lee and Oxelson (2006) to carry out a study of teachers' beliefs on the role of prior language knowledge in language learning and teaching practices to be used with multilingual students. 176 secondary school teachers from Italy (103), Austria (42), and Great Britain (31) took part in

the study. The study shows that although in general teachers encourage students to use their home language, in practice they do not see the benefits of using the home language in class. Moreover, many of them believe that using a home language in class may delay (49.6% Italy, 64.3% Austria, and 45.2% UK), or even interfere with the majority language learning (43.6% Italy, 35.7% Austria, and 25.9% UK). De Angelis (2011) points out that teachers are open to offer practical advice on maintaining heritage language but less keen to incorporate home culture and language into classroom practices.

Similar results concerning teachers' beliefs about students' multilingualism can be found in other studies. In Poland, Otwinowska (2013) combined qualitative and quantitative measures to compare plurilingual awareness, teaching experience, multilingualism factors, and L3-Ln language knowledge among 230 pre-service and in-service Polish teachers of English. The results clearly show higher plurilingual awareness among the more experienced, in-service teachers. In Norway, Haukas (2016) analysed data obtained from a focus group of 12 foreign language teachers about their beliefs on multilingualism and fostering a multilingual teaching approach in L3 classroom. The results demonstrate that, on the one hand, Norwegian teachers see the benefits of multilingualism for themselves, while on the other, they do not see multilingualism as an asset for their students. In Greece, Mititis (2018) explored the views of 60 primary and secondary teachers who taught a wide range of school subjects from languages (Greek, French, English, German, etc.) to science and religion. Overall, the teachers recognized the value of speaking foreign languages, mostly as it meant future professional success. They also acknowledged that home language and culture cannot be separated; however, when asked about their own teaching practices, they said they rarely related to multilingual students' home language, as they assumed native language maintenance was the role and responsibility of the family.

3. Research methodology

3.1. Research question

The present study aims to explore how actual teachers' beliefs about the role of prior language knowledge in language learning and their attitudes relate to the official guidelines of the Israeli Ministry of Education.

3.2. Participants

A sample of 113 Israeli school teachers took part in the study. The educators included in the sample teach a variety of subjects from language learning to maths, science, art, and physical education. They work in different sectors of the Israeli education system (80.5% secular state schools, 7.2% religious state schools, 0.8% ultra-orthodox Jewish schools, 1.8% Arab state schools, and 9.7% private Jewish and Arab schools). Table 1 provides information on the teachers' age and gender. As for the teachers' native languages, 55.4% of the Israeli teachers define their home language as Hebrew, 19.6% Russian, 16.1% English, 4.5% Arabic, 1.8% Spanish, 1.8% Ukrainian, and 0.9% Amharic.

Table 1

Biographic information about the participants

Age group	Male	Female	Total	Percentage
18-25	1	1	2	1.7%
26-40	2	22	24	21.2%
41-55	5	49	54	48.0%
56-70	2	31	33	29.1%
Total	10	103	113	100.0%

Source: Own research.

3.3. Method

The questionnaire used in this study is an adapted version of the questionnaire used by De Angelis (2011). The statements from the questionnaire were adjusted to fit the Israeli educational context and additional questions were added to ask about the teachers' background.

The first part of the questionnaire consists of 25 statements, which teachers were asked to rate on a scale from 1 (strongly disagree) to 5 (strongly agree). The second part (questions 26 to 43) contains questions that provide teachers' personal information (age, gender, years of teaching experience, ability to speak foreign languages, and qualifications) and data related to the teachers' interest in languages and frequency of contact with people whose home language is not Hebrew.

4. Research results

Following De Angelis (2011), the statements were grouped into three main categories for the analysis of the results: (1) statements on the role of prior language knowledge in language learning (Table 2); (2) statements on perceived usefulness of language knowledge (Table 4); and (3) statements on teaching practices (Table 6).

Table 2

Statements on the role of prior language knowledge in language learning

Number	Statements
2	Knowing a language helps students with home language other than Hebrew learn another language.
9	Students who know several languages are also those who achieve better results across disciplines.
12	Students with home language other than Hebrew must learn one language at a time.
14	The frequent use of the home language delays the learning of Hebrew.
25	The frequent use of the home language while learning Hebrew is a source of confusion for the student whose home language is other than Hebrew.

Source: Own research.

Table 3

Teachers' ratings about the role of prior language knowledge in language learning

Statement Number	Level of agreement with statement				
	1 (strongly disagree)	2 (disagree)	3 (neither agree nor disagree)	4 (agree)	5 (strongly agree)
2	22 (19.5%)	24 (21.2%)	30 (26.5%)	19 (16.8%)	18 (16%)
9	15 (13.3%)	24 (21.2%)	34 (30.1%)	28 (24.8%)	12 (10.6%)
12	66 (58.4%)	19 (16.8%)	23 (20.4%)	2 (1.7%)	3 (2.7%)
14	15 (13.3%)	26 (23%)	25 (22.1%)	29 (25.6%)	18 (16%)
25	25 (22.1%)	20 (17.7%)	28 (24.8%)	26 (23%)	14 (12.4%)

Source: Own research.

The participants' ratings of the statements about the role of prior language knowledge in language learning are shown in Table 3. Teachers' opinion on the advantages of knowing a language other than Hebrew (statement no. 2) is, almost equally, divided between those who agree or strongly agree (32.8%) that knowing one language helps a student learn another and those who disagree (40.7%) with that statement. Responses to statement no. 9 (Students who know several languages are also those who achieve better results across disciplines.) show that almost equal proportions of the participants agreed (35.4%) or disagreed (33.5%) with it. In respect to statement no. 12 most of the teachers strongly (58.4%) or moderately disagree (16.8%) with the assumption that students must only learn one language at a time. This demonstrates that Israeli teachers are open towards learning more than one language at the same time. However, the data also indicate that 41.6% of the participants believe that frequent use of the home language delays the learning of Hebrew (no. 14) and one third (35.4%) of the teachers believe that the frequent use of the home language while learning Hebrew is a source of confusion for the student whose home language is other than Hebrew (no. 25). These findings are similar to those presented by De Angelis (2011) and show that the teachers recognize the benefits of multilingualism only when they relate to learning additional languages, but not in the case of minority language students learning the majority language.

Table 4

Statements on the perceived usefulness of language knowledge

Number	Statements
5	Students who are familiar with several languages will have more opportunities to succeed in their life.
6	For students with home language other than Hebrew it is more important to know a major international language than their home language.
19	In our society it is important to know several foreign languages.
23	For students whose home language is different than Hebrew (or English), maintaining the home language is not particularly useful.

Source: Own research.

Table 5 presents the teachers' ratings of the statements concerning the perceived usefulness of language knowledge. The majority of the participants (90.3%) agree or strongly agree with statement no. 19 (In our society it is important to know several foreign languages.). One of the teachers who

took part in the study commented: *“Knowledge of any language is a great asset”*. Most of the teachers (79.6%) also expressed general agreement with the connection between students' familiarity with several languages and success in life (no. 5). With respect to the statement no. 6, 37.2% of the educators disagreed with the statement, whereas 28.3% agreed that for students with home language other than Hebrew it is more important to know a major international language than their home language. Most of the participants (82.3%) disagreed with the statement no. 23 (For students whose home language is different than Hebrew (or English), maintaining the home language is not particularly useful.).

Table 5

Teachers' ratings about the perceived usefulness of language knowledge

Statement Number	Level of agreement with statement				
	1 (strongly disagree)	2 (disagree)	3 (neither agree nor disagree)	4 (agree)	5 (strongly agree)
5	3 (2.7%)	5 (4.4%)	15 (13.3%)	29 (25.6%)	61 (54%)
6	20 (17.7%)	22 (19.5%)	39 (34.5%)	17 (15%)	15 (13.3%)
19	0	2 (1.7%)	9 (8%)	28 (24.8%)	74 (65.5%)
23	69 (61.1%)	24 (21.2%)	13 (11.5%)	3 (2.7%)	4 (3.5%)

Source: Own research.

Table 6

Statements on teaching practices

Number	Statements
4	In my teaching, I do not usually make reference to the home language or culture of the students with home language other than Hebrew I have in class.
20	I do not allow my students to speak in their home language in class.
21	I offer practical advice to students who wish to maintain their home language (other than Hebrew).
22	To help students with home language other than Hebrew maintain their home language, the teacher must have some basic knowledge of their language.
24	I encourage students with home language other than Hebrew to maintain their home language.

Source: Own research.

Teachers' ratings of statements about their own teaching practices are presented in Table 7. A fairly high number of the respondents (44.3%) disagree with statement no. 4, but almost one third (29.3%) agree that they usually do not make reference to their students' home language or culture in class. The proportion of teachers who do not allow students to speak in their home language in class (no. 20) is 21.2%, as compared to 65.5% of the participants who strongly or moderately disagree with the statement. Commenting on this statement, one of the participants points out: *“Not to allow students to use their mother language is a form of discrimination. Schools in Israel should encourage the learning and usage of other languages, not only Hebrew, Arabic and English”*. Another adds: *“As someone whose mother tongue is not Hebrew and who has been in the country for 40 years, it is important for me to keep all languages but not one at the expense of the other”*.

Table 7

Teachers' ratings about teaching practices

Statement Number	Level of agreement with statement				
	1 (strongly disagree)	2 (disagree)	3 (neither agree nor disagree)	4 (agree)	5 (strongly agree)
4	28 (24.8%)	22 (19.5%)	30 (26.4%)	18 (16%)	15 (13.3%)
20	55 (48.7%)	19 (16.8%)	15 (13.3%)	11 (9.7%)	13 (11.5%)
21	25 (22.1%)	18 (16%)	35 (30.9%)	21 (18.6%)	14 (12.4%)
22	37 (32.7%)	18 (16%)	22 (19.5%)	17 (15%)	19 (16.8%)
24	10 (8.8%)	5 (4.4%)	19 (16.8%)	22 (19.5%)	57 (50.5%)

Source: Own research.

With respect to offering practical advice to students who wish to maintain their home language (no. 21), 31% of the respondents agreed or strongly agreed with the statement, whereas a similar number of the participants, i.e., 38.1% disagreed with it.

An additional light on the issue is thrown by responses to the next statement no. 22, where 31.8% of the teachers agree that the teacher must have some basic knowledge of the students' home language in order to help them maintain it. One of the teachers commented on the statement saying: *“As a Hebrew teacher I am subjected to the curriculum. I also do not know how to help my multilingual students to maintain their home language. However,*

I often ask them how they say something in Russian/Arabic/Amharic (depending on the student's mother tongue)". The majority of the teachers (70%) encourage students with home language other than Hebrew to maintain their home language (no. 24).

5. Discussion of the results

The following discussion connects the analysis of the results and the New Hebrew Curriculum (2007). The curriculum authors acknowledge linguistic diversity in the classroom and believe that students should learn Hebrew achieving a native-like level of proficiency while maintaining their home languages. The majority of the teachers in the present study also understand that students may learn several languages at the same time (no. 12). However, when it comes to the other aspects of language knowledge, the picture is more varied. While one third of the teachers (35.4%) see the connection between language knowledge and students' academic success, an almost equal part of the educators (33.5%) fails to observe such a connection.

The New Hebrew Curriculum (2007) encourages taking the benefit of students' cultural and linguistic heritage, or using it as a resource, in their Hebrew acquisition. The results of this study show that teachers see students' home languages other than Hebrew as a positive factor in general. On the other hand, almost up to 40% of the educators see the home languages as a cause of delay in their acquisition of Hebrew and a source of confusion (no. 14, no. 25). This fact is worrying in itself, as it indicates that very often the teachers' support for linguistic diversity and the students' linguistic and cultural heritage is limited to declarative statements, while in reality the minority languages are perceived as an obstacle rather than a resource by a considerable number of Israeli educators. While knowledge of languages is generally appreciated by a vast majority of educators, this appreciation very often does not include minority languages, which are perceived as less useful. Approximately one third of the teachers think that the teacher must have some basic knowledge of the students' home language in order to help them maintain it and another one third say they never offer advice to students on how to maintain their home languages. This suggests that the home languages are not used as a resource, because these teachers are simply not interested in them. Moreover, almost 30% of the teachers admit that they never make any reference to the students' home languages and cultures.

Finally, ca. 20% of the educators say that they do not allow their students to use their home language in the class. While the majority of the teachers see the use of the home language in class as something natural and a ban on home language use is perceived by some as a form of discrimination, there is still a significant minority for whom the melting pot ideology from the early days of the State of Israel is a factor defining their attitudes and professional practices.

Conclusions

The results of the study strongly indicate that the teachers' population is not homogeneous. There are teachers who follow the official guidelines and language policies in the classroom because these recommendations are consistent with their personal beliefs and there is a significant minority that is quite resistant to them. It is obvious that teachers' beliefs and attitudes towards multilingualism, as well as students' heritage language maintenance, are essential to the empowerment and integration of multilingual students, especially those with low language skills.

REFERENCES

- Aronin, L., Singleton, D. (2008). Multilingualism as a new linguistic dispensation. *International Journal of Multilingualism*, 5(1), 1–16.
- Baker, C., Wright, W. (2017). *Foundations of bilingual education and bilingualism*. Bristol: Multilingual Matters.
- Bialystok, E. (2001). *Bilingualism in development: Language, literacy and cognition*. Cambridge: Cambridge University Press.
- Darcy, N.T. (1963). Bilingualism and the measurement of intelligence: Review of a decade of research. *The Journal of Genetic Psychology: Research and Theory on Human Development*, 103(2), 259–282.
- De Angelis, G., (2011). Teachers' beliefs about the role of prior language knowledge in learning and how these influence teaching practices. *International Journal of Multilingualism*, 8(3), 216–234.
- Fan, S., Liberman, Z., Keysar, B., Kinzler, K. (2015). The Exposure Advantage. *Psychological Science*, 26(7), 1090–1097.
- Feuerverger, G. (2001). *Oasis of Dreams: Teaching and Learning Peace in a Jewish-Palestinian Village in Israel*. New York: Routledge Falmer.
- Hartanto, A., Toh, W.X., Yang, H. (2019). Bilingualism narrows socioeconomic disparities in executive functions and self-regulatory behaviors during early childhood:

- Evidence from the early childhood longitudinal study. *Child Development*, 90(4), 1215–1235.
- Haukås, Å. (2015). Teachers' beliefs about multilingualism and a multilingual pedagogical approach. *International Journal of Multilingualism*, 13(1), 1–18.
- Lee, J., Oxelson, E. (2006). "It's Not My Job": K-12 Teacher Attitudes Toward Students' Heritage Language Maintenance. *Bilingual Research Journal*, 30(2), 453–477.
- Leikin, M., Schwartz, M. Tobin, Y. (2012). *Current Issues in Bilingualism*. Dordrecht: Springer Science+Business Media B.V.
- Levin, T., Shohami, A., Spolsky, D.D. (2003). *Status of Immigrant Students' Studies*, Scientific Report, Submitted to the Office of the Chief Scientist and the Division for the Absorption of Immigrant Students.
- Mitits, (2017). Multilingual Students in Greek Schools: Teachers' Views and Teaching Practices. *Journal of Education and e-Learning Research*, 5(1), 28–36.
- New Hebrew Curriculum, (2007). *Ivrit ke safá shniya ,tochnit halimudi le eladim olim be kitot aleph-yud bet batey sefer mamlachtiim ve mamlachtiim datiim (Hebrew as a Second Language, the curriculum for immigrant children in grades 1-12 in state secular and state religious schools)*. Published by Division for Curriculum Planning and Development, Pedagogical Secretariat, Ministry of Education, Israel, 2007. Retrieved from: <https://edu.gov.il/minhalpedagogy/olim/Hebrew/Pages/curriculum.aspx> [Access: 22.07.2021]
- Otwinowska, A. (2013). Does multilingualism influence plurilingual awareness of Polish teachers of English? *International Journal of Multilingualism*, 11(1), 97–119.
- Peal, E., Lambert, W. E. (1962). The Relation of Bilingualism to Intelligence. *Psychological Monographs. General and Applied*, 76, 1–23.
- Saer, D. (1923). *The effect of bilingualism on intelligence*. Cambridge: Cambridge U.P.
- Spolsky, B. (1997). Multilingualism in Israel. *Annual Review of Applied Linguistics*, 17, 138–150.
- Tabors, P. O. (2003). *One child, two languages*. Baltimore, London & Sidney: Paul H. Brooks Publishers.
- Venugopal, M. (2017). *The growth of multilingualism in Israel*. The Jerusalem Post, 24 February, 2017. Retrieved from: <https://www.jpost.com/Blogs/Discover-Everyday/The-growth-of-multilingualism-in-Israel-482510> [Access: 21.08.2019].

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Supporting migrant children in learning Norwegian as a second language. A socio-pedagogical study*

Introduction

The intensification of migration processes among young Poles since 2004 has resulted in an increasing number of children and adolescents who, together with their parents, form a migrant community. An important educational aspect of this phenomenon involves the process of acquisition and development of language skills by children and young people in the conditions of migration. The aim of the research project entitled: “Organization of Norwegian language teaching for children of Polish immigrants in Norway”, funded by the Centre for Migration Research at Adam Mickiewicz University (AMU) within CeBaM Minigrants in 2019, was to show the determinants of shaping the host country language competence in children of migrants and children with migration experience¹. The main objectives of the presented text adopted by the Author are the following:

* The following report concerns the completed research project entitled: “Organization of Norwegian language teaching for Polish migrant children in Norway” funded by the Centre for Migration Studies at Adam Mickiewicz University (AMU), as part of Minigrants CeBaM in 2019. The study was conducted in May-June 2019 in Bergen and Oslo, Norway, and in Puszczkowo, Poland, using telecommunication links. Migrant children are intended by the author to be children who were born in Norway to migrant families and children with migration experience (children who have experienced migration themselves).

¹ Migrant children according to the author are children who were born in Norway in migrant families and children with migration experience (children who have experienced migration themselves).

1. Presenting the organisation of language education for immigrant children in Norway.
2. Presenting the opinion of the surveyed group of parents of immigrant children on the availability and effectiveness of the solutions adopted in Norway.

The analyses and interpretations conducted in this text are based on the research carried out adopting the strategy of qualitative research. Source documents were analyzed, as well as opinions of migrant women and men expressed in in-depth interviews. Due to the qualitative nature of the research, it was possible to show individual micro situations in a broader perspective. Regarding the specificity of the group of respondents and the area of their origin, research conclusions are limited to the group of the examined persons, showing a multi-level, in-depth analysis of the examined phenomenon².

In his research, Dell Hymes (1971, 1979) drew attention to the concept of communicative competence, which he understood as the ability to use language appropriately “to the social situation and taking into account the characteristics, goals and attitudes of other participants in the communication process.” Knowledge of the language of the host country is a crucial aspect for education, adaptation and understanding of the host society. As Magdalena Olpinska points out, the main motivation for learning a second language³ is the same as in the case of learning the first one, i.e. child’s curiosity, willingness to get to know the world and acquire knowledge. It goes hand in hand with the involvement of teachers and educators who speak this language and provide assistance. Teachers and tutors have to adapt their messages to the child’s cognitive abilities and at the same time motivate the child to develop himself or herself by setting new requirements. The researcher emphasizes that the popular opinion that children “absorb language like sponges” requires correction. She points to the conclusions of the research conducted by Patton Tabors, a psychologist from Harvard University, who distinguished different stages that children go through in the process of integration with the receiving society in the situation of migration.

² The full report is available on the following website: https://8005a1c1-bc6e-4f88-9e9f-2183a5bd9c4f.filesusr.com/ugd/a61642_7725090396194778bb334f63be7159da.pdf?index=true

³ Children who learn one language after another will develop a first language (L1) and a second language (L2) and so this type of language learning incorporates two processes: first language acquisition (FLA) and second language acquisition (SLA). However, if children learn a second language before adolescence (early SLA), their knowledge of that language will often be similar to or may exceed that of their first language. It is usually comparable to the second language in children who are bilingual from birth.

Stage one – at first, children try to use their native language, but to no avail.

Stage two – children go through a non-verbal period. In this stage, children hardly speak, but research shows that they listen carefully.

Stage three – children memorize useful sentences and phrases which they apply whenever they can. This process leads to the starting point of stage four.

Stage four – called “effective use” of the second language by Tabors.

The rate at which children progress through these stages depends on the individual characteristics of a child and the support provided. At first, children by no means use the second language flawlessly, but their communication needs with peers are also usually low. Children who normally integrate slowly, also if they play in their native language, will have the same problem in the second language (Zurer-Pearson, 2013, pp. 117–123).

1. Poles in Norway

In the project described here, the background for presenting the organisation of Norwegian language teaching to migrant children involves changes that have been observed in the Norwegian society over the last twenty-three years in relation to ethnic and national minorities, as well as successive waves of migration to this country. Norway is a country whose society has changed within one generation from almost mono-ethnic to multicultural. In 1995, immigrants made up only 4% of the total population (Galent, 2014) and in 2019 already 15 percent. The group structure of immigrants in Norway is extremely diverse in terms of their country of origin, with over 220 different countries represented⁴. Thomas Eriksen points out that the integration policy of Norwegian authorities puts an equal sign for the rights of all members of society. It is compulsory for immigrants to learn Norwegian and receive training to help them find jobs. While commenting on society’s response to changes related to migration, some researchers, such as the aforementioned Eriksen, and opinion makers in Norway idealize the situation and attempt to ignore the growing problems, failing to find an adequate response from public authorities, including the field of education⁵.

The phenomenon of increased Polish migration to Norway took place after Poland joined the European Union in 2004, when the labour market

⁴ Key figures for the population <https://www.ssb.no/en/>

⁵ <http://www.hfhr.org.pl/wielokulturowosc/page.php?pag=1&sec=3&art=385&more=1>

opened up in some of the Schengen countries (Danilewicz, 2007, p. 153). 2004-2015 was the period when the number of Poles in Norway increased more than tenfold, from 6,536 residents registered in 2003 to over 90,000 in 2015. Norway is not a member state of the European Union, but has an agreement on free movement of persons, including access to the labour market for citizens of the EU countries. Already in 2007, immigrants from Poland constituted the largest group of foreigners (Godzimirski et al., 2015). In 2006, almost 60 thousand residence permits with the possibility to take up employment were issued to foreigners in Norway, out of which more than 38 thousand were granted to Poles (issued for the first time or extended). According to official Norwegian estimates from the beginning of 2009, about 60 thousand Polish citizens resided in Norway that year. However, according to the estimates of the Consular Section of the Polish Embassy in Norway, it was as many as 120-130 thousand (Olszewski, 2011, p. 449).

Compared to other minorities in Norway, Poles as a group adapt well to life in a new place. In the report on Polish women and men in Norway, the authors noted “a generally positive image. This is largely due to the compatibility of political and social systems, relative cultural proximity and close cooperation of countries perceiving each other as important allies and engaging in bilateral and multilateral cooperation” (Godzimirski et al., 2015). The phenomenon of mass migration – considering the small Norwegian society – has triggered a response from both the Norwegian Immigration Office, Polish diplomatic missions and labour offices (Olszewski, 2011, p. 449), which took the form of attempts to adapt the educational, social and other systems to the new situation.

In Norway, migration policy is an integration policy. Various solutions have been introduced to integrate newcomers into the Norwegian society as soon as possible (language courses, information brochures in migrant languages). In the face of an ever-increasing number of newcomers of school age, the education system has been confronted with the challenge of a multicultural school, which it has been trying to live up to.

2. Norwegian education system and support in experiences of parents (Polish migrants)

The Norwegian educational system, in its present form, was formed after World War II. Its basic features include: uniform school system and curriculum, and standardized nationwide system of teacher training. Children from 0 to 5 years of age can go to kindergarten, which is paid.

From 6 to 15 years of age, children are covered by compulsory and free primary education (*grunnskole*). This is divided into two stages: elementary school for children aged 6–12 (*barneskole*) and lower secondary school for youth aged 13–15 (*ungdomskole*). Children aged 6–9 can attend the school day care centre (*SFO*) before and after lessons. This is offered on a voluntary basis and is paid for by parents. After lower secondary school, they can continue their education at a 3-year upper secondary school (*videregående skole*), which is also free of charge, but not compulsory, and then go to university (<http://www.nyinorge.no/>). A challenge of the education system in Norway is posed by the increasing number of children with an immigrant background. We can see a significant increase in the proportion of children of migrants, from 5.6 percent in 2003 to 9.4 percent of children in 2013 (<http://www.nyinorge.no/>). In 2019, more than 21 percent of children under the age of 5 were of migrant origin.

Currently, the Norwegian state aims to include immigrant children in the school system from as early a stage as possible, recognizing preschools as an important tool for socialization and integration of children into the host society. The Ministry of Education has created a strategic plan based on equal participation of students from linguistic minorities in the educational system. Various forms of support for migrant pupils are in place, including assistance offered to schools by NGOs.

The Norwegian school system is perceived as inclusive (Taguma et al., 2009). The strongest emphasis seems to be placed on helping children learn Norwegian. Nevertheless, as part of the multicultural strategy, efforts are made to enable children of immigrant background to cultivate elements of their own culture at school. Many institutions, especially those with a high percentage of immigrants, celebrate holidays of minority students, for example. In spite of these efforts, inadequate consideration of cultural differences between Norwegians and migrants is still emphasized in the public discourse as a weakness of the social policy (including education) and social welfare. In addition to the above-mentioned systemic solutions, there are also individual actions taken at the level of educational institutions.

For a child facing migration, the school environment is another place where he or she must adapt. School in the receiving country is organised differently, and operates on the basis of different values than the one in their country of origin. The Norwegian system emphasises subjective treatment of children, respect for the individual, emphasis on developing practical skills and teamwork. The basic value of the system is egalitarianism, ensuring equal access to education regardless of origin, social status, religion, gender etc. The system of grading and providing feedback to parents on the

child's progress is different for Polish children. The lack of sufficient knowledge of Norwegian or English may be a challenge.

For the purposes of the project, the author formulated an operational definition of educational support based on Piotr Gindrich's definition (Gindrich, 2014, p. 156). Thus, educational support is assumed to be the institutional assistance provided by the school to the student, including students with special educational needs (e.g. psychopedagogical assistance) and any support resulting from interpersonal relationships that the student, as the subject of the process, perceives as facilitating the learning process. Those providing support to the student may involve school personnel, peers, parents, and others who have interpersonal relationships with the student or the child's parents.

Based on her own research, the author identified the following forms of educational support that the respondents encountered:

- guides for newcomers in the native languages of the main migration groups, including Polish,
- teaching Norwegian, support in learning Norwegian,
- student assistant,
- free tutoring support,
- intercultural meetings,
- Polish language teaching,
- interpreter/assistant for parents' meetings,
- weekly timetable sent to parents,
- school transportation,
- provision of textbooks and school supplies,
- child care at a day care center.

As Norwegian law provides⁶, every primary or secondary school pupil whose native language is not Norwegian has the right to learn Norwegian as a second (foreign) language at a level adapted to his/her needs until he/she speaks the language well enough to be able to participate in classes with peers who speak Norwegian without difficulty. Each school may choose how it organises language classes for newcomers with the right to special instruction. This may take place in separate groups, classes or schools. The school is required to examine and assess the student's Norwegian language skills in order to provide the best possible assistance. The special mode of teaching Norwegian also means an increased number of hours of Norwegian language instruction. Students in grades 1-10 are entitled to 1 hour of

⁶ *Lov om grunnskolen og den vidaregåandeopplæringa (opplæringslova) – Law on Primary and Secondary Education (Education Act).*

tuition assistance per week. This applies to all students, not just children with a migrant background. Participation in these classes is voluntary.

Preschool education is important for integrating the child into the educational process. Kindergartens (Czerniejewska, Main, 2019; Strzemecka, 2015) are devoted to children who have not attained the compulsory school age yet; from their first to the fifth year of age (Facts about education in Norway 2016). Ewa Woś emphasizes that “in Norway, kindergarten is (...) recognized as the first, voluntary and extremely important stage in the acquisition of education” (Woś, 2010, p. 156).

In 2016, as many as 46,000 children from linguistic and cultural minorities attended Norwegian kindergartens⁷. Over 11 years (2005–2015), this group grew from 6 percent to nearly 15.5 percent (<https://www.ssb.no/en/utdanning/statistikker/barnehage>). In 2005, 54% of children from linguistic minorities attended kindergartens, while the percentage of children with Norwegian as their mother tongue was 76%. The difference between the groups is particularly noticeable before the age of four. There has been a relatively strong increase in the proportion of children from linguistic minorities between 1997 and 2008. Children from linguistic minorities usually spend up to five hours in kindergarten or use the three-day stay option (three times a week). Researchers on the subject point to various reasons for the phenomenon of child’s limited time in kindergarten, including cultural factors, the traditional role of women in these families, the number of children in the family, and women’s low income. In 2007, a plan was created to support Norwegian language education among children before they enter compulsory schooling (Sand, 2011, p. 138).

Contacts with parents from different cultural backgrounds requires sensitivity and understanding of others. Cooperation with parents in the Norwegian society is ensured through their participation in parent councils and coordinating committees (Sand, 2011, p. 130).

Assistance in Norwegian language education takes different forms. When considering dedicated language support classes with Norwegian lessons, some municipalities/schools use the term introduction class (*innføringsklasse*), reception class (*mottaksklasse*), welcome class (*velkomstkklasse*), or introductory class (*introduksjonsklasse*) (Øzerk, 2007). The above-mentioned types of classes involve intensive Norwegian language instruction for students in grades 1-10, which are organized in some schools in the municipality. These types of classes are organised in large centres and are intended to prepare children and young people for learning in a Nor-

⁷ This applies to children from languages and cultures other than Norwegian, Swedish, Danish and English.

wegian school. Depending on their time of arrival in Norway, pupils benefit from this form of support tuition for a period of six months up to two years. Then the child is sent to a local school – the closest to the place of residence. A negative aspect of this solution is that the child is exposed to another difficult situation, i.e. the change of peer environment. After leaving their own country and peer group, they are placed in an introductory class at one school, where they get to know other children of migrant background, and then after a few months or so, they change classes again to a regular class with Norwegian students with fluent language skills, an ethnically diverse school to a district school, which no longer has to be diverse.

The institution of *morsmållærer* is the one most often positively assessed by parents and most frequently encountered among the respondents in this project. This is a term used to describe the institution of a support teacher at a Norwegian school who works with immigrants or refugees entering the Norwegian education system (the municipality allocates money for the teacher's salary). Pupils learn all or some of the subjects with their peers in the classroom and work with their *morsmållærere*. The *morsmållærer* helps pupils learn Norwegian by individually teaching (e.g. science subjects) in Norwegian. As time goes by, a pupil no longer attends individual lessons with an assistant, but stays in class with his/her peers. Bilingual education (*tospråkligfagopplæring*), which takes place during normal classes, is also allowed. It consists of learning school subjects in both languages (Norwegian and Polish). The child is assisted by a bilingual teacher who facilitates understanding the material and communication. This type of support is most often needed for children who arrived in Norway at the end of primary school education or at the beginning of fourth grade and do not yet have a sufficient grasp of Norwegian to understand certain subjects, e.g. natural sciences. Intensive language learning and teacher's assistance in the child's native language is limited in time. Although the Norwegian law allows for up to two years, in practice it ranges from six months to a year.

The educational policy assumptions focus on integrating children into the school system as soon as possible. Not every municipality is able to guarantee appropriate support, however, as indicated by the experiences of the respondents, school directors organise, to a certain extent, assistance for newly arrived students who do not speak Norwegian. This is illustrated by the statement voiced by Marta, 34, with two children aged 17 and 12:

My daughter came to Norway from the UK as a 5-year-old and her knowledge of English helped her to learn Norwegian and interact with her peers. She was placed in a school in a small town where the municipality was not able to pro-

vide a bilingual teacher and other solutions available in large municipalities ... My little one had extra Norwegian lessons every day, with extra help, all the time she was supposed to read and read in Norwegian. Hmm ... my son was in a better situation, he went to kindergarten here, his language [Norwegian] is much better ... Gosia goes to meetings for foreigners from the school, they speak about themselves there, it is cool, she meets other kids.

However, some parents were disappointed by the support, or rather the lack of it, at pre-school level, where children are placed without the ability to communicate in Norwegian. Sylwia, 35, in Norway for 5 years, with a child of 7 years of age and a 1.5-month-old baby, described it as follows:

We ended up in a neighborhood in Oslo where there were almost only Norwegians. There were only two Poles [in the kindergarten]. Ola was 2.5 years old when she went to kindergarten. She couldn't cope, she was withdrawn for a year. The staff did nothing about it. I tried to intervene, but it was actually ... then there was a girl from Ukraine, who was on an internship and she helped her. She understood her a little bit and taught her Norwegian. Ola didn't get any assistant. They claimed that she was catching on nicely to the Norwegian language and did not need any support. In kindergarten they don't teach anything, no songs, no rhymes, she didn't even know the days of the week. Not like in Poland ... They don't teach anything, what she knows I have developed with her. The child should learn on their own. Now my daughter goes to such a small school, there are only 203 pupils, everyone knows each other, we have three assistants for each teacher, it's fantastic ... the children learn creative thinking ... they study during the week and Friday, Saturday, Sunday they are supposed to be free, i.e. free from homework, now they learn a lot at school. She has only Norwegians in her class. She doesn't stand out or watches only, she already speaks Norwegian, she has a fantastic group ... We have Norwegian friends.

Krzysztof also mentioned the lack of support in the kindergarten:

Our son didn't have any support in kindergarten; in Norway kindergarten is like a shepherd and sheep, they get to eat and don't learn enough, it was shocking for us, children were thrown in at the deep end, children were outside all the time... For the first two years (in kindergarten) our son had problems, he didn't speak much, he was blocked... The teacher suggested that we speak Norwegian at home, but fortunately, there is a mørsmålslærer ... and then at school the lessons were already in Polish and Norwegian, which helped us a lot and our son also attended SFO (day care center) ... after three years there was no problem anymore.

Michalina 40, one child, for 9 years in Norway, described the beginnings in the following way:

The first year was very difficult for the child... he was difficult to part with and ... it was not because he didn't speak Norwegian... The first winter was difficult... because he didn't join in the games, the outdoor games ... he just stood there and watched, and got cold... but the teachers told me about it, they tried to get him to join in, but he was shy ... But later he managed to get involved. ... (...) He was the only child in the group at the time, children who spoke poor Norwegian, there was another boy and a girl, foreign children, but they spoke Norwegian. There were three female teachers and one of them mainly devoted her time to the little one. He was supposed to get used to her, he was learning to communicate with her. We were in contact with her ... We were given a brochure for children who were starting out, which said what clothes to wear, an educational plan, and so on. There was nothing in there about learning the language. She did not encourage us to speak Norwegian with our son...

Parents' opinions negatively describe the lack of support and situations in which institutions do not offer any assistance in language learning. Positive ratings are given to those institutional forms of support that have been implemented in the classroom or children have benefited from in the preparatory class. Krzysztof describes the language support in the preparatory class as follows:

In Norway there was a preparatory school for immigrants, for small children, and that's where my daughter went, now it's organized differently, you go straight to school in your place of residence ... but then she went and learnt to speak Norwegian, the whole world was there, Palestine, Poland, Lithuania, Spain, Eritrea, there she met different people.

Anne 39, four children 8-, 12-, 20- and 22-years-old living in Norway for 5 years was not satisfied with the high pressure exerted on the children and the pace of learning Norwegian: *They (the children) all attended Norwegian preparatory schools. It's difficult for the child, but it's very effective, it could be softened, but yes it's very effective... There were some Poles in that school, but they weren't allowed to speak Polish because the teachers forbade it, I understand that, but ...* Anne, 39, described a situation in which the established support programs for migrant students were not implemented, resulting in great adaptation difficulties as a consequence:

I don't know what a school assistant is. It was hard because my children's first school was in the countryside, it's a modern school, but in the countryside. For Norwegian conditions it was quite bad. The elementary school which they at-

tended was very weak. Later on, in middle school, nobody took care of their integration, nobody introduced us to anything, they just walked around – there was nothing. (...) There were some Poles in that school, but they weren't allowed to speak Polish, because the teachers forbade it. I understand that, but ... the school reacted badly ... 'Poles pick on you'... The management unfortunately didn't react properly, they didn't help us despite letters we sent to them...

Based on the parents' opinions, it can be concluded that, to a large extent, the integration and learning Norwegian is influenced by the school climate.

School climate is most often defined as the perception of objective reality, such as social environment, school conditions or school culture, shared by various people, in opposition to the objective reality in which students and teachers function. K. Ostaszewski defines it as “the way teachers and students perceive the environment of their work or study and the impact of this perception on their behaviour”. (Ostaszewski, 2012, pp. 23–38)

Sylwia, 35, has been in Norway for 5 years and has two children, 7-years-old and 1.5-months old, when discussing the advantages of the school system, she described them as follows: *What is the best thing about Norwegian school? hmm... The individual approach to each child... That was key, the friendly atmosphere....* Krzysztof, 43, two children, 14- and 12-years-old, for 7 years in Norway, added: *school gives a lot of freedom (...) children never said that they did not want to go to school.* Marta: *... school here is relaxed, there is no stress, teachers are very patient, children feel safe, there is no pressure. (...) in Poland the level is higher, but what for? Stress seems to exclude good development ...* Ania 39, four children 8-, 12-, 20- and 22-years-old, for 5 years in Norway:

when we had to move again, they started missing that school. Here in this new school everything works, but you have to know what you are entitled to. The school reported behavioural problems at the beginning and Barneverne helped me again, the children received psychological support. It worked perfectly in this difficult situation of theirs. They had the team resource at school. Because they [the children] have changed schools three times, they are traumatized by family experiences etc. But now the children have friends, they are integrated with others and they are making progress, my son is special, I even wanted to have him tested for autism, now for example he is interested in socialism, they [teachers] say he thinks slowly but deeply. Teachers speak very positively about him, they think that my son brings a lot to the class, a lot of knowledge about what he is interested in, it is not strange for them, they give him time to develop ... Kids can think in their own way. They might like different things, they might be different.

Teachers don't block anyone. They don't put restrictions ... In our school children are told what to do. Here, they can develop.

Often, opinions of the surveyed parents include reports on their own experiences with Polish school in comparison to Norwegian conditions: Ewa, 42, for 10 years in Norway, a 10-year-old son and a 15-year-old daughter.

If I had to choose between the Polish and Norwegian school ...? I would choose the Norwegian school. Students are treated quite differently here. It seems to me that they are treated ... like partners. In Polish school there is a lot of humiliation, they say: "I can get an A, a student can only get a B at the most". And here, the attitude towards students is friendly. I wanted to become a teacher because I wanted to be good... and not like my older teacher friends, who used such mean methods putting students down. Here [in Norway] teachers are great when they see that parents want to cooperate. At my son's school, the teacher called a parents' meeting, because some groups were forming in the classroom, and students were excluding some colleagues from these groups. The teacher responded by asking parents for help. Some parents thought it was a school issue, but not most of them ... Now we have regular parent-children gatherings. We play ball games. Parents get to know each other and the children. We went on a trip to the mountains. And so we solve this problem on the teacher's initiative, we integrate.

To sum up, the atmosphere at school, the sense of security and an individual approach to a student are very important in parents' opinion.

Conclusions

The choice of qualitative methods in the conducted research has made it possible to analyse the assumed offer of support for children from migrant families in Norwegian schools, as well as obtain opinions about it from parents who have observed their children learning the language and adapting to the classroom environment in a Norwegian school on a daily basis. The research shows that the key role in language education of the persons surveyed belongs to both the institutional offer in the form of a student assistant, which may even be limited to support for one hour a week, and the school climate, which without pressure encourages participation in lessons and joint activities for students. Active inclusion of children in peer group activities with Norwegian participation is also important. Apart from lessons, students participate in day-care centre activ-

ities (which was recommended to several respondents with regard to their children), sports activities and local community actions (e.g. collective celebrations or cleaning).

The knowledge of Norwegian, in the variety appropriate for the environment, practiced in communication with peers is crucial in the process of adaptation and establishing relations. Preschool education provides the opportunity for gradual acquisition of language skills, although, as mentioned above, it is important for the surveyed parents to be supported by an assistant. All signs of acceptance and interest are important both at the initial and later stages of entering the school environment without the knowledge of Norwegian. A teacher who has learnt a few sentences in a student's language, knows the customs, discusses holidays and traditions of immigrant students, integrates the class in which pupils sometimes come from different continents. Some of the parents interviewed were asked to bring a Polish cake to a school meeting or prepare Polish dishes for the school Christmas celebration. Pupils have had the opportunity to sing a song in their own language during the school assembly, to participate in a parade to celebrate the national holiday of Norway on May 17 wearing the folk costumes of their country of origin. Krzysztof also recalls: ... *sport enabled us to enter this community, playing football, on the 3rd of May, everyone stood up to congratulate Viktor that he had a holiday in Poland, it was so moving for us, that respect for us ...* Thus, acceptance and respect are key attitudes for students' well-being.

Knowledge of the host country language plays the key role in the adaptation process. It is indispensable to become not a second-generation migrant, but a first-generation member of the host community, who, together with the culture of the parents' country of origin, fits into the new community where they live, learn and then work. This leads to building identity and decreases the feeling of being different, being an outsider.

REFERENCES

- Czerniejewska, I., Main, I. (2019). Projektowanie dziecka w społeczeństwie norweskim. Matki z Polski wobec instytucji przedszkola. *Migration Studies – Review of Polish Diaspora*, 1(171), 131–147. <https://doi.org/10.4467/25444972SMPP.19.006.10256>
- Strzemecka, S. (2015). School Integration in the Eyes of Migrant Children. Based on the Polish Migration to Norway. *Przegląd Socjologiczny*, 64(1), 81–101.
- Danilewicz, W. (2007). Społeczne konsekwencje migracji zagranicznych. In: D. Lalak (ed.) *Migracja, uchodźstwo, wielokulturowość. Zderzenie kultur we współczesnym świecie*. Warszawa: Żak.

- Domagalska-Nowak, K. (2020). *Organizacja nauczania języka norweskiego dla dzieci imigrantów polskich w Norwegii. Raport z badań jakościowych*. Poznań: Centrum Badań Migracyjnych UAM. Retrieved from: https://8005a1c1-bc6e-4f88-9e9f-2183a5bd9c4f.filesusr.com/ugd/a61642_7725090396194778bb334f63be7159da.pdf?index=true [Access: 17.09.2020]
- Facts about education in Norway 2016*. Retrieved from: https://www.ssb.no/en/utdanning/artikler-og-publikasjoner/_attachment/253129?_ts=153891d2918 [Access: 1.10.2021]
- Galent, M. (2014). *Wielokulturowość w Norwegii. Kontury struktury*, Retrieved from: www.wielokulturowosc.org/pl/200/marcin-galent-wielokulturowo%C5%9B%C4%87-w-norwegii-kontury-struktury/ [Access: 15.05.2015]
- Gindrich, P. (2014), Kwestionariusz Wsparcia Edukacyjnego (KWE) – struktura i cechy psychometryczne narzędzia. *Przegląd Pedagogiczny*, 1, 153-168.
- Godzimirski, J., Stormowska, M., Dudzińska, K. (2015). *Nowe diaspory w Europie i zarządzanie migracją: przypadek Polaków w Norwegii*. Warszawa: Polski Instytut Spraw Międzynarodowych, Instytut Studiów Politycznych Polskiej Akademii Nauk. Retrieved from: <https://pism.pl> [Access: 19.05.2021]
- Hymes, D. (1971, 1979) after: M. Olpińska (2004). *Wychowanie dwujęzyczne*. Warszawa: Katedra Języków Specjalistycznych.
- Lov om grunnskolen og den vidaregåandeopplæringa (opplæringslova) – Law on Primary and Secondary Education (Education Act) of November 27, 1998 as amended, Retrieved from: <https://lovdata.no/dokument/NL/lov/1998-07-17-61> [Access: 12.09.2016].
- Taguma, M., Shewbridge, C., Huttova, J., Hoffman, N. (2009), *Migrant Education in Norway. Pointers for policy development 201*. OECD Reviews of Migrants Education – Norway, Retrieved from: <http://www.oecd.org> [Access: 16.08.2015].
- Olszewski, E. (2011). *Polacy w Norwegii 1940-2010*. Toruń: Wydawnictwo Adam Marszałek.
- Ostaszewski, K. (2012). Pojęcie klimatu szkoły w badaniach zachowań ryzykownych młodzieży. *Edukacja*, 4(120), 22–38.
- Øzker, K. (2007). *Tospråkligeovergangsmodeller og tosidige modeller. Organisering, prinsipper og praksis*. Opplandske Bokforlag. After: Jama H, (2018). *Nye ankomne elever i det norske utdanningssystemet. Overgangen fra innførings til budtil ordinær undervisning*. Trykk: Representralen, Universitetet i Oslo.
- Sand, S. (2011). *Early Childhood Education in a Multicultural Norway*. In: M. Veisson, E. Hujala, P. K. Smith, M. Waniganayake, E. Kikas (eds.), *Global perspectives in early childhood education: Diversity, challenges and possibilities*. Peter Lang: Baltische Studien zur Erziehungs- und Sozialwissenschaft.
- Woś, E. (2010). *Przedszkole w Norwegii – NorskBarnehage*. In: M. Kowalski, A. Olczyk (eds.), *Edukacja w przebiegu życia. Od dzieciństwa do starości* (pp. 153–158). Kraków Oficyna Wydawnicza Impuls.
- Zurer-Pearson, B. (2013). *Jak wychować dziecko dwujęzyczne. Poradnik dla rodziców (i nie tylko)*. Poznań: Media Rodzina.

Websites

- <https://www.ssb.no/en/befolkning/nokkeltall/population> [Access: 14.12.2019]
<https://www.ssb.no/en/innvandring-og-innvandrere/nokkeltall/immigration-and-immigrants> [Access: 14.12.2019]
<https://www.ssb.no/en/innvandring-og-innvandrere/nokkeltall>, [Access: 14.12.2019]
<http://www.hfhr.org.pl/wielokulturowosc/page.php?pag=1&sec=3&art=385&more=1>
[Access: 16.09.2017]
<https://www.ssb.no/en/utdanning/statistikker/barnehager> [Access:11.11.2016]
<http://www.nyinorge.no/> [Access:19.05.2021]

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Reuven Feuerstain's concept of optimizing the support and assistance of a student with a specific learning disorder

Introduction

In the discourse on the problems of students with specific learning disabilities¹ that has been going on for many years, there are constant questions about the effectiveness of the process of their education. This discourse is also visible in the Polish school, because specific learning disorders are still one of the major barriers to the active participation of children and adolescents with these difficulties in the educational process. Despite the declarations of many teachers regarding their knowledge of the determinants and the consequences of the lack of support for people with these problems in the educational process, these students permanently incur high emotional and social costs in the form of distress, teaching and interpersonal failures, which in turn affects their educational and life opportunities. In order to provide children and adolescents who have these disorders with conditions conducive to their developmental progress and eliminate factors that place them in an unfavourable educational situation, it is necessary to offer them specialist psychological and pedagogical assistance. However, between the regulations of the Ministry of National

¹ The literature also includes terms such as specific learning difficulties and fragmented disorders; when describing children and young people's learning problems, they are also referred to as having special educational needs. In this article, I will use the terms specific learning disorder, specific learning difficulties and the abbreviation SLD.

Education and Science², which obliges schools to provide students with specific learning disabilities with such assistance³, adjusted to their needs and abilities, and school reality, there is still at least a very deep cleft, if not an abyss. The equalization of educational opportunities for students with SLD (specific learning disability/disorder) who often have very different difficulties, and thus different needs, requires not only a vision for change, but also a search for such models of supporting their development that will optimize learning. It is therefore necessary to genuinely engage adults in the process of supporting and fostering the development of these students, both in the instrumental and directional sphere of personality. Only then will there be a chance to gather children, adolescents and adults around common goals, and an opportunity to acquire competencies conducive to multidimensional learning by students with SLD. It is the development of the ability to learn, constant updating of knowledge, acquiring new competences not only in formal learning, but also in non-formal and informal learning, preparation for lifelong learning, often consisting in personal transgression, that may be conducive to breaking the “vicious cycle” in which difficulties in acquiring specific knowledge, or sometimes narrow skills, become the cause of further problems, leading in effect to learned cognitive and emotional-social helplessness. In the process of constructing a system of support for children and adolescents with learning disabilities, there is a need not only for a set of principles and methods that are specific determinants of the work of teachers and therapists, but also (and perhaps above all) for a system of educational philosophy which indicates the need for a holistic approach to students with specific learning disabilities. The assumptions of the concept proposed by Reuven Feuerstein fit in with these challenges. The concept pointed to the necessity of developing an extremely important, but unfortunately often neglected aspect of the learning process of people with SLD, connected with acquiring the skills of how to learn, and thus how to use hidden cognitive abilities. This aspect is extremely important both in light of the provisions concerning supporting and assisting people with special educational needs (this group includes students with SLD) and the new definition of the specific learning disorder formulated in DSM-5.

² The Regulation of the Minister of National Education of August 9th 2017 on the principles of organizing and providing psychological and pedagogical assistance in public kindergartens, schools and institutions (Dz. U. of 2020, item 1280) was promulgated on July 22, 2020 and is effective from September 1, 2017.

³ These pupils not only have the right to a diagnosis or specialist therapy, but above all to forms and methods of teaching and requirements adjusted to their abilities.

1. Children and adolescents with specific learning disorder in light of DSM-5

The American Psychiatric Association's proposed definition for DSM-5 (DSM-5, 2013) of the “specific learning disorder” (“specific learning disabilities”) reflects current thinking about this disorder. Continuing the basic conceptualization of learning disorders/difficulties (LD), the definition proposes identification criteria to replace the discredited formula of discrepancy between ability and achievement. One can always seek an improved formula for the definition, of course, as we know more and more about specific learning disabilities as well, thanks to advances in neuroscience and neuroimaging of the brain, but the nature of SLD continually raises new questions.

First, the previous classification defined three distinct types of learning disabilities: reading, written expression, and mathematics. The current classification, on the other hand, defines a single “specific learning disorder”, which can exist in three subtypes: difficulty in reading, in written expression, and in mathematics. The idea behind this shift in emphasis (instead of three separate disorders, there is one in three subtypes) was probably to emphasize the strong connections between the three types of difficulties described here. This shift has caused controversy among some researchers who claim that there is such a thing as “pure” dyscalculia, whose pathomechanisms are quite different from those of “pure” dyslexia, but it seems that this approach finally allows for the recognition of the fact that many students experience a variety of difficulties (falling within the subtypes of SLD). Professional psychopedagogical diagnosis, focused on an individual person, will allow to determine not only the specificity of symptoms, but, as indicated in the DSM-5, also the degree of intensity of the symptoms (mild, moderate, severe). Most researchers and practitioners agree here – such a distinction is important and useful (Preiss et al., 2013)⁴.

The fact that the DSM-5 classification approaches the issue of the relationship between specific learning disabilities and general intelligence, expressed by IQ scores, somewhat differently than in earlier classifications appears to be another important aspect. In the older DSM classifications, one of the necessary conditions for the diagnosis of “specific learning disabilities” was a significant discrepancy between the results of relevant school achievement tests and the result of an intelligence test – in other words, the

⁴ In the Polish context, we have long been talking about “profound” (i.e. “severe”) dyslexia, which particularly requires the adaptation of forms of teaching and assessment.

results of the achievement tests had to be significantly lower than predicted on the basis of an intelligence quotient. In contrast, the DSM-5 classification moves away from any IQ-based discrepancy criterion. If only significant difficulties in mastering school skills (various aspects of reading, writing, arithmetic) are found, which are difficult to explain by educational deficits, intellectual disability, or other neurological or mental disorders, then – according to the new classification – we diagnose a “specific learning disorder”, regardless of the child’s intelligence quotient and the discrepancy between the intelligence quotient and performance in reading, writing and mathematics. This is in line with the currently dominant view that the intelligence quotient is weakly related to learning the technical aspects of reading, writing and calculation, such as the speed and correctness of word recognition, or intuitive understanding of the concept of numbers (difficulties in mastering technical skills are one of the basic symptoms of a specific learning disorder). It follows quite clearly that if intelligence has little to do with the acquisition of these technical skills, it should not be treated as the main criterion for diagnosis. The DSM-5 classification goes even further in this respect: whereas earlier versions strongly excluded the possibility of diagnosing specific learning disabilities in intellectual disabilities, it now states that “(...) Specific learning disabilities differ from general learning disabilities associated with intellectual disabilities because [specific learning disabilities] occur at a normal level of intellectual development [i.e. an intelligence quotient of at least 70, \pm 5]. If an intellectual disability is found, a specific learning disability can only be diagnosed if the learning difficulties are greater than those usually associated with intellectual disability” (DSM-5, 2013, p. 73). Thus the new classification treats intellectual disability and specific learning disability as two separate disorders, but also makes it possible, albeit to a very limited extent, to speak of their co-occurrence.

It is worth emphasizing that although the decisions adopted by the American committee are not binding for us, i.e. we can accept them as we see fit, the definitions included in the DSM manual are commonly accepted by psychiatrists and (to a lesser extent) psychologists not only in the USA, but also in the entire Western world, which does not mean that some of the entries are not criticized. In 2012, Margaret Snowling and Charles Hulme published, for example, an interesting article criticizing the definition of dyslexia proposed in this handbook. In their opinion, an opportunity was missed to introduce a clear distinction between dyslexia, i.e. difficulties with mastering the technical side of reading and writing (decoding words, their orthographically correct spelling), and difficulties in reading comprehension. According to the authors of the publication, this is important be-

cause the mechanisms of these two types of difficulties are quite different, and their therapy should also be different. Unfortunately, the DSM-5 classification places these two types of difficulties under one name “reading difficulties” (Snowling, Hulme, 2012, pp. 593–607).

M. Snowling and Ch. Hulme also point out that the topic of reading comprehension difficulties, usually closely related to oral comprehension difficulties, has been very neglected, although the number of students showing this type of difficulty is probably about the same as for children with dyslexia, the long-term effects of these difficulties may be worse than those of dyslexia. Children with poor oral and written comprehension are also often overlooked by the teacher, compared to dyslexic children whose errors and slower pace in reading and writing are usually visible. Recognising a specific learning disorder in the context of the observations made by Snowling and Hulme, for example, is therefore not an easy task, because another challenge is the fact that the problems of pupils with this disorder concern not only aspects directly related to specific school skills such as reading, writing, spelling, mathematics, language comprehension and expression, and finally the ability to use verbal thinking, but also those skills that seem to be important in many situations that determine an individual's success in life: perseverance, organization, self-control, the ability to correctly “enter” social interactions with others which are often the result of secondary disorders resulting from learning failures.

In the light of the remarks concerning the definition of SLD in DSM-5, it is also difficult to overlook an important fact due the possibility of a great diversity of difficulties resulting from, for example, the subtypes included in the definition and the fact that each of the individuals affected may function differently, thus the set of symptoms characteristic of one person ceases to be so in the case of another. In this situation we face a special diagnostic, educational and therapeutic challenge. Firstly, the diagnosis of pupils with SLD requires a “person-centred” approach (an individual) and a multi-faceted process of diagnosis, because although we need standardised tools to assess the disorder itself, we must not forget about the dynamics of change in symptoms (some may persist, some decrease or disappear, others become more visible, and new areas of difficulties may appear). It is therefore important not only to recognize and classify the symptoms of the disorder, but also to recognize that a person with learning disabilities is a person with specific developmental and individual characteristics and a member of a social system that significantly determines his or her behaviour. The focus of the diagnostic process thus shifts from making isolated assessments related to the functioning of the individual, in the instrumental and direc-

tional sphere, to the development and evaluation of learning and social interaction. Constructing a system of psychopedagogical assistance based on a diagnosis understood in this way means searching for the optimal way of supporting a particular person with SLD and their cognitive, social and emotional functioning, as well as creating such a model of educational and therapeutic proceedings that will realise the postulate of the individual's personal involvement in the actions taken and allow the student and people involved in the process of supporting his or her development to build common goals conducive to changes in learning.

2. Reuven Feuerstein's concept in the process of supporting, fostering and therapy of a student with a learning disorder

Reuven Feuerstein's concept⁵ may be a constant source of inspiration for teachers and therapists to create an optimal educational and therapeutic environment for a student with SLD. It draws on the work of such eminent psychologists as Jean Piaget (2006), Lev S. Vygotsky (1971, 2000), or André Rey (see: Shin, et.al. 2006), however, despite the undeniably enormous influence of these psychologists on the shape of Feuerstein's theory, he himself does not agree with all their assumptions. He believes that the stages of mental development described by J. Piaget are true, and agrees with L. Vygotsky's idea that a child needs stimulation from the adult world in order to develop. However, Feuerstein does not accept as true the claim that certain mental operations appear only at a certain age and are spontaneous, caused by natural dynamics of development.

What makes Feuerstein's concept particularly interesting for working with students with SLD is the fact that the assumptions about the learning process described in the structural cognitive modifiability theory (SCM – Feuerstein, 1990, pp. 68-134) are at its core. This theory assumes that every individual has the potential to change, regardless of age, environment of

⁵ Reuven Feuerstein was an Israeli clinical, developmental, and cognitive psychologist, founder of the International Center for the Enhancement of Learning Potential (ICELP) known for his theory of intelligence which states "it is not < fixed > , but rather modifiable". Feuerstein is recognized for his work in developing the theories and applied systems of structural cognitive modifiability, mediated learning experience, cognitive mapping, deficient cognitive functions, learning propensity assessment devices, instrumental enrichment programmes, and shaping modifying environments. (<https://www.icelp.info/professor-reuven-feuerstein-2/> [Access: 19.08.2021])

origin, specific intelligence quotient, or disorder. In a special way Feuerstein stresses that the type of disorder or specific intelligence quotient measured by tests do not reflect the potential of a given person, so it cannot be predicted what a given person will be able to learn and how far he or she will be able to develop.

When working with students with learning disorders or specific learning disabilities, we should not passively accept their low levels of achievement, but organise our activities in such a way as to actively modify and change their learning process. The activity of an adult is determined by the criteria of effective mediated learning or mediated learning experience (MLE), because it is in the interaction with a student that an adult (teacher, therapist) intentionally selects stimuli, gives them meaning and stimulates active learning about the world.

As can be seen, the mediated learning experience differs from the direct learning experience, in which stimuli “attack” the learner, introducing changes in the learner's behavioural repertoire. Direct learning, most strongly emphasized in behavioural and neobehavioural theories (Woody, Viney, 2017, p. 347), is often used in the education and therapy of students with specific learning disabilities, although adults often forget that for direct learning to be effective, it requires the student to be ready and open, as well as to have an appropriate level of skill and responsiveness.

Defining the mediated learning experience, Feuerstein points out that “(...) it is a process of interaction that takes place between a developing organism (the learner) and an experienced adult (the mediator) who intentionally “places himself” between the learner and an external source of stimulation – he mediates the way stimuli are experienced by: selecting them, framing them, intensifying them, responding appropriately, in such a way as to create the right learning conditions and the right habits in the learner” (Feuerstein, 2006, pp. 14–15).

Thus, indirect learning can be treated as a kind of “training” that a student undergoes under the guidance of an experienced adult. The adult directs the student's cognitive activity and gives structure to the learning environment. The experiences gained through mediated learning are the basic means by which the learner shapes his/her cognitive abilities that are necessary for independent learning. Mediation here is not only a transmission process, but also refers to the field of which it is the content.

It is worth emphasizing at this point that just as the learning experience in mediation differs from face-to-face learning, mediation as a type of interaction differs from interactions that do not meet its criteria (Feuerstein et.al., 2002, p. 75).

This aspect seems to be important in the process of education and therapy of a pupil with a learning disorder. According to Feuerstein, mediated interactions (see Table 1) must fulfil both universal and situational criteria, which can be applied to both the process of education and therapy.

Table 1

Mediation criteria and their definitions according to Reuven Feuerstein

Universal criteria and their definitions	
(1) intentionality of action and reciprocity of exchange	→ the mediator intentionally directs the course of the interaction and gives it a specific direction by selecting specific stimuli that become the target of learning; the learner willingly and intensely engages in the learning process;
(2) the meaning	→ the mediator conveys the meaning and purpose of the joint activity to the student; it is an answer to the question why and for what reason we do the task;
(3) transcendence	→ the mediator conveys to the student a broader context in which knowledge and experience can be used; there is a move beyond the "here and now"
Situational criteria and their definitions	
(1) a sense of competence	→ the mediator develops in the student a sense of self-confidence, to a degree that will guarantee an adequate level in the tasks performed;
(2) self-regulation and behavioural control	→ the mediator develops and reinforces in the student the ability to inhibit unwanted and inappropriate behaviour and stimulates the display of behaviour appropriate to the circumstances;
(3) sharing behaviours	→ the mediator reinforces the need to cooperate with others at cognitive and affective levels;
(4) individualization	→ the mediator reinforces the sense of uniqueness and differences among students;
(5) goal achievement planning	→ the mediator guides the student through the process of planning and implementing goal achievement, making the steps in the process fully accessible to the student
(6) the challenge	→ the mediator strengthens and builds a sense of enthusiasm and determination in the student to deal with new and complex tasks
(7) change of self	→ the mediator makes students aware of the value and potential for change in themselves and that they can be agents in their lives
(8) searching for optimistic alternatives	→ the mediator teaches students to look for optimistic accents in any situation, even very difficult ones
(9) sense of belonging	→ the mediator builds and strengthens the student's sense of belonging to a larger social group
(10) awareness	→ the awareness of the mediator and mediation recipient of the benefits of mediated interaction

Source: compiled based on: R. Feuerstein et al., 2006; Mentis et al., 2008; Feuerstein, Lewin-Benham, 2012.

Mediation is an open and dynamic process, so the criteria listed should not be treated as a finished list. However, it is important that the choice of particular criteria in mediation should depend on their relationship to the transmission of culture and subculture in which the student is brought up. All other additional situational parameters are not necessary conditions of mediated interaction.

The role of mediation in mediated learning has been confirmed in many studies. David Tzuriel (1996) points, for example, to the criterion of transference and behavioural regulation in shaping the results of cognitive tests in school-age children. Alexander Kozulin (2002) emphasizes that although many teachers are convinced that symbolic relations presented in didactic materials are clear and comprehensible for pupils, research shows that especially children with specific learning disabilities who have limited access to some symbolic tools (reading, writing, mathematical operations), without prior indirect experience of a given symbol or relations between them, do not understand the meaning that adults give to it. A symbol remains useless if its meaning and function as a psychological tool are not properly conveyed to the learner in the mediation process (Kozulin, 2002, p. 19).

Thus, the theory of mediated learning is a specific tool in the hands of a teacher and therapist thanks to which they can effectively modify and monitor the process of cognitive development of a student with SLD.

The discussed assumptions were reflected in the Instrumental Enrichment Program or IE, which is one of the elements of R. Feuerstein's concept. The Feuerstein IE Program was developed in two versions:

- Standard (Feuerstein Instrumental Enrichment Program Standard; FIE-S), addressed to individuals (school-age children, adolescents, adults) with various dysfunctions or disorders in development;
- Basic (Feuerstein Instrumental Enrichment Program Basic; FIE-B), addressed to three groups of children at preschool and early school age – (1) those who require additional support in the area of development of basic contents and concepts, (2) those requiring reconstruction or stabilization of functions essential for cognitive development, and (3) those with delays in cognitive development or with intellectual disability.

The analysis of the assumptions and contents of the FIE-S and FIE-B programs allows us to see that neither of them has lost its relevance to this day. Their original versions were modified and presented in the publication by Reuven Feuerstein, Raphael S. Feuerstein, Louis Falik and Yaacov

Rand *Creating and enhancing cognitive modifiability: The Feuerstein Instrumental Enrichment Program* (2006)⁶.

For teachers and therapists working with students with learning disabilities, the main objective of the FIE-S program is to increase modifiability through direct exposure to stimuli and other experiences (didactic, social), operationalized in specific objectives that include developing vocabulary and language skills necessary for problem solving (analyzing, questioning, searching) and enhancing reflectivity.

The essence of the program resulting from the concept of “mediated learning experience” seems to be, above all, the fact that the goals of education and therapy are agreed upon with the student and not imposed by an adult (the mediator), which encourages more effort and systematic work. This aspect is worth emphasizing not only in the context of teacher-student relations, but also in the therapy of people with SLD. Setting the goal of therapy and taking into consideration the subjectivity of the student with the disorder engages the student, allows time for reflection, relates him/her to his/her own experiences, verbalizes and makes him/her aware of his/her current needs. The student defines what he/she wants to work on, what he/she is aiming for and what he/she wants to achieve with the undertaken exercises.

What is important here is communication between the therapist and the person being helped, as the student's activity is stimulated and sustained by the questions asked by the therapist. The questions develop thinking, encourage reflection on the activity, and focus on the process of the task performed rather than on its results. An important role in this activity is played by analytical and synthetic questions, which motivate to make conclusions on the basis of known premises, as well as value judgement questions which refer to the personal assessment of a given problem. The questions direct the student's actions, make him/her think and activate alternative thinking. The value of the method is the development of rules (principles) of thinking and searching for them in everyday

⁶ The authors have emphasized in this two-volume publication that the two volumes of the book should be considered together as an integral whole for two reasons. First, new aspects of structural cognitive modification (SCM) theory and applied concepts (cognitive functions, cognitive map, and mediated learning experience parameters) that have developed since the publication of the first edition in 1980 are pointed out; and second, the application of the Feuerstein Instrumental Enrichment (FIE) program depends heavily on the user's understanding of the theoretical aspects in teaching the program and applying its results. The technical and application material in Part II can only be fully understood after theoretical and conceptual grounding.

situations. In practice, it is called “wise man's rules”, which are written down and kept in the student's notebook. The pupil formulates principles (rules) on the basis of his/her own experience in performing a task, and then looks for analogous situations in everyday life at school, at home, among family and peers. Thus, by formulating the principle that one has to look carefully at pictures in order to distinguish differences between them, the pupils can seek to apply this rule at school and in everyday life by identifying the consequences of inaccurate perception. Reflecting on the assumptions of Reuven Feuerstein's proposal allows us to see that by shifting the focus of interaction with a student with a learning disorder, both the teacher and the therapist do not try to discover *what* the student cannot do or understand, but *why* he/she does not do/understand something. In this method, the therapist does not put himself/herself in the position of an expert, but rather as a partner for the student, because in this relationship he/she learns similarly to the student. He/She will not suggest solutions, but rather motivate the student to ask questions and then find the answers on their own. There is also no hidden knowledge, for example, where the participant should start or what next steps should be taken. The whole process should be open and smooth.

In this way, which is not always appreciated in the education and therapy of students with SLD, we stimulate metacognition, or thinking about thinking. The therapy participant gains a better insight into their own thought processes. This is an extremely important aspect, especially for people with developmental disorders. After all, you cannot correct a mistake if you do not know where it was made. Reflecting on “where I made a mistake” allows us to avoid it in the future. This reflection is all the more profound as it is gained through self-exploration and experience. Self-reflection brings much better results than comments coming from the outside.

Research, as well as educational and therapeutic practice confirm that people with a learning disorder develop better after instrumental enrichment than a psychopedagogical diagnosis would indicate (see: e.g. Feuerstein et al., 2013; Kaniell, Feuerstein, 1989, pp. 165-179). There is a noticeable increase in their cognitive potential, as areas of mental performance that the student has not previously used are unlocked. The use of FIE-S not only improves the cognitive functioning of people with learning disabilities, but teaches them how to learn and reduces their fear of making mistakes. By indicating areas that can still be mastered, the suggestions contained in this program provide further directions for psychological and pedagogical intervention.

Conclusions

In the Polish education system, we still expect students to carry out instructions and tasks in a specific, concrete manner. When confronted with a similar but differently formulated problem, students are unable to cope. Reuven Feuerstein's concept is based on a more effective approach. Its ideas and assumptions emphasize that neither education nor therapy should be about leading the participants of these processes to perform a specific task, such as: how to solve equations with two unknowns, or how to write better essays. It is about the students working out their own strategy of solving each problem.

Reuven Feuerstein's concept and its coherent part, Feuerstein's Developmental Enrichment Program (FIE), although known for many years, deserve continuous popularization in work with students with learning disabilities. An extremely important aspect of this approach is the recognition that the therapy of these students is not only a training to improve disturbed/delayed visual, auditory, kinaesthetic-motor or memory functions (even though they are important, of course), with the therapist usually taking a more direct approach, but a complex process, personal interaction, a situation in which relationship, communication, mediation and dialogue are important. FIE creates a space for cognitive development in collaboration between the student and the therapist, where the therapist assumes the role of a compliant caretaker and does not usurp the right to direct the process of therapy, which may constitute a level of better coping by the student with many didactic, emotional and social challenges not only in the space of the school classroom, but also beyond it.

It is important to recognize that every person, including those with developmental limitations, is an autonomous being who wants to follow the path "towards independence", and that it is their undeniable right to feel able to influence what is happening around them, to feel free to choose and to have control over events.

REFERENCES

- Diagnostic and Statistical Manual of Mental Disorders (DSM-5[®])*, Fifth Edition (2013). American Psychiatric Association Publishing.
- Feuerstein, R. (1990). *The Theory of Structural Cognitive Modifiability*. In: B. Z. Presseisen, R. J. Sternberg, K. W. Fischer, C. C. Knight, R. Feuntein, *Learning and Thinking Styles: Classroom Interaction* (pp. 68-134). Washington, D C: National Education Association.

- Feuerstein, R., Feuerstein, R., Falik, L.H., Rand, Y. (2002). *Assessing the Cognitive Modifiability of Children and Youth with Down Syndrome*. Jerusalem: ICELP Press.
- Feuerstein, R., Lewin-Benham, A. (2012). *What learning looks like*. New York and London: Teachers College, Columbia University.
- Feuerstein, R., Feuerstein, R.S., Falik, L., Rand, Y. (2006). *Creating and enhancing cognitive modifiability: The Feuerstein Instrumental Enrichment Program*, Part 1 *Theoretical and conceptual foundations*, Part 2, *Practical applications of the Feuerstein Instrumental Enrichment Program*. ICELP Publications.
- Feuerstein, R., Rand, Y., Rynders, J.E. (2013). *Don't Accept Me as I am: Helping "Retarded" People to Excel*. Springer.
- Kaniel, S., Feuerstein, R. (1989). Special Needs of Children with Learning Difficulties. *Oxford Review of Education*, 15(2), 165–179.
- Kozulin, A. (2002). Sociocultural Theory and the Mediated Learning Experience. *School Psychology International*, Volume, 23(1), 7–35.
- Krauze-Sikorska, H. (2014). Micro- and Macro-context in the Process of Systemic Psycho-pedagogical Diagnosis of Children and Adolescents with Learning Difficulties. *Educational Studies*, 33, 19–33.
- Krauze-Sikorska, H. (2004). *Disorders in learning*. In: H. Sowińska, R. Michalak (eds.), *Elementary education as a strategy of child development changes*. Kraków: Impuls
- Piaget, J. (2006). *Studia z psychologii dziecka*. Warsaw: PWN.
- Piaget, J. (1992). *Speech and thinking in a child*. Warsaw: PWN.
- Preiss, M., Shatil, E., Cermakova, R., Cimermannova, D., Flesher I. (2013). Personalized cognitive training in unipolar and bipolar disorder: a study of cognitive functioning. *Frontiers in Human Neuroscience*, 7(108), 1–10. <http://doi.org/10.3389/fnhum.2013.00108>
- Shin, M.S., Park, S.Y., Park, S.R., Seol, S.H., Kwon, J.S. (2006). Clinical and empirical applications of the Rey-Osterrieth Complex Figure Test. *Nat Protoc.*, 1(2), 892–899.
- Snowling, M.J., Hulme, Ch. (2012). Annual research review: the nature and classification of reading disorders--a commentary on proposals for DSM-5. *Child Psychology and Psychiatry*, 53(5), 593–607.
- Woody, W.D., Viney, W. (2017). *A History of Psychology: The Emergence of Science and Applications*. New York: Routledge.
- Vygotsky, L.S. (2000). *Selected Psychological Works II: Childhood and Adolescence*. (scientific eds. A. Brzezinska, M. Marchow). Poznań: Zysk i S-ka.
- Wygotski, L.S. (1971). *Selected psychological works*. Warsaw: PWN.

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Fostering children's creativity in local forms of support and care – educational contexts

Introduction

Day support institutions are non-formal education places for children, adolescents and families from socially disadvantaged backgrounds i.e., from families with difficulties who come from poor environments, at risk of marginalization and social exclusion, or come directly from marginalized and excluded environments (Dąbrowska-Jabłońska, 2005, p. 219). They provide participants with basic care and education, help with learning and organization of free time. Activities organized in local forms of support and care are free of charge. The offer of activities in these institutions is varied, e.g. there are institutions that are more focused on pedagogical therapy, sociotherapy or providing community support. However, the goal of all local centres is primarily “supporting the family in the care and educational process and shaping proper social attitudes of children” (Matejek, Zdebska, 2011, p. 43) and youth, as well as support and education for parents. These institutions are very important for supporting the holistic development of children from socially disadvantaged backgrounds who do not always receive the support they deserve in their family and school environment. Moreover, despite many attempts by the educational staff at school, pedagogues and psychologists are not able to help all children in the same way.

In the Polish and Spanish assistance systems, local forms of support and care operate on similar principles. They are conducted by the social welfare system (are not subject to Ministry of Education). However, their offer of activities includes support of the education and the upbringing process. The main goals and tasks of these places are: children care and education; learning help; educational prophylaxis; participation in cultural and edu-

cational events; developing children's interests and talents; organizing free time; shaping the proper contacts of children and young people with their family and environment; educational work aimed at shaping the social attitudes of children and young people; constant cooperation with the school (pedagogue, educator) with a social worker, probation officer, psychologist, court and other institutions; cooperation with parents or legal guardians of the children and young people and also with appropriate institutions in order to create conditions conducive to children's development (Dz.U. 2011 nr 149 poz. 887, art. 23–24).

Day support institutions are places where classes usually take place in the afternoon, outside the building and school supervision. They are organized in the closest local neighbourhood (e.g. in apartment blocks, cultural centres or city libraries, parishes, as well as in separate buildings within the estate etc.). Therefore, these are places that, from the perspective of a children, may be far from the memories of school or family events that are unpleasant for them, and therefore they may be a space full of positive impressions, and thus conducive to the creative development.

Fostering children outside school can be classified today as one of the approaches that are more neglected in the cooperation of environments in the context of the children's creative development. Unfortunately, after years, although the basic principles of cooperation between environments supporting children and their families have been developed, there are still problems with actual cooperation between family, school and social environment. This situation is caused by many factors, but it places children and families from socially disadvantaged backgrounds in an even greater social diversity.

In pedagogy, the need to conduct scientific research in out-of-school institutions where the creative potential of children and young people can be supported is more and more often noticed (cf. Szmidt, 2009, pp. 82–89). Children's creativity should be developed from an early age in any environment where they live. If children do not experience the provision of basic needs at home, then in kindergarten or school, their chances of success at school and in life decrease, and developmental and educational difficulties increase. The response to the demand that results from many dynamic changes in the socio-cultural environment may include: local forms of support and care, i.e. places operating in the immediate environment, otherwise known as local centres. These places target children and adolescents from socially disadvantaged backgrounds (also their families) who can use the activities offered in a given institution free of charge. Children and adolescents participating in activities organized in such institutions show low motivation to undertake

any activities, especially those related to their difficulties. This may indicate, for example, the inhibition of their natural creative development (Zybura, 2004, p. 44). Urszula Zybura conducted research on stimulating the development of children's creativity from the local centre, as part of which she implemented her original program entitled "Expedition for a pirate's treasure" (Zybura, 2004, pp. 43–45). The aim of the programme was to "create conditions for children to manifest both spontaneous creative activities, as well as those inspired and directed by the person conducting it" (Zybura, 2004, p. 45). Her research resulted in conclusions that testify to the needs of educators working in such institutions regarding their role in recognizing, developing and supporting children's creativity. The author also drew attention to the atmosphere and creating conditions for the development of creativity among children from socially disadvantaged environments, which are particularly important as children may not experience a friendly atmosphere in their family homes. In the author's opinion, in this type of institutions, striving to notice and use the children's potential should be one of the goals of pedagogical interactions that would allow the children's creative functioning in later stages of life (Zybura, 2004, pp. 66–67).

1. Creative potential of children in local centres – pedagogical implications from research

This part will describe the results of research on the functioning of local centres in Poznań (Poland) and Tarragona (Spain) in the context of fostering children's creative development¹. The research was conducted in two local centres (in Poznan and Tarragona) with ethical standards. 24 children aged 6–10 from socially disadvantaged environments and 6 educators participated in the study. The research used a strategy of combining qualitative and quantitative research (triangulation), using the case study style with: both methods of observation (qualitative and quantitative), interview with educators, analysis of children's documents (drawings). The observation lasted 135 didactic hours at each institution. Based on the similarities and differences between institutions, I will indicate selected areas important in terms of developing children's creativity in local forms of support and care.

The places and space of the institutions were different. In Poznan, the local centre was located in the middle of the estate, in the basement of an

¹ This study is part of a larger research project, which was described in the book: "Supporting the creative artistic activity of children from socially disadvantaged backgrounds. A comparative study using the example of Poznan and Tarragona" (Kasprzak, 2021).

apartment block. Inside there was a large room for activities, a kitchen with a dining room and entrance corridor (one room), an office and a bathroom. Outside, the institution had no place of its own. The educators used the green areas of the estate or the neighbouring school's playground. The place was small but belonged to the institution (it was not rented). In Tarragona, the local centre was located in a new building of the city community centre, but on the estate's outskirts. In the community centre rooms were rented according to the needs. Two classrooms and an office were permanently rented. A bathroom and a large kitchen with a dining room were available to everyone. The theatre, music, sports and computer rooms were available upon prior reservation. In front of the building there was a place to spend time outside. The educators also used the neighbouring school's playground for sports games. In both institutions, meetings were held systematically for each group. In Poznan (due to space limitations), each group met twice a week (one group for 5 hours a day), while in Tarragona – from Monday to Thursday (about 3 hours a day). The schedule of the day was similar in both institutions – from the arrival of the children at the centre, through free time, a meal, and activities conducted by the educators.

The offer of activities regularly held in both institutions was quite extensive: reading, culinary, art, technical, theatre, organization of events (e.g. holidays), walks and excursions, games and fun. In both institutions, children also had the opportunity to do their homework, but these were not separate activities. In Poznan, every child used the help of educators at homework. Sometimes half time of the stay in the local centre was spent on homework (e.g. 2.5 hours). In Tarragona, during the research, no child used the help of educators with homework. It is certainly related to educational systems and cultural differences. In addition, film, music and sports activities were conducted regularly only in Tarragona. The wider offer of activities in the local centre of Tarragona was related primarily to the availability of staff and place in the city community centre. In the local centre in Tarragona, it was also possible to rent other rooms, e.g., a computer room, a ballet room, but the educators did not declare such needs. In Poznan, there were 5 computers in the main room (3 functional), but they were only used for online educational games.

In addition to the place, frequency of meetings, the proposed offer of activities in the creative development, the attractiveness of activity during the meetings is also important. During each meeting, children in the local centres had the opportunity to participate in free games and activities conducted by educators. The most common activities in Poznan were art, cooking, games and fun. In Tarragona, the most common were sports, culinary activi-

ties, games and fun as well as education through art (art, theatre, music) with exercises on emotionality. In these institutions, children undertook a number of activities (both in free time and during activities conducted by educators) which were creative or non-creative. In their free time, the children were to learn how to organize it. In Poznan, on each day of the study, children used toys and board games in their free time. Computer games were used only on Wednesdays (48% of observation days). During free time (despite a large assortment of games and toys) girls usually played with Barbie dolls, and boys played with Lego bricks. In the local centre in Poznan, children were dominated by non-creative activities (70% of observation days) during free time, e.g. playing games according to explicit and predetermined rules etc. Some activities undertaken by children were creative, e.g. building their own and new structure with Lego blocks, making up their own stories, initiating a new game created by children with the use of available materials in a creative way, creating stories in the group on an ongoing basis etc. Such situations occurred relatively rarely (30% of observation days). In Tarragona, during free time, children also undertook a number of activities. Contrary to the children from Poznan, they did not use toys, board and computer games at that time (the institution did not have them). During several days (15% of observation days), the children used sports materials, such as football, volleyball and rope in their free time. However, during most of the observed activities (85% of the observation days), the children did not have any additional materials for play and games in their free time. Due to the fact that the time was spent outdoors, children used their bodies primarily for games and movement games, and besides, sometimes they used natural things, such as stones, cones, sticks or leaves. Activities undertaken by children in their free time were both non-creative (21% of observation days), in the case of using well-known games and games according to the specific rules to all participants, and creative (79% of observation days), when children repeatedly initiated new sports activities (e.g. obstacle courses) and made attempts to create their own games and games (e.g. giving meaning the materials used – new and creative, i.e. leaves, cones, sticks, stones etc.), and also they initiated movement exercises in combination with words (i.e. one child made some movements, and another child said what they represented) etc.

Activities conducted by educators in both institutions also provoked children to undertake creative activities, but to a different extent. In the local centre in Poznan, children undertook non-creative tasks more often (63% of observation days), e.g. competitions, dictations, art exercises (according to the template), movement exercises (the instructor gives commands) etc. Among the creative tasks (37% of the observation days), e.g.

word-based tasks for open-ended problem stories or situations (to be completed by the children), art exercises (without a template, with an open response pattern), relaxation and movement exercises (children continued the end of the exercise), drama exercises etc. In the local centre in Tarragona, children undertook more creative activities (65% of observation days), most often they were: art classes (e.g. creating their own book), theatre classes (e.g. using drama techniques, independent preparation of a performance by children and theatrical improvisation), musical activities (e.g. creating a melody with their name), sports activities (e.g. creating their own sports disciplines for opposing teams, creating sports competitions for events) etc.

First of all, children undertake creative activities in favourable and safe conditions, surroundings and an atmosphere of trust, as well as with the possibility of taking advantage of a materially rich educational environment. Their motivation is to a large extent getting to know the surrounding world and increasing knowledge about it, using their imagination and fantasizing. They are not aware of the rules and techniques of creating, but they undertake the act of creating learning anew each time, without formed habits. Children from socially disadvantaged backgrounds often do not experience this situation at home. During the activities offered in local centres in Poznan and Tarragona, they have the opportunity to discover themselves through play. In both institutions, children most often did it during art and cooking activities (in fact, the same ones that were conducted most often in both institutions). In the case of art classes in both institutions, these were various forms of creative activities carried out mainly by means of broadly understood art: singing, creating songs, inventing melodies, composing melodies, drawing, painting, constructing, creating sculptures, e.g. "friendship tree", fantasizing, inventing games and activities (both board, sports and strategic), creating meals from scratch, creating new, invented dishes from available vegetables and fruits, trying to combine new flavours. In addition, children in Tarragona also undertook creative activities related to the creation of language codes, because the children came from families with different national, cultural and religious backgrounds.

2. Educators in local centres as people who support the creative development of children

Activities in each study group were conducted by two educators (a woman and a man). All of them had appropriate education and completed additional courses helpful in psycho-pedagogical work. The educa-

tors had different approaches to defining creativity. Among the educators in Poznan, creativity was understood as *the ability to express oneself, one's thoughts, emotions through various types of art (art, theatre etc.)* (educator no. 1) and as *expressing one's (and others' – in cooperation) ideas, possibilities, interaction, using various materials – art, music, movement, theatre, nature. Taking advantage of the situation, using the potential of oneself and others for new solutions* (educator no. 2). The educators in Tarragona defined creativity as *the ability to develop and give different solutions, different from other people's, known situations, exercises etc.* (educator no. 3), as well as *the ability to create something with your own strength and imagination. Creativity is having ideas that allow you to develop* (educator no. 4), *the ability to acquire knowledge and translate with it concepts and more abstract things* (educator no. 5), as well as *the ability to create using imagination, ideas and concepts. With creativity you can invent and solve intelligent problems* (educator no. 6). Defining and understanding creativity by educators directly affects the activities they propose and interpreting children's activities. Therefore, it is one of the factors supporting or unfavourable for stimulating a creative atmosphere during meetings and the possibility for children to undertake creative activities.

Then educators were asked to indicate several features of a creative person. In Poznan, educators indicated: *creativity, self-confidence, the ability to withstand criticism* (educator no. 1) and *openness – to ideas, using various sources of inspiration, to the skills of others; creativity – ease in inventing creative activities, selecting methods for their implementation, means for their implementation; joy – leads to creating and being creative* (educator no. 2). Educators in Tarragona indicated that a creative person has the following features: *curiosity – interest in learning, understanding, discovering etc.; courage – not afraid to do something new; creativity – free imagination* (educator no. 3). *Ingenuity, dreaminess and intelligence* (educator no. 4). Another educator pointed out that *a creative person is lively, interesting and hard-working* (educator no. 5). The last one indicated: *ingenuity, intelligence (the ability to deal with obstacles or resistance in life), harmony and the ability to resolve conflicts* (educator no. 6). The educators' understanding of creative features was correct, they indicated the features that are most often mentioned in defining a creative personality in literature (cf. Sternberg, 1988; Popek, 2001; Nęcka, 2012; Szmids, 2013).

In the next part of the research, educators were asked to see themselves as a creative person. The educators' opinions were divided. The educators in Poznan declared: *It depends. Sometimes when a thought comes to my mind, I willingly implement this idea in my life and work with children* (educator

no. 1), while educator no. 2 declared: *Yes, definitely yes. I can use my ideas, combine experiences, be inspired by people and situations to create something new, modify already known solutions, add new ones and cooperate in this area with others.* In Tarragona, educators declared: *Sometimes! It depends on the degree of stress and pressure. When I am calm and relaxed, I am more creative* (educator no. 3). *I have no difficulty imagining or creating something from scratch* (educator no. 4). *I consider myself a creative person, but it has a lot to do with my mood. I am able to find new solutions and explain everything that I propose* (educator no. 5), while the last educator declared: *yes! I am a creative person because I can create new situations or create something using different materials, but also because I am a draftsman and I create my own drawings. I believe that at work we use creativity on a daily basis to interact with children as well as learn and interpret all the situations they present* (educator no. 6). The educators' knowledge about creativity, and knowing themselves (their role as an educator and a creative person) are important in working with children, especially those from socially disadvantaged environments. The self-criticism of educators in the context of self-assessment through the prism of a creative person was consistent with the attitudes they presented during the activities. Knowledge and experience, including the correct understanding of creativity and awareness of one's own competences, were conducive to building a space stimulating the creative development of children. Educators who described themselves as fully creative people (educators no. 2, no. 4, no. 5 and no. 6) had very good contact with children in their age group, and during all their activities, the main features of children were: openness, independence, sensitivity, courage, curiosity, perseverance, assertiveness, cooperation and hard work. At the same time, these educators declared that they felt the highest degree of satisfaction with their work. The other educators were not convinced of their competences, they often co-chaired the meetings, and saw their own and children's potential less often.

Conclusions

Children's world is surrounded by many factors that support or block creative activities (internal and external). The aim of the educational issues selected and presented here is to force the reader to reflect on building a creative space for children who, in many cases, if we talk about socially disadvantaged environments, do not experience it at home or even at school. A change in perspective and understanding that the most important

thing is the creative process, not the product, and that a creative person values creativity and consciously invests time and effort in acting (Richards, 2007, p. 314) will let one notice that the creative potential lies in every human being, not only in gifted children. At the same time, by creating space for children from socially disadvantaged backgrounds, we allow them to release one of the key competences of the 21st century, which in turn is to lead to a long-term effect, i.e. their ability to cope in the future.

REFERENCES

- Dąbrowska-Jabłońska, I. (2005). *Świetlica środowiskowa*. In: J. Brągiel, S. Badora (eds.), *Formy opieki, wychowania i wsparcia w zreformowanym systemie pomocy społecznej* (pp. 219–226). Opole: Wydawnictwo Uniwersytetu Opolskiego.
- Kasprzak, M. (2021). *Wspieranie twórczej aktywności plastycznej dzieci ze środowisk defaworyzowanych społecznie. Studium porównawcze na przykładzie Poznania i Targony*. Poznań: Wydawnictwo Naukowe UAM.
- Matejek, J., Zdebska, E. (2011). *Działalność opiekuńczo-wychowawcza świetlicy środowiskowej jako placówki wsparcia dziennego*. In: B. Szluz, W. Walc (eds.), *Rodzina, szkoła, środowisko lokalne. Współczesne wyzwania* (pp. 42–48). Rzeszów: Wydawca KORA W.
- Nęcka, E. (2012). *Psychologia twórczości*. Sopot: Gdańskie Wydawnictwo Psychologiczne.
- Sternberg, R.J. (1988). *A three-facet model of creativity*. In: R. J. Sternberg (ed.), *The nature of creativity* (pp. 125–147). New York: Cambridge University Press.
- Popek, S. (2001). *Człowiek jako jednostka twórcza*. Lublin: Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej.
- Richards, R. (2007). *Twelve potential benefits of living more creatively*. In: R. Richards (ed.), *Everyday creativity and new views of human nature: Psychological, social, and spiritual perspectives* (pp. 289–319). Washington: American Psychological Association.
- Szmidt, K.J. (2013). *Pedagogika twórczości*. Sopot: Gdańskie Wydawnictwo Psychologiczne.
- Szmidt, K.J. (2009). *Współczesne podejścia w pedagogicznych badaniach nad twórczością: przegląd wybranych stanowisk*. In: K. J. Szmidt (ed.), *Metody pedagogicznych badań nad twórczością. Teoria i empiria* (pp. 13–102). Łódź: Wydawnictwo Akademii Humanistyczno-Ekonomicznej w Łodzi.
- Ustawa z dnia 9 czerwca 2011 r. o wspieraniu rodziny i systemie pieczy zastępczej*, Dz.U. 2011 nr 149 poz. 887, z późn. zm.
- Zybura, U. (2004). *Stymulowanie rozwoju twórczości dzieci ze świetlicy środowiskowej*. In: B. Dyrda (ed.), *Rozwijanie twórczości i inteligencji emocjonalnej dzieci i młodzieży. Poradnik dla wychowawców i nauczycieli* (pp. 43–69). Kraków: Impuls.

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Meaningful learning – fiction or reality?

Introduction

This study focuses on the Meaningful Learning Reform, which was launched in the Israeli school system toward the 2014–2015 academic year and is currently being implemented. According to the Israeli Ministry of Education:

Meaningful learning is a personal process of knowledge construction whereby the learners arouse questions, locate sources of information, process information and create new information that is relevant to them. Meaningful learning touches learners' innermost self by facilitating a multitude of mental, emotional, social, physical, artistic and creative experiences. Such learning leads to the realization of students' potential, promoting excellence, personal growth and development, while assisting them in delving into subjects that interest them and meet their needs. Students' and teachers' meaningful learning occurs through their interaction with their surroundings and takes place in spaces. In meaningful learning processes the pedagogical and psychological aspects of learning complement and reinforce each other. (Israeli Ministry of Education, 2014, p. 2).

In the above-mentioned “The policy for advancing meaningful learning in the education system”, it is written:

Meaningful learning is based on three major principles: a value for the learner and the society, the involvement of the learner and the teacher, relevance for the learner.

Value: the learnt content is perceived by the learner as challenging, arousing curiosity, valuable and contributing for themselves and the society.

Involvement: the learner is active in the learning process, develops in-depth understanding and constructs the knowledge.

Relevance: the learning is adapted to learner's characteristics and needs in a renewing and changing world, relies upon existing knowledge and relates to the learner's

curriculum, his concept world, interests and feelings. The learner feels that the subject matter being learnt meets his various intellectual, emotional, social and physio-motoric needs; he then can apply what has been learnt on his needs in theoretical level and in daily lives (Israeli Ministry of Education, 2014, p. 10).

The new reform is based on constructivism, emphasizing student-centred learning, and active learning, and pays attention to individual differences in learning. Following the new reform, based on the idea that the learner constructs knowledge, teachers had to take on additional roles of guiding and facilitating learning so it could become meaningful learning.

In particular, the study centres on the beliefs of Science and Mathematics teachers from the Arabic sector. The Arab educational system in Israel operates under conditions of inequality in inputs, hence it suffers from inferiority in its outputs. Furthermore, this system suffers a lot in the field of physical infrastructures, in the same manner as it suffers from formal inequality, let alone substantive equality in things that concern budgeting school hours for classes and pupils, educational staff quality, and supportive services quality (Abu-Asbah, Avishai, 2008, pp. 20-23). The common instruction method in Arab schools is the traditional frontal teaching method (Abu-Asbah, 2007, pp. 38-41). It is a traditional method that views the frontal and authoritative teacher as an ideal teacher, hence contrasts any meaningful learning.

Accordingly, the following research questions guided this research:

- Question 1: What beliefs do Arab middle school science and mathematics teachers hold regarding meaningful learning?
- Question 2: What are Arab middle school science and mathematics teachers' classroom practices?
- Question 3: To what extent are mathematics/science teachers' practices aligned with the meaningful learning intentions?
- Question 4: What influences the implementation of the meaningful learning and its intentions?

1. Teachers' beliefs

Philipp refers to beliefs as “psychologically held understandings, premises or propositions about the world that are thought to be true” (Philipp, 2007, p. 259). Within the context of education, Haney et al., (2002, p. 167) defined beliefs as “one’s convictions, philosophy, tenets, or opinions about teaching and learning” (Haney et al., 2002, p. 167).

Binns and Popp (2013, pp. 15-16) underline the significance of teacher beliefs by arguing that it is not educational background alone that deter-

mines whether a teacher will use a meaningful learning method, but also teachers' beliefs, values and views regarding knowledge and how it is acquired that are significant.

Teachers' beliefs about teaching and learning, and beliefs about inquiry-based approaches influence science teachers' decisions and choices of pedagogical strategies (Sikko, Lyngved, Pepin, 2016). If teachers' core beliefs are in conflict with inquiry practices, they act as a hindrance to teachers in choosing inquiry as a pedagogical strategy (Binns, Popp, 2013, pp. 18-19).

Beliefs play a significant role in a teacher's selection and prioritisation of goals and actions; and teacher's beliefs are likely to become apparent when there is a shift in goals during teaching (Agguire, Speer, 2000, p. 329; Mansour, 2013, pp. 1235–1238). They shape what teachers think should be taught, how it should be taught, how students learn, and what the appropriate teacher and student roles are in the classroom (Harwood, Hansen, Lotter, 2006, p. 72; Errington, 2004, p. 42; Snider, Roehl, 2007, pp. 874–875).

It is important to understand beliefs because they influence actions and the decisions people make (Pecore, 2013, pp. 6–9; Feyzioğlu, 2012, p. 305). For instance, they may help form the basis for decisions teachers make regarding class management or how science is taught (Feyzioğlu, 2012, pp. 302–317; Song, Looi, 2007, pp. 131–133).

Teacher beliefs not only impact instruction, but also how teachers may accept and implement changes, reforms, and initiatives (Harwood, Hansen, Lotter, 2006, p. 74; Errington, 2004, pp. 46–49; Snider, Roehl, 2007, p. 877; Pajares, 1992, p. 308).

The further the principles underlying the new strategy, innovation, or reform are from the teacher's beliefs, the more reluctant he or she is to change (Pecore, 2013, p. 20; Feyzioğlu, 2012, pp. 307–311). Therefore, teachers' beliefs can either support or impede change (PRIMAS, 2011). Beliefs that are more flexible might lend themselves to greater possibilities of learning innovations and changes, and those that are not might impede changes (Errington, 2004, pp. 50–51).

Understanding the foundation of teachers' beliefs may yield insight into their attitudes and their rationale for by which they approach teaching and learning. Though it is important to understand beliefs and philosophies that teachers might hold, it is not easy to empirically study them (Pajares, 1992, p. 315). Beliefs about education are already formed by the time of entering college. When studying beliefs, it is necessary to consider what teachers say about their beliefs and how they act and from that make inferences as to what the beliefs really are (Pajares, 1992, pp. 316–318).

Beliefs held by teachers influence their perceptions and judgement, which in turn affects their choices of teaching strategies and their behaviour in the classroom (Pajares, 1992, p. 326). Harwood, Hansen and Lotter (2006) argue that it is a teacher's belief system that has the greatest impact on instructional practice (Harwood, Hansen, Lotter, 2006, p. 76). Whether or not a teacher will incorporate new teaching strategies and innovations or support educational reforms largely depends on his or her beliefs (Creswell, 2014, pp. 46–48).

However, some Researchers established that there were instances when teachers' beliefs and their instructional practices were not congruent (Pecore, 2013, pp. 10–14; Feyzioglu, 2012, pp. 308–319; Savasci, Berlin, 2012, pp. 65–86). For instance, in a study conducted across European countries, it was found that while there is a positive orientation towards inquiry-based teaching and learning, there are significant differences in the actual use of inquiry-based teaching and learning approaches in classrooms (PRIMAS, 2011).

Teachers may not have instructional time to pursue learning activities that relate to students' interests because of static curriculum or accountability measures, scarce resources, and end-of-course assessments, and may depart from their willingness to provide student-centred lessons (Pecore, 2013, p. 16; Savasci, Berlin, 2012, pp. 82–83; Gordon, 2009, pp. 48–50). Sometimes school culture is not supportive of student-centred instruction and favours traditional presentations of material (Gordon, 2009, p. 52).

2. Research design and methodology

This research adopted a “sequential explanatory mixed methods” design (Creswell, 2014, p. 224). This design involves a “two-phase project in which the researcher collects quantitative data in the first phase, analyses the results, and then uses the results to plan (or build on to) the second, qualitative phase” (2014, p. 225). It is regarded as explanatory because the initial quantitative data results are explained with the qualitative data. It is considered sequential because a qualitative phase follows the quantitative phase. In the first phase of the research, quantitative data was collected by distributing a questionnaire to science and mathematics teachers in the north area of the country. The next phase of the research was explanatory and provided a more in-depth explanation of some of the findings that emerged from the questionnaire survey and observation. Here the teachers who participated in the survey were interviewed.

2.1. Sampling

A questionnaire was delivered to 10 schools in the north area in Israel, and seventy-three teachers responded to the questionnaire. The average age of the teachers who completed the questionnaire was 39 years, with the youngest being 25 and the oldest being 52. Sixteen were males and 57 were females. The experience of the teachers in the profession ranged from 3 years to more than 20 years.

2.2. Data collection and analysis

The questionnaire adopted for this study was the Learning International Survey (TALIS) Appendix A, originally designed by OECD (2009)¹. The TALIS data collection instrument -a four-point Likert scale, ranging from 1= “strongly disagree” to 4 = “strongly agree”, is used in order to assert whether teachers hold positive beliefs regarding Meaningful Learning.

Wilcoxon Signed-Rank Test was used in order to determine whether the teachers who participated hold constructivist beliefs or behaviourist beliefs in each aspect of teaching learning (Teaching strategy, Teacher role, Student role, Classroom environment, learning content).

2.3. Lesson observations

According to Brikci and Greene (2007), observation by direct participation is one of the best research methods, as it helps the researcher to understand fully the complexities of situations (Brikci, Greene, 2007, pp. 17–20).

To determine the teaching style of a teacher, the study used an observation protocol. The protocol contains thirteen deposition statements adapted from OECD (2009) which can identify particular teaching dimensions: structure-oriented teaching (correspond to teacher-centred teaching), student-oriented teaching (correspond to student-centred teaching), and enhanced activities (correspond to student-centred teaching).

Consequently, the number of lessons observed was sixty, twenty lessons from each school. Detailed notes were taken during the observations to provide a close picture of their classroom practices. This was followed by teacher interviews. Through these interviews, the researcher solicited in-

¹ The 2009 edition of *Education at a Glance: OECD Indicators* enables countries to see themselves in the light of other countries' performance. It provides a rich, comparable and up-to-date array of indicators on the performance of education systems and represents the consensus of professional thinking on how to measure the current state of education internationally.

depth explanations of some of the findings emerging from the quantitative survey. The interviews were unstructured and comprised open-ended questions “so that the participant can best voice their experiences unconstrained by any perspective of the researcher” (Creswell, 2005, p. 210).

The researcher developed the interview questions. The questions focused on teaching and learning, the roles of teachers and learners, and on instructional strategies. The questions were based on the literature. In addition, teachers were asked to provide any information they felt was relevant at the end of the interview. The interview responses were analysed and categorized as either modern (constructivist) or traditional (behaviourist) beliefs.

3. Research findings

Research question one was designed to ascertain whether teachers favoured Meaningful Learning. The survey allowed data to be requested that pertained to teachers’ beliefs or thoughts on components of constructivist epistemology. Teacher beliefs influence practice and give insight as to why teachers instruct their students in a certain manner (Table 1). Talis Results represents the collective responses of the survey which was an essential source of data that was utilized to inform research question one

Table 1

Comparing ranking answers to both approaches, using Wilcoxon Signed Ranks Test

	<i>Tradition</i>		<i>Modern</i>		<i>Wilcoxon Signed (Z-score)</i>	<i>p.value</i>
	<i>Mean</i>	<i>Std.</i>	<i>Mean</i>	<i>Std.</i>		
Teaching strategy or pedagogy	3.19	0.74	3.51	0.58	-3.32	0.001
Teacher role	2.99	0.82	3.44	0.65	-3.81**	<0.001
Student role	2.55	0.76	2.78	0.67	-2.02	0.043
Classroom environment	2.95	0.93	3.22	0.67	-1.79	0.074
Curriculum or learning content	2.70	0.72	3.26	0.69	-4.57**	<0.001

**p<0.001

Source: Own research.

In order to compare the statements ranking by category (so that we could decide which option is higher), Wilcoxon Signed-rank test was used when the two statements are dependent (under the same category). According to the test results, it can be seen that there is a significant difference in the first category of “Teaching strategy/pedagogy”. The preference is clearly for the modern approach and according to Wilcoxon test this difference is significant ($Z=-3.32$, $p=0.001$).

Regarding the second category of “Teacher role”, the preference was for the modern approach ($M=3.44$, $SD=0.65$), while the rank for the traditional approach was lower ($M=2.99$, $SD=0.82$). This difference was significant ($Z=-3.81$, $p<0.001$).

In the third category of “Student role”, the preference was for the modern approach ($M=2.78$, $SD=0.67$), while the rank for the traditional approach was lower ($M=2.55$, $SD=0.76$). The difference was small but statistically significant ($Z=-2.02$, $p=0.043$).

Regarding the category of “Classroom environment”, the difference was not statistically significant ($Z=-1.79$, $p=0.074$), with preference for the modern approach ($M=3.22$, $SD=0.67$).

Regarding the category of “Learning content/curriculum”, the clear preference was for the modern approach ($M=3.26$, $SD=0.69$), when the ranking of the traditional approach was lower ($M=2.70$, $SD=0.72$), the difference was statistically significant ($Z=-4.57$, $p<0.001$).

The findings from the analysis of the questionnaire survey were integrated with the findings from the teacher interviews into a coherent whole. The statistical results from the TALIS questionnaire are presented in Table 1. As to the reliability of the questionnaire, it was tested using an internal consistency test with Cronbach’s alpha coefficient. It was found that the alpha coefficient for the part of traditional beliefs (statements 1, 4, 5, 8, 10) was 0.771. The alpha coefficient for the section of modern beliefs (statements 2, 3, 6, 7, 9) was 0.729, while the alpha coefficient for the entire questionnaire was 0.780.

The Cronbach’s alpha for each scale was over 0.70, suggesting strong internal reliability within each scale (Pallant, 2007).

The interview data explained some of the findings that emerged from the questionnaire analysis. This integration of quantitative and qualitative data generated assertions (Gallagher, Tobin, 1991, 87-91) on the teacher attitudes and beliefs, difficulties, and practice of Meaningful Learning methods. These assertions are presented next.

Assertion 1: Teachers held modern (constructivist) beliefs in most aspects of meaningful learning, according to collective responses from the Talis survey.

Regarding all the categories in the questionnaire survey, the preference of all participating teachers was for the modern approach.

As Leatham pointed out (Leatham, 2006, p. 92–5), beliefs cannot be perceived or measured but must be inferred from what people say, intend and do. This quotation led to the second assertion:

Assertion 2: Despite the positive belief towards meaningful learning, teachers are less inclined to enact meaningful learning methods in their lessons.

It was indicated in Table 1 that based on the beliefs statements describing each of the belief categories, most of the respondents were identified as holding modern (constructivist) beliefs. Given these findings, it would be reasonable to expect that teachers would plan and implement practices aligned with Meaningful Learning intentions and principles.

Consequently, the direct classroom observations show that structure-oriented practice was found most prevalent. Student-oriented practice was very rare while enhance activities were totally absent. Results indicate that participant teachers are comfortable in structure-oriented teaching practices which correspond to didactic teaching. The practice includes learning goal, review student homework, present short summary of the previous lesson, check students exercise book, giving lecture and checking by asking the question on whether the lesson content is understood or not.

When the 60 lessons were observed and analysed, the majority of the lessons were dominated by exposition strategies (information input) and other components such as exploration were far less evident. It was found that there were few activities where all the reform intentions were strongly integrated. In this way, the intentions of the new reform were not being achieved.

Assertion 3: Teachers claim that there are situations that impact whether a teacher engages in meaningful learning methods.

There may be situations that are internal; or within teachers control, or external, outside the control of teachers, that impact meaningful learning instruction. Most teachers stated that the biggest obstacles were as follows:

1) Overcrowded classrooms. Most teachers emphasised that the size of student groups was too big. The problem seemed to be serious because teachers did not have enough time or space to support students' work in meaningful learning environments. Teachers made the following statements:

It is almost impossible to use active learning methods in our class because it has 32 students; Working with very large groups is very hard for both students and teachers; It's hard to manage discussions in crowded classrooms; The physical conditions of the class are inadequate for putting students into groups because of the inflexibility problems.

2) Lack of time and time pressure in the studies. Almost all participating teachers were worried about the stress of time. They emphasised that the syllabus was overloaded, they were working under time pressure, the use of meaningful learning methods increased the required amount of time, and sometimes lecturing was an easier and more efficient means of transmitting information. Participating teachers used the following statements to describe this difficulty:

Overloaded curriculum; too heavy a workload; the lack of time; meaningful learning methods need time, and on the other hand, one must complete the syllabus. It is difficult to find time to conduct investigations.

3) Examination system. Another barrier mentioned by almost all the participating teachers was that the Israeli educational system was based on examinations. Israel has standardised examinations for evaluating students at all levels. For this reason, teachers mentioned that they cannot use these innovative methods in their class because of the examination system and students' and parents' expectations. Teachers feel that they are accountable for the performance of learners and fear that they maybe be held responsible if learners perform poorly due to the curriculum not being covered. This is evidenced in the following interview *excerpts*.

The need to cover certain amount of work within a particular time and the performance of learners in tests. That is important because if learners do not perform because you did not finish the work then you are in trouble.

4) Lack of necessary materials, equipment or resources. Most teachers complained about the lack of materials or equipment. This could be a barrier to the implementation of some activities that involve meaningful learning (for example, demonstration and laboratory exercises, or computer and visual-based instructional activities). Also, teachers criticised current textbooks that did not provide ideas on how to use meaningful learning methods, nor did the textbooks offer practical examples or worksheets for implementation. This, therefore, resulted in an even heavier workload for teachers. This is shown in the following interview *excerpts*:

I think the people who drafted this policy do not understand what is happening on the ground. We have no labs; no equipment and the classes are overcrowded. How can we conduct experiments all the time?; There are no sufficient resources, the school is poorly resourced, and we are struggling

5) Inadequate understanding of the meaningful learning. Participating teachers had an incomplete understanding about student-centred instruction. When teachers were asked to describe student-centred instruction, they tended to describe the roles or activities of teachers and learners. For instance, responses included, “Group work”, “When the teacher helps the student”, “Teachers guide learning” and “Teachers facilitate learning”. *The most thorough description, out of all participant definitions, was “student-centred learning means students take ownership for their learning. Students determine the objective or outcome ...”* When the teachers were asked to describe effective lessons that they taught, all suggested lessons, save for one, were substantially based on traditional epistemology.

Cheung and Wang (2012) argued that “teachers’ inadequate understanding of and support for the reform is considered as the top hindering factor to the reform process” (Cheung, Wang, 2012, p. 52). In a study on factors affecting the implementation of curriculum reform in Hong Kong conducted by Cheung and Wang (2012), it was found that teachers had a limited understanding of the new curriculum (2012, pp. 50–52). The same findings were clearly seen in this study through three different sources of data, such as post-lesson interviews, analysis of sample learning activities and classroom observation.

For this, timely support must be given to teachers to understand and then implement the intended ideas of reformed materials. In this study, the majority of participating teachers seemed not to have received a proper orientation to the new curriculum.

Similarly, Roehrig and Kruse (2005), in their findings, indicated that “only through intensive one-on-one professional development, over an extended time period, did some teachers confront their beliefs and embrace the reform-based curriculum” (Roehrig, 2005, p. 413):

there is nobody that can guide you optimally as in the past. What is it exactly that I am to do? to create meaningful learning?; teachers must be given tools for implementing the reform ... We need a practical help to implement; no one truly understands the messages that are supposed to reach the ground, as they are very confusing; Since nobody understands what this meaningful learning is about, it doesn't really happen

6) Lack of adequate orientation program. Participating teachers seem not to have received detailed orientation to the new reform. The new reform was presented to the teachers with the expectation that they would know how to implement it with little meaningful orientation. Some of the consequences can be observed in the following quotation from one teacher made during an interview:

There are many teachers who were deprived of chances to attend the orientation reform and had to teach based on their own knowledge. This type of situation could encourage teachers to fall back to an old transmission approach.

According to the participating teachers, professional training would improve the quality of teaching and facilitate truly meaningful learning:

teachers have to be trained. A teacher working according to a certain method for 15 years can't just switch instantly to a new way of teaching. This is very difficult and demands a process of study and change. I'm sure that if everyone is trained to work according to the new system, the quality of instruction will rise, and the result will indeed be meaningful learning.

In addition to professional preparation, teachers advocated gradual implementation of the reform: *I think it should have been implemented gradually and after extensive preparation courses for the teachers.*

4. Discussion

According to the findings from the survey questionnaire, the majority of respondents had modern beliefs towards meaningful learning. Their responses to the statements showed acceptance of the ideas based upon social constructivism, as presented in Table 1.

However, in an analysis of the actual practice of the teachers, it was evident that teachers practiced traditional transmissive chalk and talk methods. They did not engage students in dialogue and discourse about their understandings. Frequently, students were engaged in activities in which little thinking was required, such as answering closed questions with one-word answers and solving problems mechanically. Consequently, students were given little opportunity to understand concepts more deeply, rich complex problems were largely absent.

Almost all participating teachers play the main role in delivering explanation of concepts. The study revealed little evidence that teachers engage

students to explore problems on their own, or work collaboratively as they attempt to solve problems and give them enough time to think creatively about the problems, thereby contradicting the intentions of the new reform. Such teachers tend to hold authoritative views about their knowledge and see themselves as experts. They see their role as mainly transmitting their knowledge to their students. According to the new reform, teachers should discard their traditional roles to become facilitators of learning, helping students to construct their own ideas.

These findings were reflected consistently in all the data collected. Therefore, as stated by Berman and McLaughlin (1976), “the bridge between a promising idea and the impact on students is implementation, but innovations are seldom implemented as intended” (Berman, McLaughlin, 1976, p. 349).

The theoretical contribution from this study tends to confirm that it is not always true that teachers’ beliefs shape classroom practice. Beliefs impact practice but one can only implement beliefs if the conditions are suitable, and one has the confidence to do so.

Although teachers hold beliefs aligned with the meaningful intentions, several constraints emerged from the data which limited teachers implementing the new reform. Constraints and demands to fulfil examination needs and coverage of syllabus restrain teachers from its implementation. Limited support for teachers and lack of time in preparing lessons are also well-documented factors in the implementation of meaningful learning.

In this study, participating teachers found having a large class to be another obstacle. Altinyelken (2011) reported that teachers of such classes tend to adopt low-level teaching strategies, such as lecturing, because they think that they would not have enough time to monitor and guide all students if they engaged in meaningful learning methods (Altinyelken, 2011, pp. 141–144).

The lack of clarity in the instruction and the external guideline of the reform is one constraint that is evident and created a situation of uncertainty. Teachers in this study failed when they were required to operate under conditions of uncertainty. They asserted “their sense of self-efficacy had declined, their sense of pressure increased, and the application of the reform was slow and incomplete”. From teachers’ perspective, in order to perform well during an education reform, teachers need detailed instructions. Teachers who find it difficult to function without clear instructions may also find it difficult to address 21st-century students’ academic and social needs which is the mean intention of the meaningful learning.

The findings highlighted the teachers need detailed instructions. Cheung and Wang (2012) argued that “teachers’ inadequate understanding of and support for the reform is considered as the top hindering factor to the reform process” (Cheung, Wang, 2012, p. 52). The finding also highlighted the teachers’ need to have a gradual professional development in order to perform well during an education reform. In the absence of well-planned and ongoing professional development, current teachers adhere to old practices that encouraged students to acquire procedural types of knowledge (Subba, 2007, p. 26).

Teachers used the methods they knew well not only because that was the easiest way, but also due to their need to make sense of the unfamiliar situation of the new reform. In the ambiguous situation that had come about, teachers clung to the familiar and known – i.e., what they had already done before (Weick, Sutcliffe, 2005, p. 4091).

Conclusions

Findings from this study tend to support the conclusion that reform takes time to be materialized as intended. This experience indicates that the prevailing situation was not favourable for teachers to implement new ideas in terms of time and space to reflect on their beliefs about the teaching and learning.

It is clear from the findings of this study, as well as from other studies on curricula changes, that the implementation of many well-intended reforms has been inefficient because the radical changes and reform have not been transferred effectively into the professional pedagogical preparation of teachers (Grossman et al., 2008, pp. 102–109; Grossman et al., 2007, pp. 138–150; Grossman, Sands, 2008, pp. 70-80; Aksit, 2007, pp. 129–137).

Whether a change is curricular or structural or external, there is no guarantee that practice follows a policy (Aksit, 2007, pp. 129–137). The rate of adoption of any change will not only depend on what the changes are and how they are presented, but also on how they are perceived by the main stakeholders.

One of the paper’s findings that is worthy our attention is the big gap between the formal and applied reform. As long as the difficulties stated by teachers in the current study remain unresolved, meaningful learning will be perceived as fiction, because teachers will adhere to the traditional methods they used before the change.

Table 2*Appendix: teaching aspect revised questionnaire*

	SD D A SA
Teaching strategies/Pedagogy	
Effective/good teachers demonstrate the correct way to solve a problem (T)	
Students should be allowed to think of solutions to practical problems themselves before the teacher shows them how they are solved (M)	
Teacher role	
My role as a teacher is to facilitate students' own inquiry (T)	
Instruction should be built around problems with clear, correct answers, and around ideas that most students can grasp quickly (M)	
Student role	
It is better when the teacher – not the student – decides what activities are to be done (T)	
I ask my students to suggest or to help plan classroom activities or topics (M)	
Classroom environment/learning environment	
Students learn best by finding solutions to problems on their own through working in groups or in pairs (T)	
A quiet classroom is generally needed for accomplishing a whole class assignment or instruction (M)	
Learning content/curriculum	
Thinking and reasoning processes are more important than specific curriculum content (T)	
How much students learn depends on how much background knowledge they have; that is why teaching facts is so necessary (M)	

Source: Own research (SD – Strongly disagree, D - Disagree, A – Agree, SA – Strongly Agree, T – Traditional, M – Modern)

REFERENCES

- Abu-Asbah, K. (2007). *The Arab Education in Israel: Dilemmas of a National Minority*. Jerusalem: Floersheimer Studies.
- Abu-Asbah, K., Avishai, L. (2008). *Perspectives on the Advancement of Arab Society in Israel, No 3-Recommendations for the Development of Effective Leadership in Arab Society in Israel*. Jerusalem: The Van Leer Jerusalem Institute.
- Aguirre, J., Speer, N.M. (2000). Examining the relationship between beliefs and goals in teacher practice. *Journal of Mathematical Behavior*, 18(3), 327–356.

- Aksit, N. (2007). Educational reform in Turkey. *International Journal of Educational Development*, 27, 129–137.
- Altinyelken, H.K. (2011). Student-centered pedagogy in Turkey: Conceptualizations, interpretations, and practices. *Journal of Education Policy*, 26(2), 137–160. <http://dx.doi.org/10.1080/02680939.2010.504886>.
- Berman, P., McLaughlin, M.W. (1976). Implementation of educational innovation. *Educational Forum*, 40(3), 345–370.
- Binns, I.C., Popp, S. (2013). Learning to teach science through inquiry: Experiences of preservice teachers. *Electronic Journal of Science Education*, 17(1), 1–24. Retrieved from: <http://ejse.southwestern.edu/article/view/11346/8116>. [Access: 24.11.2017].
- Brikci, N., Greene, J. (2007). *A guide to using qualitative research methodology*. London, United Kingdom: Medecins Sans Frontiers.
- Cheung, Q., Wang, J. (2012). Curriculum opportunities for number sense development: A comparison of first-grade textbooks in China and the United States. *International Journal for Mathematics Teaching and Learning*, 1–52.
- Chin, C. (2006). Classroom Interaction in Science: Teacher questioning and feedback to students' responses. *International Journal of Science Education*, 28(11), 1315–1346.
- Chin, C. (2007). Teacher questioning in science classrooms: Approaches that stimulate productive thinking. *Journal of Research in Science Teaching*, 44(6), 815–843.
- Creswell, J.W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson Education.
- Creswell, J.W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed). Thousand Oaks, CA: Sage.
- Errington, E. (2004). The impact of teacher beliefs on flexible learning innovation: some practices and possibilities for academic developers. *Innovations in education and teaching international*, 41(1), 39–47.
- Feyzioglu, E.Y. (2012). Science teachers' beliefs as barriers to implementation of constructivist-based education reform. *Journal of Baltic Science Education*, 11(4), 302–317.
- Flanders, A.N. (1970). *Analyzing Teaching Behavior*. Addison-Wesley Publishing Company, Inc. Philippines.
- Gallagher, J.J., Tobin, K.G. (1991). *Reporting interpretive research*. In: J.J. Gallagher (ed), *Interpretive research in science education* (NARST Monograph No. 4). Manhattan, KS: Kansas State University.
- Gallagher, S.A., Gallagher, J.J. (2013). Using problem-based learning to explore unseen academic potential. *Interdisciplinary Journal of Problem-Based Learning*, 7(1), 110–131.
- Gordon, M. (2009). Toward A Pragmatic Discourse of Constructivism: Reflections on lessons from practice. *Educational Studies*, 45(1), 39–58.
- Grossman, G.M., Sands, M.K. (2008). Restructuring reforms in Turkish teacher education: Modernization and development in dynamic environment. *International Journal of Educational Development*, 28, 70–80.
- Grossman, G.M., Sands, M.K., Brittingham, B. (2008). Teacher education accreditation in Turkey: The creation of a culture of quality. *International Journal of Educational Development*, 30, 102–109.
- Grossman, G.M., Onkol, P.E., Sands, M. (2007). Curriculum reform in Turkish teacher education: attitudes of teacher educators towards modernization in an EU candidate nation. *International Journal of Educational Development*, 27, 138–150.

- Haney, J.J., Lumpe, A.T., Czerniak, C.M., Egan, V. (2002). From beliefs to actions: The beliefs and actions of teachers implementing change. *Journal of Science Teacher Education*, 13(3), 171–187.
- Harwood, W.S., Hansen, J., Lotter, C. (2006). Measuring teacher beliefs about inquiry: The development of a blended qualitative/quantitative instrument. *Journal of Science Education and Technology*, 15(1), 69–79.
- Harwood, W.S., Hansen, J., Lotter, C. (2006). Measuring teacher beliefs about inquiry: The development of a blended qualitative/quantitative instrument. *Journal of Science Education*, 20(2), 8–30.
- Israeli Ministry of Education, (2014). *Adapting the curriculum of disciplines to the meaningful learning policy: a document for officials in headquarters, districts and educational institutions* (Hebrew). Retrieved from: <http://meyda.education.gov.il/files/Agafa/hahinuch.pdf> [Access: 24.12.2018].
- Leatham, K.R. (2006). Viewing mathematics teachers' beliefs as sensible systems. *Journal of Mathematics Teacher Education*, 9(1), 91–102.
- Mansour, N. (2013). Consistencies and inconsistencies between science teachers' beliefs and practices. *International Journal of Science Education*, 35(7), 1230–1275.
- Pajares, F.M. (1992). Teachers' beliefs and educational research: Cleaning Up a Messy Construct. *Review of Educational Research*, 62, 307–332.
- Pallant, J. (2007). *SPSS survival manual* (3rd ed). Crows West, NSW: Allen & Unwin.
- Pecore, J.L. (2013). Beyond beliefs: Teachers adapting problem-based learning to preexisting systems of practice. *Interdisciplinary Journal of Problem-Based Learning*, 7(2), 6–33.
- Philipp, R.A. (2007). Mathematics teachers' beliefs and affect. In: FK. Jr. Lester (ed), *Second handbook of research on Mathematics teaching and learning*. Charlotte, NC: Information Age.
- PRIMAS, (2011). *The PRIMAS project: Promoting inquiry-based learning (IBL) in mathematics and science education across Europe*. Retrieved from: https://www.nottingham.ac.uk/research/groups/crm_e/documents/primas/primasinternational-policyreport.pdf [Access: 20.02.2013].
- Roehrig, G.H., Kruse, R.A. (2005). The role of teachers' beliefs and knowledge in the adoption of a reform-based curriculum. *School Science and Mathematics*, 105(8), 412–422.
- Savasci, F., Berlin, D. (2012). Science teacher beliefs and classroom practice related to constructivism in different school settings. *Journal of Science Teacher Education*, 23(1), 65–86.
- Sikko, S.A., R., Lyngved, Pepin, B. (2016). Working with Mathematics and Science teachers on inquiry-based learning (IBL) approaches: Teacher beliefs. *Acta Didactica Norge*, 6(1). Retrieved from: <https://pure.tue.nl/ws/files/3761879/37603312500790.pdf> [Access: 14.11.2017].
- Snider, V.E., Roehl, R. (2007). Teachers' beliefs about pedagogy and related issues. *Psychology in the Schools*, 44(8), 873–886.
- Song, Y.Y., Looi, C.C. (2007). Linking teacher beliefs, practices and student inquiry-based learning in a CSCL environment: A tale of two teachers. *International Journal of Computer-Supported Collaborative Learning*, 7(1), 129–159.
- Subba, T.B. (2007). Learning of mathematics by Bhutanese children. *RABSEL*, 8, 16–26.
- Weick, K.E., Sutcliffe, K.M., Obstfeld, D. (2005). Organizing and the process of sense making. *Organization Science*, 16(4), 409–421.

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The importance of students' active role in the educational process in the context of the theoretical assumption of STEAM education

Introduction

The role of contemporary teachers seems to differ from that of just a few decades ago. In the educational process, teachers played a leading role which depended on their knowledge and experience. Their responsibilities included, among others, the transmission of knowledge. At present, the importance of creating the space for developing students' competencies required in an ever-changing reality is emphasized (Ananiadou, Claro 2018; Coomans, 2018). Education "cannot focus only on preparing for life in the existing situation (education for the job market)" (Samborska, 2019, p. 50). Moreover, the teachers have been grooming their students for work in unknown professions (Plebańska, Trojańska, 2018, p. 5). It is therefore believed that students' experimental activity should be the basis of the modern school, which is one of the notions of the progressive education assumption (Jakubowski, Piotrowski, 2020, p. 26).

Independent activity of children in the educational process is associated with teachers respecting students' knowledge and his or her right to individual development (Michalak, Parczewska, 2019, p. 35). In this way, teachers make it possible for their students to develop a sense of subjectivi-

ty. According to Jerzy Kujawiński, the most effective way of stimulating the development of children is offering them activities which are aimed at recognizing, making and discovering something new (Kujawiński, 2008, p. 15). For that reason, teachers should make full use of problem-solving tasks (not hassle-free), educational opportunities (not instructions) and multipronged simulators (Kujawiński, 2008, p. 15).

The task of the school is to create a safe space where students work to develop their competencies, and this means much more than just knowledge and skills (Fullerton, Gherissi, Johnson, Thompson, 2011; O'Sullivan, Bruce, 2014). Competencies are formed among knowledge, skills and attitudes (Czerepaniak-Walczak, 1999). This means that a competent person has sufficient knowledge and skills, but is also open to the world, involved in what he/she does, and looks for solutions in difficult situations. A competent mechanic, salesperson, teacher or politician is a person who is ready to meet the challenges they face in their work. They do not have all the knowledge in their work field, there are situations that surprise them, but they are ready to face the difficulties, because they have the disposition to do so.

Research shows that student activity and sense of agency affect not only the effectiveness of the learning process, but also attitudes (Mongillo, 2008; Demirci, 2017). This is very important in the process of shaping competencies. Active teaching methods help to create environments that are friendly for developing competencies at schools. Curiosity, understood as interest in the world, looking for solutions, and the pleasure of learning play a huge role in the process of developing competencies. Stimulating (or maintaining) curiosity in students makes them eager to learn (Maureira, 2018; Pluck, Johnson, 2011).

In this context, STEAM education which emphasizes student's independent activity will be characterized in this text.

1. STEAM education – the main principles

STEAM education has a multidisciplinary and interdisciplinary character. It combines elements of science, technology, engineering, art and mathematics. This is consistent with perceiving and interpreting the world in a holistic way. For that reason, one of the basic assumptions of the STEAM is cross-curricular education, which “remains open to the dimensions of art, creativity and innovation” (Samborska, 2019, p. 50). Students take on the role of scientists who search for innovative solutions. Moreover, they

have the opportunity to verify their own ideas in practice. The capability to make mistakes and verify hypotheses enables effective learning by doing. Children can notice that failure is engendered by discovering new cause-and-effect relationships (Jakubowski, Piotrowski, 2020, pp. 32–33). STEAM activities should aim at developing their algorithmic thinking by implementing projects in a cycle of analysis, exploration, experimentation, designing (Plebańska, Trojańska 2018, p. 19).

STEAM education has been fostered in the USA because of the progressive development of technology and growing demand from employers who want to employ people with scientific, mathematics and technological competencies (Chyrk, 2015, pp. 162–163). It should be noted that initially the notion of STEM that overlooked art was employed. The modification of STEM to STEAM was proposed by the Rhode Island School of Design and it was aimed at fundamentally changing education. According to Christopher Rose, “visual research, a playful approach with materials, experimentation; these kinds of activities can be highly significant in solving problems, since they allow unexpected insights to occur” (Rose, 2011). It is believed that “progress does not come from technology alone but from the melding of technology and creative thinking through art and design” (Land, 2013, p. 548).

STEAM education can be used in both formal (e.g. classrooms) and informal (e.g. after-school programs) settings. Recipients of this approach are students at elementary, secondary and postsecondary levels (Gonzalez, Kuenzi, 2012, p. 3). It should be noticed that using STEAM activities in practice is also connected with developing students' social competencies. Cooperation during solving problems allows participants to shape their ability to work in team, discuss and mediate. They have the opportunity to shape their self-motivation, self-efficacy, reflective and flexible thinking simultaneously, as well as cognitive curiosity. In the context of shaping cognitive curiosity, teachers have to be aware of a few principles: the proposed issues should be something new for children; they should trigger a cognitive conflict in children's minds; they should be curious in order to trigger inclination to explore reality (Klus-Stańska, Nowicka, 2014, pp. 240–247). STEAM lessons are a proposition for building a space which can encourage participants to apply creative work, artistic expression, design and implement their own ideas (Plebańska, Trojańska 2018, p. 28).

Teachers have a supportive role in STEAM workshops. STEAM projects should be related to real problems that motivate children to create innovative solutions (Plebańska, Trojańska, 2018, p. 17). The educational

space which is designed by teachers can encourage them to engage in scientific activities. On the other hand, their efforts can deter students from doing it. The planning of STEAM lessons for children involves redefining their own role by teachers on the grounds that children become experts, scientists and innovators during this kind of a lesson.

According to the division which is proposed by Marlena Plebańska and Katarzyna Trojańska, a STEAM project should include the specified stages, i.e. (1) analysis of the problem, (2) STEAM team building (the group should be composed of children with various abilities, interests and talents), (3) decision on how to implement the project (establishment of a working schedule and division of responsibilities), (4) experimentation and creating, (5) prototyping, (6) testing of the prototype in various situations, (7) modification of the prototype (elimination of its defects), (8) presentation of the project, (9) implementation or planning of the implementation in practice (Plebańska, Trojańska, 2018, pp. 20–21). In the next part of the text, an example of the STEAM workshop will be presented. It was prepared and used during a summer workshop for kids provided by Anna Borkowska (Wojczyńska). In the workshop description, stages proposed by Marlena Plebańska and Katarzyna Trojańska (2018) as well as the role of the child's activity throughout the process are taken into account.

2. Example of STEAM workshops

Among the eight participants of the workshops, which took place in August 2020, there were girls and boys aged between 6 and 10. The central theme of the presented workshops was time travel. Children learnt about the history, culture and art of ancient civilisations during one week. The STEAM activity which will be described was related to one of the monuments from ancient China. It should be pointed out that during this workshop children also had the opportunity to take part in other activities, like creating traditional Chinese clothes and participating in a fashion show thereafter.

2.1. Problem analysis

The first step of a STEAM project is to analyse the problem. During the workshops presented, the STEAM's challenge was to build the Great Wall of China under one condition. The construction should guarantee that the ball would be able to roll over the wall. Before children swung into action, they had listened to storytelling about the history of the building and had

watched film about it. After that, they studied the photos of the Great Wall of China. They observed that some stretches of the Wall are located on the hill. Children also noticed watchtowers and materials used to build them. Moreover, they discussed the functions the Great Wall of China could fulfil, and they shared their observations on its defensive function. The participants discussed familiar historical monuments and a similar way of building came to their attention. The questions they asked included, among others, “where/when/how the first bricks were created?” or “what tools were used during the construction of the monument?”.

2.2. “STEAM TEAM” building

The second step of a STEAM project is “STEAM team” building. According to Marlena Plebańska and Katarzyna Trojańska (2018), the group should be composed of children with various abilities, interests and talents. The participants of the workshops described were girls and boys aged between 6 and 10. Some of them preferred creating art work and others were concentrated on constructing, so the participants of the group were varied. In addition, the age difference between children sparked educational situations where older ones would assist younger participants in, e.g., reading picture descriptions or writing.

1) Choosing how the project will be accomplished

During the next step of the STEAM project, children made decisions about the implementation of the project. They had unlimited access to art and craft materials. In this STEAM challenge, children used salt dough, boxes, toothpicks, tape, crepe papers, Plasticine and so on. They also agreed to work on the schedule. The groups started by drawing a line where the wall should be built. At this stage, they also shared duties and roles that would be fulfilled by kids during the workshop.

2) Experimenting & creating

The next step of a STEAM project is experimentation and creation. Some of the children were responsible for building the wall by using salt dough. Others constructed watchtowers – in this way they noticed how many walls had cuboids. Moreover, some kids were engaged in decorating their group’s work. The elements added were connected with China, for example girls created a theme park for pandas with a lot of equipment to play (for instance, a swing, two slides and balls). During the work children also made decisions, for example, they decided to add flags with the names of the individual elements of the layout.

3) Prototyping

During the building process, children tried to keep the suitable slope of the wall because they remembered about the condition that was mentioned previously. They discussed the possibility of building by using materials other than salt dough, but the participants finally decided not to change their original concept. At this stage, they recognized the similarity with playing on the slide. In this way, they discovered what the inclined plane, frictional force and gravitation are.

4) Testing of a prototype in various situations

Afterwards, children tested their prototype. The group leaders asked the rest of the participants to check whether the ball would be able to roll over the wall. In this way, all of them verified their ideas in practice. For example, they realised that the type of surface can impact the capability of the ball to roll.

5) Modification of the prototype

The next step of a STEAM project is modification. In our example, children decided to add cardboard in order to obtain the suitable texture of the surface. Several participants noticed that they should pay attention to every detail when connecting the cardboards. Because of that, the children looked for ways of keeping a suitable connection between elements. Introducing changes required them to be very patient and persistent.

6) Presentation of the project

The eighth step of a STEAM project is the presentation of the project. A presentation in front of the kids' parents was a special moment for the participants. They were engaged in telling the story about the process and results of the project. The children explained how they modified their ideas and what they were responsible for.

7) Implementation in practice

The last step of a STEAM project is implementation. According to Marlena Plebańska and Katarzyna Trojańska (2018), children should try to implement their project as far as possible. In our example, children decided to build other constructions when they finished the STEAM challenge. They said that their buildings were similar to watchtowers of the Great Wall of China.

2.3. STEAM: students' active role in the educational process

During the workshops described, the children had an opportunity to gain knowledge in the field of geography (they got to know that China is in Asia), biology (they looked for information about animals which live there),

physics (the children gained practical experience about the inclined plane, frictional force and gravitation). Moreover, they developed their own competencies in the field of engineering and art. In this way, children in early school age gained practical experience, which can motivate them to explore the scientific world. Also, the children's cooperation was very important during the implementation of the project. Younger children had the opportunity to learn from older kids. They could solve problems together and propose their own ideas. They were active, and experienced self-efficacy.

Our experiences during the STEAM workshops confirm what is shown by the results of scientific research. STEAM education is especially attractive to younger children because it responds to their developmental needs. It is also particularly effective in educating the youngest, because it builds a lasting attitude towards themselves and the world, and influences their motivation (Monkeviciene, Autukeviciene, Kaminskiene, Monkevicius, 2020). As shown by research, older students have a better understanding of the problem-solving process thanks to STEAM (Tinh, Quang, 2019).

Conclusions

The students' ability to be active, not only in STEAM education but also in other lesson models, is largely dependent on the teacher's approach, understanding of the methods used, and their main assumptions. In a modern school, teachers are not transmitters of knowledge, but creators of educational and upbringing situations in which people work with the competencies needed to cope with reality. It is the teacher who talks to students and gives them the experience of being competent enough to use scientific knowledge for themselves, the environment and the world, takes the first step with students to consciously use knowledge and build a responsible attitude towards it.

The grounds for designing specific educational activities is the self-definition of teachers regarding the perception of their own role. It is important to find a way how to reconcile tradition with the requirements of the modern world in the educational process. A changing reality creates a demand to wonder about the problem of outdated knowledge and new discoveries, the problem of an effective transfer, the problem of an effective method, and the problem of a relationship between freedom and control (Brzezińska, 2008, pp. 35–36). The way of preparing an educational area by teachers is their response to the problems enumerated. Teachers are responsible for organizing the educational process. To a greater or lesser extent, their ef-

forts can thus enable students to develop their competencies, willingness to cooperate and communicate with other people, or use critical and creative thinking. As Faiza M. Jamil, Sandra M. Linder and Dolores A. Stegelin (2017) notice, “early childhood teachers will be the primary adopters and implementers of changing educational paradigms, their beliefs about new approaches are an invaluable resource to guide educational innovations such as STEAM teaching, and how they are practiced in early childhood classrooms”.

Creating a space for involvement and experience in the implementation of the STEAM project, the teacher supports students in building competencies, especially social ones, related to cooperation, which are the competencies of the future.

REFERENCES

- Ananiadoui, K., Claro, M. (2009). *21st Century Skills and Competences for New Millennium Learners in OECD Countries*. Paris: Organisation de Coopération et de Développement Économiques.
- Brzezińska, A. (2008). *Nauczyciel jako organizator społecznego środowiska uczenia się*. In: E. Filipiak (eds.), *Rozwijanie zdolności uczenia się. Wybrane konteksty i problemy* (pp. 35–50). Bydgoszcz: Wydawnictwo Uniwersytetu Kazimierza Wielkiego.
- Chyrk, P. (2015). *Nauki ścisłe, technologia, inżynieria, matematyka*. In: *Księga Trendów w Edukacji 2.0* (pp. 162–164). Gdynia: Young Digital Planet.
- Coomans, A. (2018). *Teaching for Global Competence in a Rapidly Changing World*. OECD.
- Czerepaniak-Walczak, M. (1999). Kompetencja: słowo kluczowe czy „wytrych” w edukacji? *Neodidagmata*, XXIV, 53–65.
- Demirci, C. (2017). The Effect of Active Learning Approach on Attitudes of 7th Grade Students. *International Journal of Instruction*, 10, 129–144.
- Jamil, F., Linder S., Stegelin, D. (2018). Early Childhood Teacher Beliefs About STEAM Education After a Professional Development Conference. *Early Childhood Education Journal*, 46, 409–417.
- Fullerton, J.F., Gherissi, A., Johnson, P.G., Thompson, J.B. (2011). Competence and competency: Core concepts for international midwifery practice. *International Journal of Childbirth*, 1(1), 4–12.
- Gonzalez, H.B., Kuenzi, J.J. (2012). *Science, technology, engineering, and mathematics (STEM) education: A primer*. DC: Congressional Research Service. Washington: Library of Congress.
- Jakubowski, R., Piotrowski, M. (2020). W poszukiwaniu uwarunkowań trwałego wprowadzenia STEM/STEAM w polskich szkołach. *Edukacja Elementarna w Teorii i Praktyce*, 4(54), 25–36.

- Klus-Stańska, D., Nowicka, M. (2014). *Sensy i bezsensy edukacji wczesnoszkolnej*. Gdańsk: Harmonia Universalis.
- Kujawiński, J. (2008). *Postęp pedagogiczny w szkole*. Poznań: Wydawnictwo Naukowe UAM.
- Land, M. H. (2013). Full STEAM ahead: The benefits of integrating the arts into STEM. *Procedia Computer Science*, 20, 547–552.
- Maureira, M.G. (2018). CURIO: a game-based learning toolkit for fostering curiosity. *Proceedings of the 13th International Conference on the Foundations of Digital Games*, 1–6.
- Michalak, R., Parczewska, T. (2019). *(Nie)obecność outdoor education w kształceniu szkolnym*. Lublin: UMCS Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej.
- Mongillo, G. (2008). Play, Games, and Attitude: Student and Teacher Perspectives of Educational Games. *Journal on Educational Technology*, 5, 44–54.
- Monkeviciene, O., Autukeviciene, B., Kaminskiene, L., Monkevicius, J. (2020). Impact of innovative STEAM education practices on teacher professional development and 3-6-year-old children's competence development. *Journal of Social Studies Education Research*, 11(4), 1–27.
- O'Sullivan, N., Bruce, A. (2014). Competency-based education: Learning at a time of change. Proceedings of "European/National Initiatives to Foster Competency-Based Teaching and Learning", *Europe Conference*, 37-44.
- Plebańska, M., Trojańska K. (2018). *STEAM-owe lekcje*. Elitera.
- Pluck, G., Johnson, H. (2011). Stimulating curiosity to enhance learning. *Education Sciences and Psychology*, 2, 24-31.
- Rose, C. (2011). *STEM to STEAM: Integrating the Arts into Science and Technology Education*. Retrieved from: <https://stac.ri.gov/research/stem-to-steam-integrating-the-arts-into-science-and-technology-education> [Access: 22.07.2021].
- Samborska, I. (2019). Edukacja STEM a aktywność poznawcza dziecka w wieku przedszkolnym. *Edukacja Elementarna w Teorii i Praktyce*, 4(54), 49–58.
- Tinh, T.T., Quang, L.H. (2019). Integrating art with STEAM education – STEAM education in Vietnam high schools. *Annals. Computer Science Series*, 17(1), 203–213.

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The potential of ICT in the process of learning a foreign language by school-age children and adolescents

Introduction

One of the most outstanding writers of the 20th century, Umberto Eco, referring to the problem of human functioning in the postmodern world, stressed the fact that the future society “will be divided into three classes. The lowest is the proletariat, composed of those who cannot use a computer and for whom the only source of information is television. People of this class will be excluded from participation in government. The middle class is the petty bourgeoisie, who know how to use a computer but cannot program. At the top of the social hierarchy is the aristocracy, a group of people who know how to work with computers(...)” (Eco, 1996). This statement is important because the constantly changing world is increasingly demanding that people use the potential of new media to significantly enrich and support the learning process. One of the elements of this process is the acquisition of the ability to communicate with other people in their language. This allows us to gain and deepen our knowledge of the multitude and diversity of cultures among which we function, as well as helps us understand and participate more fully in their world of values.

If we look at the results of surveys concerning competences related to foreign language skills, we can see that although 67% of Poles claim to speak at least one language other than Polish fluently (English is the most commonly learnt, followed by German and Russian), and Polish students are among European leaders in terms of the number of foreign languages learnt at school, it seems much more important how effectively they learn these languages and how motivated they are to use them. Accord-

ing to Nathalie Baïdak, Analysis and Research Coordinator of the EACEA (Education, Audiovisual and Culture Executive Agency), which manages programmes and activities on behalf of the European Commission, the reality is a very complex mosaic. It is often distant not only from the declarations of language proficiency, but also from the results obtained by students in the ESLC (European Survey on Language Competences), which includes language tests of three skills: reading comprehension, listening comprehension and written expression. While official data on age and language learning are encouraging, data from other surveys show considerable variation in the level of language acquisition among young people. Above all, much remains to be done to improve second language learning (Eurostat; Ottaviani).

ICT opens up significant opportunities for language learners, but to be able to make full use of the possibilities offered by multimedia mediated learning, competences are needed to exploit these opportunities. This aspect also applies to the use of ICT tools in language learning. Developing students' ability to overcome barriers in communicating in languages other than their mother tongue, creating a well-thought-out process of learning (and teaching) foreign languages, making a sensible use of the fact that today's students are the generation of the New Communication Era (Strykowski, 2002, pp. 13-24) may not only be a window onto new countries and cultures, but may also contribute to the challenge of Long Life Learning.

In this article, by emphasizing the importance of communicating in a foreign language, I point out the diverse potential of new media that can be used in language learning.

1. Learning and teaching a foreign language in a globalizing world

The Council of Europe has recognized that knowledge of foreign languages is a key competence for functioning well in today's globalized yet multicultural world. It is interculturalism that has become one of the elements of the European language policy, which aims at bringing cultures closer together based on dialogue. According to the definition proposed by the Council of Europe, the basic aim of language education should be "(...)" to support the development of the learner's personality and sense of identity through experiencing the richness of other languages and cultures. It is the task of teachers and learners themselves to integrate these experiences

in such a way that they form a coherent whole (...)” (Council of Europe, 2003, p. 13).

Fifteen years ago in 2006, the European Parliament and the Council of Europe, when adopting the European Framework of Key Competences for Lifelong Learning, identified eight key competences that lead to personal fulfilment and social inclusion. These competences include communication in a foreign language, which is the basis of European language policy and is regarded as a pillar of interculturalism.

The guidelines of the European Parliament and the Council indicate that communicating in a foreign language involves the same skills as those needed to communicate in the mother tongue, namely understanding, oral and written expression, speaking and reading, as well as interpretation. “Knowledge of social conventions and the cultural aspect and variability of languages” is also an important element (Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning).

The definition also includes the indication that the degree of language proficiency can vary between the four language competences – listening, speaking, reading and writing and individual languages and “(...) depends on the social and cultural context of the individual, the environment and the needs or interests of the individual (...)” (Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning). Very evident in all Council documents is the task aspect, defined as follows:

Language use, including language learning, involves actions taken by participants in society who, as individuals, possess and continuously develop both general and communicative language competences. With these competences they undertake specific linguistic actions. Taking into account the contextual circumstances and constraints, they activate certain linguistic processes, which enable them to understand or produce texts on topics related to specific areas of life. In doing so, they apply strategies that are best suited to the task at hand. By consciously observing the processes involved in all these activities, they can, through feedback, reinforce or modify their own competences (Council of Europe, 2003, p. 20)

This definition of the task-based approach brings to the fore concepts that are central to both language learning and language teaching: general competence, communicative linguistic competence, partial competence, language activities, and communicative strategies.

When analyzing the content of the recommendations, one can see that the presented point of view puts emphasis not so much on the perfect mastery of two or three foreign languages, but rather on effective communication with others. It is important to acquire communicative competence in each of the languages, so that e.g. interlocutors can "(...) switch from one language or dialect to another, effectively using the ability to speak in one language and understand in another" (Council of Europe, 2003, p. 16).

In the description of the actions undertaken by the Council of Europe and the European Parliament, it can also be noted that their aim is to improve the quality of language teaching to pupils, which should be adapted to their needs and learning styles. Due to the changes related to technological progress, increased mobility of people and broad employment prospects, young people should be encouraged to develop their communicative competence, which is so much needed in a multicultural society. The Council of Europe therefore invites member states to:

1. Ensure that children have access to a diverse range and quality of language and cultural education from an early age;
2. Try to facilitate the regular and widespread acquisition of language skills;
3. Continuously expand the range of languages on offer so that pupils can make their own language choices based on individual interests or where they live;
4. Promote modern communication technologies and media in language learning (Council Resolution of 21 November 2008 on a European strategy for multilingualism).

The latter aspect seems to be very important because, as David Crystal (2004, p. 5) notes, Internet technology has become an addition to spoken and written language, and thus a linguistically novel medium of communication, and raises ever new questions about how it will continue to evolve. The role, use and impact of the Internet continues to grow, and enthusiasts for the use of the latest computer technology believe that language pedagogy cannot and should not be insensitive to the advantages of the Internet as a source of information and the role it plays in global communication (Maley, 2000, p. 1). They also emphasize the important role of the Internet in self-education, especially in self-evaluation (Byram, 2004, pp. 396-397) and in interactive language communication (Chan et al. 2001, p. 11). The Internet itself is also valued for the ability to have immediate, cost-effective and wide-ranging access to authentic learning materials irrespective of factors such as the level of

learners or the location of learners and teachers (Byram, 2004, p. 311). It is therefore worth looking at the potential of using ICT in the process of language learning.

2. Conventional and unconventional possibilities of using new technological tools in learning – teaching foreign languages

2.1. E-learning

E-learning is an interesting (although no longer new) use of new media in the learning process through available electronic media, including the Internet, intranet, extranet, satellite broadcasts, audio/video tapes, interactive television and CD-ROM. When mobile technologies are used, the term M-learning is more commonly used.

It should be noted that e-learning is most often associated with teaching, in which there is no physical contact with the teacher, and the party transferring knowledge and evaluating its acquisition is a computer, therefore, this form of learning is called "distance learning".

A kind of superiority of e-learning over other methods consists in shifting the centre of gravity in teaching from the teacher to the learner, who can be not only a student, but also a child or an adult.

E-learning allows you to choose for yourself the preferred way of delivering knowledge and the pace at which it is transmitted. Recent years (especially the period of COVID-19 pandemic) show that education based on web technologies may no longer be just a choice, but a necessity. Despite the various problems associated with this form of learning (Singh, Gupta & Kumar Yadav, 2021; Etherington, 2008), the positive fact seems to be that there is a growing awareness in society that online learning can provide not only the possibility of distance learning, but also flexible teaching and can be effectively combined with traditional teaching (Lipeikiene, 2003; Kamsin, 2005; Liao, Ottenbreit-Leftwich, Zhu et al., 2021).

Access to automated tools and learning materials is provided by a typical Virtual Learning Environment (VLE), an e-learning environment with navigation menus and icons. In my opinion, we should postulate an increase in the trend to create VLE environments, which in combination with information control systems (Managed Information System, MIS)

can create an e-learning environment control system (Managed Learning Environment). In such environments, all information related to various forms of teaching, e.g. a foreign language, is provided through a user interface compliant with standards defined by a given educational institution (school).

There is a growing offer of massive open online courses (MOOCs), which allow students to take a chosen foreign language course remotely and free of charge, sometimes ending with an exam. E-learning can also refer to educational websites that provide, for example, worksheets or interactive exercises for children and young people.

On the basis of this short analysis, it is possible to point out several advantages of e-learning that are important from my point of view:

- Free work time and convenience for students (especially if they have other commitments)
- Facilitated communication between students
- Improved alignment with student needs
- Increased learning variety through the use of multimedia and non-verbal presentation of material
- The opportunity to learn at one's own pace, characterized by the individual student
- Minimizing fear and shyness, which often appear in the traditional classroom teaching (e-learning is a kind of individual course, so the teacher supervises the learning of each student individually, in the realities of the traditional school this is much more difficult)
- Enables students to choose their own preferred format for delivering knowledge
- The use of video techniques enables learning through audiovisual material that can be paused and rewound for re-watching
- Compared to traditional classroom activities, e-learning brings big gains for children and young people who benefit from individual teaching.

However, learners' competences and their own activity play an important role in creating proper interpersonal relations, which can be developed remotely using audio-video communicators such as Skype, discussion forums, chat rooms, blogs, e-mail or other synchronous or asynchronous means of communication. Discussion forums and other forms of electronic remote communication can also initiate and encourage face-to-face contact and the formation of mutual aid groups (Sikorska, 2021).

Some disadvantages of e-learning should also be noticed and effectively eliminated or simply dealt with in a thoughtful manner when working with students:

- Lack of personal contact with the teacher and therefore, e.g. according to Richard Stanley Peters' definition, the fact that it ceases to be meaningfully "educational" (Peters, 1983, pp. 30-61)
- The sense of isolation experienced by distance learners
- Developing materials in the form of e-learning is more time-consuming than developing classic printed educational materials (Tavangarian, Leybold, Nölting, Röser, 2004).

When considering the use of e-learning in the process of learning and teaching a foreign language, one can refer to some models and tools that were created during the development of Distance Learning:

- 1) Correspondence Model
 - Printed materials, scripts, manuals
 - Lessons broadcast on radio or television
- 2) Multimedia model:
 - Printed materials
 - Lessons on audio media
 - Video lessons
 - Didactic computer programs
- 3) Asynchronous tele-education model:
 - Audioteleconferences
 - Videoteleconferencing
 - Lessons via radio or television and audio conferences
- 4) Asynchronous (virtual) tele-education model:
 - Interactive multimedia
 - Material presented on the Internet
 - Tele-education with computer and internet (Dabbagh, 2005, pp. 25–44).

Currently, much effort is being made in the use of electronic learning materials and, in particular, in the development or reuse of knowledge objects. These knowledge objects are separate segments appropriately labelled with keywords or other metadata, often stored in XML format files. To create a meaningful series of lessons, a sequence of knowledge objects must be linked together. We distinguish between repositories of learning objects with free or restricted access, non-commercial and commercial, verified by users (e.g. Merlot repository).

The standard typical format for e-learning is SCORM¹.

Other specifications allow the portability of “knowledge objects” (Schools Interoperability Framework or SIF) or metadata classification (LOM). These standards are new, the oldest one being 8 years old, and relatively specialized: SIF is mainly used for the creation of courses in primary and secondary schools. It should be emphasized that primary and secondary education in the United States also uses many other relevant standards, the most important of which are the NCES standards, which deal with content and outcome plans developed by the authorities of each state. They constitute important metadata that determine the shape of e-learning “courses” in primary and secondary schools (see, for example: Gonçalves, Rocha, Cota, 2015, pp. 1042–1060; Jakimoski, 2016, pp. 33–46).

2.2. Educational programmes

Educational programmes are used both in the process of learning (teaching), as well as checking the level of knowledge or skills acquired by the learner (Adamczewski, 2005, p. 228). It is stressed, however, that while not denying their effectiveness in the learning process, in a situation where the learner is a child of early school age, the presence of a teacher-facilitator seems to be necessary, because the teacher not only supports the learner, but is also able to indicate the optimal forms of implementation of the tasks contained in the programme. The majority of educational programmes support the process of learning, teaching and testing:

- Electronic textbooks imparting a body of knowledge;
- Programmes supporting repetition and memorization – so-called drills and practice, helpful e.g. for learning foreign languages;
- Testing programmes.

2.3. Virtual tours in foreign language teaching

An interesting element to complement and enrich foreign language learning can be virtual tours, which, by the way, are able to provide some of the benefits of practical experience, but without the associated problems of even financing real-life tours.

¹ SCORM – Sharable Content Object Reference Model is a standard (specification) for recording data for e-learning. It describes the way of communication between the client and the server. SCORM also defines how data should be compressed for presentation (ZIP format). It uses XML technology.

The Internet is opening up new possibilities for the learning process and creating new ways for learners to customize presentations. A virtual tour allows you to take in the sights and sounds of a faraway place creating new opportunities to learn a foreign language.

Among the many types of virtual tours is a guided journey through the Internet organizing collections of pre-classified, thematically arranged web pages into structured material for learners to access online at any time. This technique uses countless virtual tours provided online by universities, museums, other educators.

This type of virtual tours directs students to specific portals and pages on these portals. In this way it is possible, for example, to visit museums from all over the world, because virtual tours through exhibition halls are now a very visible trend in world museology. If the student is guided through the exhibition by a guide who describes the exhibits in the foreign language that the student is learning, both listening and language comprehension skills can be improved, as well as speaking skills, because the student can also comment on the images. Google, through the use of their Arts and Culture program (available online) that also uses virtual tours, has just taken another interesting step in popularizing the cultural heritage of mankind, but further steps are needed to make sensible use of these opportunities in developing interest in a given culture and foreign languages, which are important for understanding messages, but also signs and symbols specific to a given culture².

2.4. Second Life – virtual worlds and foreign language learning

One of the most effective ways of learning a foreign language is to choose a place where the language is spoken on a daily basis. A student who wants to learn English quickly can, of course, “go” to London where he/she will speak English every day and will be surrounded by advertisements and signs in that language. However, not everyone can afford it. An alternative may be to use the method of language immersion in a virtual environment.

It is worth emphasizing that in virtual reality we abandon the tedious mechanism of memorizing material – we learn through the practical use of language. The VR Language application consists of several scenes in which the user is placed. Each of the modules relates to a different issue. The

² For more information on the use of virtual tours and projects see: http://di.com.pl/news/35662,0,Google_Art_Project__wiecej_ni%C5%BC_wycieczki_po_muzeach.html (date of access: 23.08. 2021)

student goes through specific scenes, communicates with a virtual native speaker inside the application. While communicating in a foreign language, he/she simultaneously learns new grammatical structures in practice, new vocabulary connected with the scene he/she is in and how to break communication barriers.

Second Life (SL) is one such free virtual world, made available to the public in 2003 by Linden Lab, a company based in San Francisco, that has become an excellent tool to encourage language learning by fully immersing learners in a virtual world of their choosing.

Another interesting example of using VR are the proposals available through the *1000 realities* start-up (<http://www.1000realities.pl/magic-mirror-educational-apps.html>), which created many scenarios, allowing for learning a foreign language. Each scene guides the learner through a given thematic issue, e.g. shopping, accommodation, telephone conversation, meeting new people. Through active communication with virtual characters, the learner gets used to the language and its different accents easily. During a traditional lesson with a teacher this is impossible. An aspect worth emphasizing is the high level of attention concentrated on learners thanks to the use of VR (Krokos et al., 2018).

In practice, many students find it very difficult to focus solely on learning a foreign language (they are distracted, for example, by notifications on their smartphones or conversations with other students in the classroom). Virtual reality eliminates this problem. People in VR are completely focused on the environment in which they are, so they quickly learn the language. The student quickly feels confident with it, and remembers the phrases and grammatical structures more easily.

There are a number of studies that confirm the effectiveness of learning using VR – one of which is an experiment conducted with the help of students from Stanford University and the Danish University of Technology. The results of the study showed that learning efficiency increases by as much as 76% when students use a virtual environment (Bodekaer, 2015).

The reason for effective learning of a foreign language can be found in the fact that virtual worlds such as Second Life do not have a predetermined climate (mood) of the world. Although most locations resemble those known from real life (some are even faithful copies thereof), there are also locations maintained in a different climate of a given country's history, fantasy, antiquity or sci-fi.

A major distinguishing feature of Second Life is also the option for players to interact with their environment, which optimizes learning. The game's advertising slogan is: Your World. Your Imagination. Nothing stands

in the way of skilfully using Second Life to introduce students to the world of a language other than their mother tongue, and many universities, even renowned ones such as Harvard and Oxford, use the Second Life platform for educational purposes.

Virtual reality for the purpose of teaching foreign languages was already used by teachers in 2007. English is represented in Second Life by many schools. Among others, there is the British Council, which focused on the presence in the so-called Teen Grid. Also Spanish language schools and the Cultural Institute “Instituto Cervantes” have their own island in Second Life.

2.5. Video games as a response to the needs of foreign language learners

Many people who deal with the problems of contemporary language education draw attention to the fact that due to the changes taking place in the post-modern world, on the one hand it is necessary to change the mentality and on the other the competences of language teachers working with children, adolescents and even adults. This is particularly evident in the situation of using the potential offered by new media.

Currently students are motivated by creating such a learning and teaching environment, which enables them to acquire competences connected with e.g. a foreign language in a natural way, in accordance with their predispositions and interests. According to research results, 84% of young people play computer games at least once in two weeks. On the other hand, 95% of teachers have never played such games, although educational research carried out in various centres around the world more and more often indicates the value of educational games in the learning process (Gee, 2005, pp. 5–16).

Just to cite James P. Gee's research, he stresses that in a world of rapid change, globalization and the Internet, where nothing is predictable, you need to have three key skills:

- The first is the ability to process information, i.e. the teacher changes from an information provider to a facilitator;
- The second is global communication;
- The third is the ability to manage one's own learning process³.

James P. Gee and Elisabeth Hayes also emphasize that the possibilities of education and its effectiveness are increased by combining education with entertainment, i.e. edutainment, which includes all kinds of educa-

³ All these competences can be developed through educational games (Gee, 2005, pp. 5–16).

tional games that develop logical and strategic thinking, deductive skills, association of facts and using them to solve problems (Gee, Hayes. 2011).

In turn, David Williamson Shaffer from the University of Wisconsin Madison cites the experience of American educators and shows that this method of education, even of difficult language issues, is accepted by students better than any other. Individual abilities do not matter here either – once anyone gets the sense of the game, they acquire knowledge that the teacher was often unable to convey effectively in any other way. As Shaffer notes, this is where the real power of edutainment games lies (Shaffer, 2009, pp. 68-85).

The results of scientific research on the role of games in education increasingly confirm the hypotheses on the positive influence of games on the learning process of children and adolescents. David J. Miller and Derek P. Robertson, who conduct research on the effectiveness of the learning process, believe that educational games lead to “real and tangible” benefits and translate into positive results of learning, including foreign language learning.

They also point out that computer games have become part of our culture and although we sometimes have doubts about some aspects of them, all games have the ability to make learning a more engaging process for students (Miller, Robertson, 2011, pp. 850-864). It is also increasingly noticeable that parents and teachers are beginning to recognize the benefits that children and young people can gain. This awareness is not yet high enough in Poland, but the increased motivation of pupils when they are “in the gaming zone” is something that could benefit language education, especially as many digital games that pupils are interested in require foreign language skills (English in particular, but not only – e.g. the video game *Poke* in Spanish, *Final Fantasy VII: Before Crisis* in Japanese or the original version of *S.T.A.L.K.E.R.* in Russian).

An interesting platform for exploiting students' interest in computer games that can significantly enrich learning is www.edugames.pl. In the process of learning and teaching a foreign language, it is also possible to use the increasingly widespread access to interactive whiteboards, which allows for the use of games in collaborative work of students. Pupils are not limited to independent work at the computer, but may also, using the multimedia whiteboard, jointly create interesting language tasks or solve problems that may arise during learning a foreign language.

It should not come as a surprise, therefore, to learn that it is through games that the learning of many skills, including foreign language skills, can be optimized, although the potential of massively multiplayer games

in foreign language learning is often overlooked. Perhaps the problem here is that when using games in foreign language learning, it is important to find a balance between the level of entertainment (“fun”) and the level of educational value offered. This is where the teacher can help, provided that his or her competence in this area is high enough, because making the right choice is not easy.

In games whose producers have decided to focus on high playability, satisfaction and positive experience of the player from participation in the game, the educational value is only an addition and supplement to the rules and principles of the game. On the other hand, in the case of caring about the substantive value and the way of conveying reliable knowledge, such products are often no longer called games, but simulators or educational programmes – which often discourages potential, young users to get acquainted with the title. However, this problem should not arise if the teacher looks for effective solutions that take into account e.g. the pupils' interests and that can effectively motivate them to actively learn a foreign language in order to get to know the content, rules and principles of the game or to be able to communicate with other players in multiplayer games, as digital games offer very complex “trees” of development and gameplay.

The user is immersed in the world of the game, and the knowledge and information derived from it is assimilated by its participants involuntarily. In the same way, knowledge from other fields should be conveyed, however, most often the educators having reliable knowledge from the fields they deal with are not specialists in the field of game creation. Hence a certain difficulty arises in creating the golden mean – a game which will allow to make use of various worlds, both real and unreal, at the same time bringing with it a high added value, which is knowledge and skills that can be used in the real world. However, in order for such a possibility to occur and be used in educational practice, it is necessary to understand the essence of games, even of the most abstract topics. If we manage to do that, it will be much easier for both teachers and learners to apply gamification techniques in various areas of education, to the benefit of its effectiveness.

Conclusions

The rapid evolution of communication technologies has changed the pedagogy of language and its use, enabling new forms of discourse, new forms of authorship, and new ways of creating and participating in communities (Kern, 2006).

This is not the only contemporary view on the use of new multimedia technologies, especially the Internet, in language pedagogy. Alan Maley (2000, p. 1) claims that foreign language teachers' attitude towards the use of the latest computer technologies is "thoroughly emotional". Maley reminds that there are many teachers who are very reluctant to use computer technology, as well as many uncritical enthusiasts. In his opinion, the latter group can cause harm to the learners, because the fascination with the medium itself, not based on a proper method of working with it, will result in negative effects, and for the learner it will be only a superficial and temporary attraction. Moreover, there has been no consensus among researchers about the influence of media on language teaching. Some (e.g. Clark 1983; 1994; after Chan et al. 2011, pp. 7-8) are of the opinion that a positive result is obtained in language learning through the right method, not the media. Others believe that media are not mere vehicles of learning and can be used more productively as tools to support learners' cognition by freeing them from unproductive cognitive tasks and allowing them to focus more fully on the construction of knowledge (Jonassen et al. 1994; after: Chan et al. 2011, p. 9).

At the same time, however, Richard Kern, Paige Ware and Mark Warschauer warn against leaving novice learners to their own devices on the Internet, as this does not always produce the satisfactory results expected by learners, as novice learners can often experience a sense of frustration and drop out as they cannot cope with the many challenges these activity models present. More advanced learners tend to stop at the level of chatting and superficial 'net surfing'.

It seems, however, that there is no better way to resolve the dilemma related to the use of new technologies in language learning than to "tame" and then use them in practice systematically and in accordance with the principles of language pedagogy. This is because the need for effective use of educational technologies (e.g. desktop computers, laptops, tablets, smartphones, interactive whiteboards, robots) and ICT tools is an increasingly important point of interest in the field of Computer Assisted Language Learning (CALL).

REFERENCES

- Adamczewski, P. (2005). *Dictionary of Information Technology*. Gliwice: Helion.
- Bodekaer, M. (2015). *This virtual lab will revolutionize science class*. Retrieved from: https://www.ted.com/talks/michael_bodekaer_this_virtual_lab_will_revolutionize_science_class?fbclid=IwAR2-j3tvaJV84lfut8Vh-BLIQBjI27gdieUVt2is6vI3x6e-Hzy3NqS48H68. [Access: 19.09.2021]

- Byram, M. (ed.) (2004). *Routledge Encyclopedia of Language Teaching and Learning*, London and New York: Routledge.
- Crystal, D. (2004). *The Language Revolution*. Cambridge: Polity Press.
- Chan, W.M., Chin, K.N., Nagami, M., Suthiwan, T. (2011). *Media in foreign language teaching and learning: an introduction to the book*. In: W.M. Chan, K.N. Chin, M. Nagami, T. Suthiwan (eds.), *Media in Foreign Language Teaching and Learning* (pp. 1-21). De Gruyter Mouton.
- Dabbagh, N. (2005). Pedagogical models for E-Learning: A theory-based design framework. *International Journal of Technology in Teaching and Learning*, 1(1), 25–44.
- Eco, U. (1996). Czym grozi Internet. Press interview for “Corriere della Sera”, *Forum*, 19.
- Dinis Mota Da Costa, P., Soares De Albergaria De Almeida, P. (2014). *The European Survey on Language Competences: measuring foreign language student proficiency*. In: *6th World Conference on Educational Sciences, 06-09 February, Grand Hotel Excelsior, Malta* (pp. 2369-2373). *PROCEDIA - SOCIAL AND BEHAVIORAL SCIENCES*.
- Council Recommendation on a comprehensive approach to language teaching and learning, *Official Journal of the European Union May 2019*. Retrieved from: <https://www.internazionale.it/notizie/jacopo-ottaviani/2019/12/27/lingue-unione-europea>; [Access: 1.09.2021].
- Council Resolution of 21 November 2008 on a European strategy for multilingualism, Retrieved from: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:2008:320:FULL&from=EN> [Access: 01.09.2021].
- Etherington, M. (2008). E-Learning pedagogy in the Primary School Classroom: the McDonaldization of Education. *Australian Journal of Teacher Education*, 33(5). <http://dx.doi.org/10.14221/ajte.2008v33n5.3>
- Council of Europe, (2003). *Common European Framework of Reference for Languages: Learning, Teaching, Assessing*, Strasbourg: Language Policy Unit, Retrieved from: <https://rm.coe.int/16802fc1bf> [Access: 14.10.2021]
- Eurostat, Retrieved from: https://ec.europa.eu/info/departments/eurostat-european-statistics_pl [Access: 1.09.2021]
- Gee, J.P. (2005). Learning by Design: good video games as learning machines. *E-Learning*, 2(1), 5–16.
- Gee, J.P., Hayes, E. (2011). *Language and Learning in the Digital Age*. London & New York: Routledge.
- Gonçalves, M.J.A., Rocha, Á., Cota, M.P. (2015). Interoperability Framework for Competences and Learning Outcomes. *Journal of Universal Computer Science*, 21(8), 1042–1060.
- Jakimoski, K. (2016). Challenges of Interoperability and Integration in Education Information Systems. *International Journal of Database and Theory and Application*, 9(2), 33–46.
- Kamsin, A. (2005). Is E-Learning the Solution and Substitute for Conventional Learning? *International Journal of The Computer, the Internet and Management*, 13(3), 79–89.
- Kern, R. (2006). Perspectives on Technology in Learning and Teaching Languages. *TESOL Quarterly*, 40(1), 183–210.

- Kern, R., Ware, P., Warschauer, M. (2008). *Network-Based Language Teaching*. In: N. Van Deusen-Scholl, N.H. Hornberger (eds.), *Encyclopedia of Language and Education, 2nd Edition, Volume 4: Second and Foreign Language Education*, 281-292. Springer Science+Business Media LLC. Retrieved from: https://www.researchgate.net/publication/227018800_Network_Based_Language_Teaching [Access: 30.08.2021]
- Krokos, E., Plaisant, C., Varshney, A. (2018). Virtual memory palaces: immersion aids recall, *Virtual Reality*, 23(1), pp. 1-15. <https://doi.org/10.1007/s10055-018-0346-3>
- Liao, Y.C., Ottenbreit-Leftwich, A., Zhu, M. (2021). How Can We Support Online Learning for Elementary Students? Perceptions and Experiences of Award-Winning K-6 Teachers. *TechTrends*, 65, 939–951. <https://doi.org/10.1007/s11528-021-00663-z>
- Lipeikiene, J. (2003). Virtual Learning Environments as a Supplement to Traditional Teaching. *Informatics in Education - International Journal*, 2(1), 53–64.
- Maley, A. (2000). Introduction. In: Windeatt et al., *The Internet* (p. 1), Bristol: Oxford University Press.
- Miller, D. J., Robertson, D. P. (2011). Educational benefits of using game consoles in a primary classroom: A randomized controlled trial. *British Journal of Educational Technology*, 42(5), 850–864.
- Peters, R.S. (1983). *Philosophy of education*. In P. H. Hirst (ed.) *Educational theory and its foundation disciplines* (pp. 30–61). London & New York: Routledge & Kegan Paul.
- Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning*. Retrieved from: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2006:394:FULL&from=EN> [Access: 01.09.2021].
- Sikorska, J. (2021). *Computer games as a medium of intrapersonal and interpersonal communication in the postmodern world*. Unpublished doctoral dissertation.
- Singh, A., Gupta, K., Kumar-Yadav, V. (2021). Adopting e-learning facilities during COVID-19: Exploring perspectives of teachers working in Indian Public-funded Elementary Schools. *Education*, 3–13. <https://doi.org/10.1080/03004279.2021.1948091>
- Shaffer, D.W. (2009). *Computers and the End of Progressive Education*. In: D. Gibson (ed.) *Digital Simulations for Improving Education: Learning Through Artificial Teaching Environments* (pp. 68–85). Hershey, PA: IGI Global.
- Strykowski, W. (2002). *Media i edukacja tworzenia współczesnego społeczeństwa*. In: W. Strykowski, W. Skrzydlewski (eds.), *Media i edukacja w dobie integracji* (pp. 13–24). Poznań: eMPI2.
- Tavangarian, D., Leypold, M., Nölting, K., Röser, M. (2004). Is e-learning the Solution for Individual Learning? *Electronic Journal of e-Learning*, 2(2), 273–280.
- Warschauer, M. (2002). A developmental perspective on technology in language education. *TESOL Quarterly*, 36, 453–475.
- Windeatt, S., Hardisty, D., Eastment, D. (2000). *The Internet*. Bristol: Oxford University Press.
- Zhao, Y. (1997). The effects of listeners' control of speech rate on second language comprehension. *Applied Linguistics*, 18(1), 49–68.

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Transition to middle school for students with math difficulties in the digital era – challenges and opportunities

Introduction

The concept of middle school in many countries around the world is a new one (Ellerbrock et al., 2018). In Israel, middle schools are generally operated as an independent framework, and sometimes middle schools and high schools operate in one complex, called the six-year school (Vargan, 2010). Today, most of the cities and communities in Israel use the tripartite structure (Rash, 2008). This dual transition, i.e. from the elementary school to the middle school and in parallel a transition from childhood to the beginning of adolescence (Rash, 2008), raises concerns, curiosity, and tension¹. It also creates many changes both in the learner's social environment, and academic environment and requirements. That is why we could

¹ The Dovrat Committee Report: "The National Task Force for the Advancement of Education in Israel", more commonly known as the Dovrat Committee, was established following the initiative of the government of Israel in September 2003. The establishment of the committee was a response to the extensive criticism leveled at the education system in Israel, following the failure of the Israeli students in international tests (PISA [Programme for International Student Assessment] and TIMSS [Trends in International Mathematics and Science Study]). In January 2005, the plan submitted to the Minister of Education and to the government of Israel included a description of the situation of the education system in Israel, reference to the crisis in the education system and to reforms around the world,

say that transitions influence the development of young adolescents (Eccles, Roeser, 2009).

The goal of middle school is to create a learning environment that encourages the development of academic responsibility of young adolescents (Ellerbrock et al., 2018). The stage of the transition in the education institutions that was expressed in the creation of middle schools is an important step as far as the development of the learners in psychological and social terms is concerned (Rash, 2008). Its aim is to follow up after the adjustment of students in the academic, behavioural, and emotional aspects and direct them according to their preferences and ability to continue their secondary school studies (Vargan, 2010).

1. The implications of the transition to middle school

This period of development is particularly important for the further development of every individual. The transition of students from elementary to middle school has accompanied implications on the behavioural, cognitive, and emotional levels. If the experience of the transition is difficult, this can detrimentally influence the learners' self-esteem and achievements (West et al., 2008). In this article, we will focus on two effects: the emotional effect and the educational effect of the transition.

1.1. The emotional effect of transition on the seventh grade student

Transitions during adolescence are undertaken on two levels: personal and social. On the personal level, the adolescent undergoes physiological development in the neural structure of the brain and sexual maturation (Lupien et al., 2009). The adolescent transforms from a child to an adult who can take responsibility for his/her actions. On the social level, the adolescent develops requirements and desire to belong, be accepted, and be esteemed by his peers and in parallel the expectations of him/her as a responsible adult increase (McGee et al., 2003). In the period of adolescence, the learner searches for and develops self-identity in the sense of self-discovery, but the transition disrupts this process (Eccles, Harold, 1993; Akos et al., 2005).

The development during adolescence requires time and energy, and therefore causes stress and lack of comfort that is expressed in changes in

presentation of the principles of the plan for the advancement of the education system, and six chapters of recommendations, and themes for implementation.

the mood, changes in their opinions, lack of self-acceptance, and sometimes bullying (Akos et al., 2005). The assumption is that the constant pressure and the chronic production of stress hormones because of the changes during adolescence influence three regions in the brain responsible for cognitive deficits – learning, memory, and emotional regulation (Lupien et al., 2009; UNICEF, 2017). The personal experience and the environment influence and shape the adolescent's functioning in two dimensions – future learning and wellbeing (Eccles & Harold, 1993; West et al., 2008; UNICEF, 2017).

The difficulty in coping with adolescence and the period of transition becomes greater for students from a low socioeconomic background. These are a mentally vulnerable group that develops more difficulties in the process of transition (Akos et al., 2005; West et al., 2008). An ineffective transition from elementary to middle school influences the learner's ability to cope socially and emotionally, or in other words, the adolescent will be more mentally vulnerable and may develop health problems (Akos et al., 2005). The challenge of every school is to cope with the difference between adolescents (Akos et al., 2005). The schools play an important role in the adolescent learner's mental development and grant the learner mental confidence (Eccles, Harold, 1993). The involvement of teachers in the process of the transition parallel to the period of adolescence is important, and has positive impact on the adolescent's emotional and mental health. Young adolescents need a framework such as their teachers, in order to develop their identity and independence (Eccles, Harold, 1993).

A successful transition also depends on the development of the learner's social skills, which are expressed in the learner's ability to be accepted and form a part of the group of peers. The group of peers can be supportive and encouraging through conversation, and in the group conflicts and provocations that have an important part in the adolescent's development can occur (Asmussen et al., 2007; Niesen et al., 2004). The goal theory emphasizes the importance of the social field which is understood as a factor that significantly influences the academic success and motivation of the students at school (Covington, 2000).

1.2. The educational effect of transition on the seventh grade student

The transition from elementary to middle school has been considered a very important topic during the past three decades (Akos et al., 2005). The transition influences the students' wellbeing and achievement (West et al., 2008). Middle school is a problematic period in educational terms –

the heterogeneous composition of learners is expressed in the gap in their learning achievements that are intensified by the transition. Middle school is a relatively large framework, heterogeneous in terms of the learners' characteristics socially, economically and culturally (Byrnes, Ruby, 2007).

The adolescent students' successful adjustment to the transition positively influences their learning (McGee et al., 2003). Difficulties in the transition between elementary and middle school are detrimental to students' learning achievements in the future and sometimes lead to them dropping out from school (Akos et al., 2005). Students' learning achievements in middle school have precedence in the priorities of the teachers, principals, and educational staff. The emphasis on learning achievements and the placement of the achievements at the top of school priorities put the student under tremendous pressure, but with fewer resources and more difficult teaching and learning conditions because of adolescence. Therefore, the realization of the learning ability of the students in middle school will be more limited (Addi-Racah et al., 2011). In addition, research studies prove that students with a low socioeconomic background find it difficult in the transition between elementary and middle school (Akos et al., 2005; Evangelou et al., 2008; West et al., 2008). However, in contrast other research studies indicate positive implications of the transition to middle school. Those who support the transition indicate a challenging and interesting opportunity that gives them a "fresh start", to change and develop in terms of learning and in terms of the personal and social ability (Barber, Olsen, 2004; McGee et al., 2003).

1.3. Students with learning difficulties in math in transition effect

According to APA (2013), difficulty in learning is an outcome of every phenomenon that harms the person's ability to acquire knowledge or new skills. The problem is not incidental – more than 2.4 million children in the public school system are diagnosed with learning difficulties (Alloway, Carpenter, 2020). Among them, a larger group is formed by students with learning difficulties in math who do not respond to the school curriculum because of environmental factors, such as social factors, factors associated with the curricula, or lack of support of the learning (Elkins, 2002; Schmidt, 2016; Westwood, 2016). They are defined as "students with difficulties in mathematics", and receiving tailored assistance is supposed to help them overcome the difficulties. However, it is worth mentioning that in scientifi-

ic publications there is a wide variety of terms used to describe children's learning difficulties in mathematics. This may be due to different perspectives adopted by the researcher or their interdisciplinary nature. However, it does not change the fact that this leads to a situation where terms such as disorder, disability and difficulties are used interchangeably (Oszwa, 2006, 2008a, 2008b, 2009). Ben Yehuda and Licht (2013) maintained that students with difficulties are students who have not acquired basic learning skills. This term was extended by the definition of Diagnostic and Statistical Manual (DSM, 2013) that defines learning disabilities as a specific learning disorder. The learning disorder makes it difficult for the learner to acquire basic learning skills (reading, writing, and arithmetic) and the learner cannot cope with the difficulties.

Difficulties in developing language and reading skills lead to difficulties in mathematics (Montis, 2000). Many students come to middle school when they have not yet acquired and assimilated the basic skills in literacy. Reading fluency is important to produce knowledge and is influenced by the learner's ability to decode vocabulary and of course metacognitive skills, psychological factors (motivation, emotion), and environmental components (Meltzer et al., 2004). According to the DSM-5 (2013), students are defined as having difficulties in the acquisition of mathematical skills if they have one of the indicators persevering at least six months despite interventions: "Difficulties mastering number sense, number facts, or calculation (e.g., has poor understanding of numbers, their magnitude, and relationships; counts on fingers to add single-digit numbers instead of recalling the math fact as peers do; gets lost in the midst of arithmetic computation and may switch procedures). And difficulties with mathematical reasoning (e.g., has severe difficulty applying mathematical concepts, facts, or procedures to solve quantitative problems)" (DSM-5, 2013, p. 66).

The learning environment in middle school is different and relatively more complex than that in elementary school. In middle school there is a significant jump in the academic requirements and level. Students develop abstract thinking ability and develop formal thought. This is the most dramatic change in cognition that occurs in the person's entire life (Akos et al., 2005; West et al., 2008). Students must develop the ability to learn independently and meet the mandatory standards of tests and assignments. In middle school there is the need to work on the basic skills in a personal manner according to the learner's level and in parallel to the work on high order skills (such as summary, control, and need to deploy previous knowledge) (Brasseuer et al., 2005). To success in learning mathematics, student must develop flexible perceptual thinking, which enables them to move be-

tween the mathematical concept and the process of solving and the reverse, smoothly and fluently (Tall, Razali, 1993). Since the manner of learning in middle school is different and requires more independent learning, sometimes in a group setting and project based, in certain cases there is a need to help the adolescent develop learning skills. The importance of providing challenging tasks encourages the use of diverse cognitive operations that increase the investment of effort, the development of interest, and of course achievement (Eccles, Roeser, 2009; Jeynes, 2007).

2. Teaching – learning mathematics with interactive digital tools

We say that mathematics is mother of all sciences, and the world cannot exist without it (Cichy et al., 2020). Mathematics is considered a central subject in the education system, since it is the basis for logical-quantitative thinking, learning, and the development of topics related to science and technology (State Comptroller, 2014). The National Council of Teachers of Mathematics (NCTM) emphasizes that “technology is essential in teaching and learning mathematics; it influences the mathematics that is taught and enhances students’ learning” (NCTM, 2000, p. 2). Digital tools have the potential to enhance and support competencies important for the mathematical content, such as real-world problem solving (Greefrath et al., 2018). In recent years, the use of the application of the digital tools in mathematics has become important (Greefrath et al., 2018; Griffith et al., 2020). There is a general consensus that ICT can be an effective tool to support the learning of mathematics (Young, 2017; Griffith et al., 2020; Verbruggen et al., 2020; Przybyła et al., 2021). As Przybyła (2021a, 2021b) showed, in most research reports there is quite a general consensus that ICT can effectively support learning, including learning of mathematics. They have a positive influence on the inculcation of digital skills and the improvement of specific cognitive processes of interaction and spatial orientation (Mascia et al., 2018). This positive influence of technology-rich interventions depends on how this technology is used in mathematics. According to Drijvers (2019), digital tools should provide students with authentic ways of using the tool, and ways to combine the techniques of the tool with the mathematical knowledge in order to enable students to experience mathematics as meaningful. “If we do not manage to incorporate digital technology in students’ mathematical practices in a way that they experience as meaningful, it is a useless enterprise” (Drijvers, 2019, p. 2). The effectiveness of a technology

in education depends on the way of how it is presented and employed by the students. Digital tools should implement perceptual, sensory and motoric experiences to their users in the mathematics classroom because this will foster students' cognitive development (Putrawangsa, Hasanah, 2020).

One of a variety of the most adopted interactive mathematical digital learning environments is the GeoGebra software that enables dual structuring of the geometric and algebraic representation of the mathematical object simultaneously (Kllogjeri, 2010). The integration of learning tools that include an interactive and dynamic virtual learning environment is effective in the development of the visualization ability in space in a meaningful manner and reduces gaps in learners' spatial ability (Widder et al., 2014; Seloraji, Kwan-Eu, 2017). Spatial perception is very important to students in the learning of mathematics. One of the tools for coping with the difficulty in spatial visualization in this mathematical field is the use of interactive concrete aids. Computerized illustrations provide concrete objects that facilitate the ability to build connections and strengthen different representations of mathematical ideas that will help build knowledge (Clements, 1999). According to Moyer, Bolyard, and Spikell (2002), virtual representations enable virtual manipulatives of a visual object through the control of the physical actions on these objects, in a dynamic way that enables the learner to discover and build contexts and mathematical rules and consequently build mathematical knowledge. A virtual manipulative is defined as "an interactive, Web-based visual representation of a dynamic object that presents opportunities for constructing mathematical knowledge" (Moyer et al., 2002, p. 373). It allows students to integrate thought, feeling and action, thus motivating children to learn and contributing to their intellectual development (De Castro et al., 2014). Thus, virtual manipulatives is a mathematical approach that is fundamentally cognitive (Zbiek et al., 2007). Its main characteristic as a cognitive tool is the ability and flexibility to provide different representations concurrently and provide visual feedback. This increases the motivation to learn and promotes meaningful learning. From a pedagogical perspective, this is teaching that encourages inquiry-based learning and problem solving (Bouck, Jiyeon, Stenzel, 2020; Bouck et al., 2020; Moyer et al., 2008; Moyer et al., 2002). The use of digital features becomes more and more sophisticated, and they are based on metacognitive skills, flexibility and adaptability (Yong et al., 2019). These technologies enable teachers and students the opportunity to express their mathematical knowledge. This is a digital constructivist learning environment that facilitates inquiry learning processes (Solomon, 2000) and helps with the representativeness of data in a concrete and interactive dynamic way that

directs some of the learner's resources and encourages conceptual learning (Shaughnessy et al., 1996). These dynamic mathematical representations enable teachers to focus on offering dynamic links between the representations of mathematical expressions that are important in the mathematics curriculum, and at the same time provide pupils with an environment to inquire, solve problems, and make conjectures by understanding ideas, and generalization (Clark et al., 2019).

Moyer-Packenham, Salkind, and Bolyard (2003) noted that virtual manipulatives can help build scaffolding in the transition between concrete activities and abstract concepts in the learning of mathematical concepts. Hence, dynamic geometry software (DGS) enables the creation and inquiry of geometric constructs. In these programmes, the visual product can undergo transformations while maintaining the features defined during the building. The explanation regarding the effectiveness of the digital dynamic environment is through the cognitive load theory (CLT) of Sweller (2010), according to which the model explains the cognitive ability of the working memory to succeed in the learning process. The working memory is limited in capacity, complicated especially in the material learnt and has many information components. This load leads to cognitive overload, which is expressed in the burden on the working memory. Therefore, successful learning occurs in the boundaries of the memory. When the learning conditions are suited to the structure and boundaries of the human cognition and address the load imposed on the working memory during the learning, thinking, problem solving, or visual illustration, the learning itself will be more effective, because "students can focus on decision making, reflection, reasoning, and problem solving" (Saha et al., 2010, p. 687).

In addition, digital learning environments have the potential to provide feedback as a part of the improvement of the learning process (Lytras, 2007). Many programs have been developed that enable one to exercise brain in a lot of ways – designed software programs, video games and applications have become an accessible and widely used form of brain training to every age group – and recent studies report that training based on virtual reality or neurofeedback also shows promising results in improving cognitive skills (Cichy et al., 2021). Providing immediate and individualized feedback to the learner (Cheung, Slavin, 2012), especially to learning disabled students, enables the learners to work on mathematical problems and advance at their own pace (Mascia et al., 2018; Ouyang, Stanley, 2014), through the internalization of the form of planning the learning process in the continuation (Hattie, Timperley, 2007; Shute, 2008). "Checking and controlling the solutions obtained is another important mathematical activity that can be sup-

ported by digital tools, for example by means of graphical representations when performing numerical calculations, solving equations, rearranging terms, or when working with discrete or functional models” (Greefrath et al., 2018, p. 234). Another potential of digital learning environments is that they enable personalized learning that can offer students of varying interests, attention spans, and diverse needs a chance to be in control of their learning (West, 2012).

2.1. Using interactive digital tools to enhance the emotional effects of students with difficulties in math

Students with difficulties, usually need teachers, and their classmates. The mediation which is offered by teachers and the dialogue in the collaborative learning with classmates helps them to develop academic and social enjoyment. The Ministry of Education in Israel² supports the significant advancement of the model of online collaborative learning. Collaborative learning is a pedagogical approach that puts the learner in the centre and includes methods of teaching and diverse models when the common denominator among them is the cooperation between the learners for the achievements of a shared goal, such as the performance of a project, the solving of an assignment or a problem, when the basis for the achievement of the goal is reciprocal dependence between the learners that leverages the process and advances it (Brody, Davidson, 1998). The importance of the required combination between collaborative learning and use of online learning environments as a part of the learning process was expressed in a number of directions:

- The increase of students’ participation in the lessons and hours of learning invested in learning improved the class dynamics and cooperation (Heggart, Yoo, 2018) and improved the learning experience (Hsu, 2016), when the involvement and communication do not depend on the time or place.
- The collaborative constructivist nature in online learning environments increases the learner’s active participation in the learning process, and enables him/her to build knowledge in a team (Rutherford, 2014; Salomon, 2000). It develops the learner’s cognitive constructs and increases the desire and motivation for the performance of tasks (O’Donnell, Kelly, 1994).

² Ministry of Education, Teaching Worker Portal, Pedagogical Space (n.d.) Cooperative Learning. <https://pop.education.gov.il/sherutey-tiksuv-bachinuch/lemida-shitofit/> (Hebrew)

According to Chin and Law (2016), learning in an online collaborative environment builds in-depth processes of learning and processing, greatly influences the transmission of knowledge and learning processes, and emphasizes the learner's personal pace, through feedback and peer support (Dunleavy et al., 2007). The importance of the use of online learning environments and collaborative learning in mathematics is emphasized among students with difficulties. Students with learning difficulties have low motivation to study mathematics, but digital activity has the potential to cause them to be active when it allows trial and research without the fear of failure. Therefore, researchers offer to create an "optimal experience" in mathematical education, when one of its components in the learner's growth is internal motivation, which the learner experiences in an online collaborative learning environment (Shalita et al., 2011; Skadberg, Kimmel, 2004).

The social reciprocal relationship and the social mediation are two basic elements in the development of the high mental functions, such as perception, attention, memory, and cognition (Ilam, 2003). The use of the qualities of technology in mathematics increases the effectiveness of the learning process (Mayer, 2005). The use of technology will increase the interest in learning because of reduced mental load in which technology takes part and in this it increases the visual means that are important to the acquisition of knowledge and the development of intellectual skills (Solomon, 1981). The technology allows the learners to control the learning processes and enjoy maximum knowledge transmission (Chen, Law, 2016).

2.2. The potential of the interactive digital tools to enhance the learning outcomes of students with difficulties in mathematics

The Cognitive Theory of Multimedia Learning (Mayer, 2009) and the Cognitive Load Theory (Sweller, 2011) are cognitive theories that derived from the integration between the Working Memory Model (Baddeley, Logie, 1999) and the dual coding theory (Clark, Pavio, 1991) that hold that the person's ability to process data is undertaken through two separate channels: auditory and visual. The two channels are limited in terms of the capacity to absorb stimuli from the environment and are responsible for the processing of information that is important to the learning process (Paas, Ayres, 2014). The two channels can work together or separately (Clark, Paivio, 1991). The brain can use the two channels, auditory and visual, in order to organize, process, and store information in order to retrieve it for the purpose of using it (Sternberg, 2003).

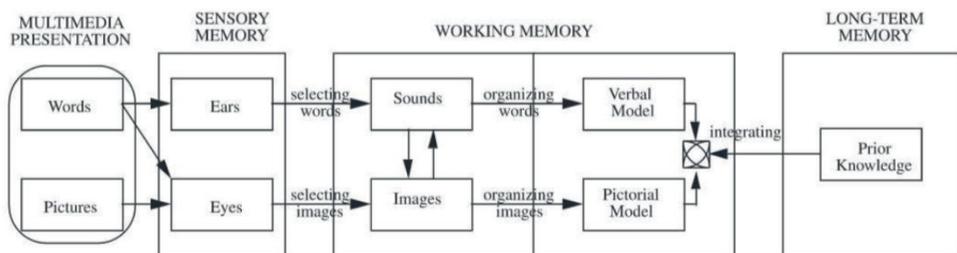
The working memory is responsible for the data processing and can process only two or three items together (Kirschner et al., 2006). New information that is not practiced or handled is lost in 15-30 seconds (Paas, Ayres, 2014). The learning process occurs when we store new information in the LTM, but the limited ability of the working memory to absorb stimuli and information from the environment can harm the acquisition of knowledge and the learning process (Sweller, 2004; de Jong, 2010). In other words, it is important to increase the effectiveness of the learning process through the reduction of the cognitive load imposed on the working memory.

The cognitive load theory differentiates between three characteristics that contribute to the load: intrinsic cognitive load that addresses the material and the learning content, the extraneous cognitive load caused as a result of the teaching materials that are used to present the content, and the germane cognitive load that addresses the load caused by the learning process (de Jong, 2010; Wong et al., 2012). Today the important challenge is to build teaching methods and environments that reduce the cognitive load (Wong et al., 2012). The adoption of an appropriate learning environment will make the learning process more effective.

The three theories contributed to Mayer's development of the cognitive theory of multimedia learning (Mayer, 2001). Multimedia learning is based on learning from words and pictures (Mayer, 2001; Mayer, Moreno, 2003).

Figure 1

Multimedia Learning



Source: adapted from Mayer, 2001, p. 44

Mayer's cognitive theory of multimedia learning makes three assumptions about how people process information. First, the dual-channel assumption is that learners possess separate information processing channels for verbal and visual material. Second, the limited capacity assumption is that there is a limited processing capacity available in the verbal and visual

channels. Third, the active processing assumption is that active processing learning requires deep cognitive processing in the verbal and visual channels in order to gain new information (Mayer, 2001; Mayer, 2014; Mayer, Moreno, 2003). The Cognitive Theory of Multimedia Learning provides a guideline that may help the designers to design multimedia instruction and implement effective cognitive strategies to help learners learn efficiently (Sorden, 2012).

The implementation of these three assumptions is possible because the digital environment provides interactive learning in which the learners can actively influence their learning processes (Mayer, Moreno, 2007). The interactive text³ enables the use of literacy skills, thinking skills and technological abilities that encourage active learning in which the learners can actively influence their learning processes (Mayer, Moreno, 2007). The interactive text enables the deployment of literacy capabilities, thinking abilities, and technological abilities that encourage active learning. The learners can update and improve the information easily, and have the ability to carry out virtual manipulatives on objects, which enables the creation of interactive teaching-learning (Moyer-Packenham et al., 2008).

The feature of a virtual manipulative is defined as “an interactive, Web-based visual representation of a dynamic object that presents opportunities for constructing mathematical knowledge” (Moyer et al., 2002, p. 373). The use of virtual manipulatives in teaching mathematics enables the construction of representations of objects in different forms. This helps the learner link representations of the objects such as the symbolic notations and the abstract concepts. The learners’ physical interaction in the use of the computerized environments improves the ability of mathematical thinking and promotes their academic development (Moyer-Packenham, Westenskow, 2013). The manipulations in the digital environment are a part of the interactivity (Mayer, Moreno, 2007); they are important in mathematics in order to achieve an in-depth understanding of the topic since they serve as cognitive technological tools (Moyer-Packenham, Suh, 2012; Zbiek et al., 2007). The use of most dynamic representation supports decision making and other skills required to solve problems, such as assessment, choice of representation, and linkage between representations (Yerushalmy, 2006).

³ Ministry of Education, Administration of ICT, Technology, and Information Systems, Department of Information Technology (2013). *The Adjustment of the Education System to the 21st Century: The Inculcation of Computer Literacy and Information*. https://sites.education.gov.il/cloud/home/tikshuv/Documents/aknayat_oryanut_yesodi.pdf

Interactivity of digital environments is also provided by dialoguing and controlling. Dialoguing addresses the additional information from feedback that the learner obtains as a response to the solution done. Controlling occurs when the learner selects their individual learning pace or the preferred order of presentation (Mayer, Moreno, 2007). The interactive digital environment is rich in visual representations. The visual representation⁴ enables the presentation of nonverbal information in a manner that creates interest and enjoyment through the use of concretizations in the images and simulations at different levels. This helps the learner who has difficulties and who has not yet acquired reading and writing abilities and/or is found in different stages of their acquisition. The manipulations that are done visually on the screen influence the learner's understanding and increase the meaningful mathematical learning in the learner (Moyer-Packenham et al., 2008). In the teaching of mathematics, the solving of problems through the use of learning environments that encourage meaningful learning, in algebra for example, emphasize a process of solving that the learner builds when making associations between bodily action and analytic symbols (Yerushalmy, 2006) and creating connections between different representations in mathematics (Moyer-Packenham et al., 2008).

In the multimedia digital learning environment, the representation of information is undertaken in a tangible manner⁵ (picture, sound, movement, writing, and icons), which enables different learners, and especially those with difficulties, to absorb information in various ways, thus enabling the creation of successes. "ICT in school education having the potential to influence teaching and learning processes by enabling wider access to a range of resources, allowing greater power to analyse and transform information, and providing enhanced capacities to present information in different forms" (Fraillon et al., 2014, p. 41).

Virtual manipulatives is a main element in the interactivity of mathematical learning environments. Virtual manipulatives provide five main traits in the teaching of the learning of mathematics that help the students with difficulties understand mathematics (Moyer-Packenham, Westenskow, 2013):

⁴ Ministry of Education, Administration of ICT, Technology, and Information Systems, Department of Information Technology (2013). *The Adjustment of the Education System to the 21st Century: The Inculcation of Computer Literacy and Information*. https://sites.education.gov.il/cloud/home/tikshuv/Documents/aknayat_oryanut_yesodi.pdf

⁵ Ministry of Education, Administration of ICT, Technology, and Information Systems, Department of Information Technology (2013). *The Adjustment of the Education System to the 21st Century: The Inculcation of Computer Literacy and Information*. https://sites.education.gov.il/cloud/home/tikshuv/Documents/aknayat_oryanut_yesodi.pdf [Access: 13.05.2023].

1. The learners are more focused and concentrated on the mathematical problem and processes.
2. It encourages creativity and multiplicity of ways of solving among the learners.
3. It increases the learners' ability in the connection between the different concepts and representations in mathematics.
4. The dynamic representations enable precision and effectiveness in the learning process.
5. It encourages students and motivates them to persevere in carrying out mathematical tasks.

It is important to integrate the use of digital learning environments at the start of the learning of algebra. The integration of environments that enable symbolic manipulation helps students who have difficulties to be fluent in algebra (Yerushalmy, 2006). In geometry, the use of technology such as dynamic geometry environments provides technical and conceptual activities that constitute the basis for understanding mathematical concepts. The technology empowers learners' knowledge and understanding in geometry because of five characteristics: visualization, manipulation, cognitive tools, discourse promoters, and new ways of thinking (Crompton et al., 2018).

To conclude, "technologies can improve the teaching/learning process by reforming conventional delivery systems, enhancing the quality of learning achievements, facilitating state-of-the-art skills formation, sustaining lifelong learning and improving institutional management" (UNESCO, 2009, p. 11). The interactive digital environment constitutes an answer for learners who are found at different levels of learning and have special learning styles⁶. The use of digital environments gives a mathematical experience to learners and encourages them to research new ideas, thus positively influencing the learners' achievements (Moyer-Packenham, Westenskow, 2013).

Conclusions

Mathematical understanding is a process and goal that focuses on the performance of tasks, while providing explanations through the use of concepts and ideas, giving examples, and ability to project information that

⁶ Ministry of Education, Administration of ICT, Technology, and Information Systems, Department of Information Technology (2013). *The Adjustment of the Education System to the 21st Century: The Inculcation of Computer Literacy and Information*. https://sites.education.gov.il/cloud/home/tikshuv/Documents/aknayat_oryanut_yesodi.pdf

is acquired in other contexts and generalize it on new contents through the ability to explain and justify it (House, Tirosh, 2015). The success in the acquisition of mathematical content is an outcome of flexible *proceptual*⁷ thinking. The goal of mathematical education is to bring students to succeed in the subject, but while some of the students do, there is a large group that need help – they are struggling and having difficulties with understanding (Tall, Razali, 1993). Students with difficulties do not have the experience of success and they generally are defined as “low achievers” and “slow learners” (Westwood, 2007; Westwood, 2016).

Students with difficulties in mathematics need help and sometimes special treatment. The lack of diagnosis of students with difficulties leads to difficulties in post-secondary mathematics programmes (Tall, Razali, 1993). Today the task to diagnose and identify students with difficulties is assigned to the education system. The main role of teachers is to combine their knowledge about pedagogy, topics, and learning contents with technological means, in order to create a suitable learning environment that enriches the learner. Pedagogically, the role of teachers changes from “content delivery” to “project coaching” (Prensky, 2010; Prensky, 2018).

Technological educational development and mainly digital learning environments have influenced the education system in two dimensions. The first dimension is that it offers new possibilities in the field of teaching and learning and presents the education system with a challenge to attempt new pedagogical approaches. Learning has shifted from one focused on memory and facts to one that emphasizes creativity, problem solving, analysis, and evaluation (Nachmias, Mioduser, 2001). Thus, pedagogically, the challenges of future education (Morgenstern et al., 2019) which are important and should be looked for while teaching students with difficulties are presented in two principles:

The First Principle is Personalization. The differences between people do not need to be an annoyance for the people of education, so that the elimination of the personal differences between students is not an educational goal. The role of education is to identify, encourage, and cultivate the differences and organize the learning processes according to the learner’s abilities, needs, and desires (Lavi, 1990; Volansky, 2014). The implementation of personalization in the field of education shifted the reference to the learner from standardized to personally tailored by the teacher, the learner,

⁷ *Procept* is an amalgam of three components: a **process** which produces a mathematical **object** and a **symbol** which is used to represent either a process or an object. The term is a construct used frequently in mathematics education research.

and the use of the appropriate technology that adjusts the learning to the learner's personal style automatically (Birenboim, Gazit, 2005).

The Second Principle is Cooperation. The process of collaborative learning occurs when learners build their knowledge through interaction with group members. Each learner constitutes an integral component in the process of social, academic, and cognitive development of their group members. Cooperative learning develops the learner's cognitive constructs and increases the desire and motivation for the performance of tasks (O'Donnell, Kelly, 1994). Mutual social relationships and social mediation are two basic elements in the development of high mental functions such as perception, attention, memory, and thinking (Ilam, 2003). Cooperative learning is based on four principles: the learner at the centre, the use of authentic problems, social interactions, and development of solutions by group members. There are three levels of cooperation in learning: sharing, cooperating, and collaborating (Matoof, 2014). The application of the principle of cooperation is undertaken through the use of a range of advanced technologies that enable flexibility and speed in the collaborations, through the bridging of gaps of space, time, and culture and will allow the learner to broaden his/her circle of peers through decentralized, interactive, and dynamic cooperative learning.

Nowadays the application of both principles has become possible. The use of technological educational development and mainly digital learning environments has influenced the education system. Learning with digital learning environments has shifted learning from one focused on memory and facts to one that emphasizes creativity, problem solving, analysis, and evaluation (Nachmias, Mioduser, 2001). Technology offers a reduction of the burden of mental load to students with difficulties. Difficulties in active memory and long-term memory influence students' ability to solve problems and examine thinking processes (Geary, 2004; Solomon, 2000). The means of illustration are essential in teaching mathematics since they bridge abstract ideas and their representation with the tangible concrete level (Linchevsky, Tuval, 1993; Mayer, 2009). According to McMahan (2007), using digital environments positively influences the ability to think critically and creatively. The report of the National Council of Teachers of Mathematics (NCTM, 2000) proposed to integrate technology in teaching and learning mathematics, because it improves students' mathematical thinking and supports students' development of a deeper understanding of mathematics. Floden and Ashburn (2006) emphasize that "technology is for the learners an intellectual partner that helps them advance thinking and promotes meaningful learning as long as the learn-

ing is based on the learners' involvement in the building of knowledge, on conversation, on self-expression of the acquired knowledge, and on the deployment of reflective thinking." Digital learning environments have increased students' motivation and positive attitude towards learning and learners' involvement in their process of learning and in their academic achievement (Rosen, 2011). The use of digital learning environments supports meaningful learning and advances effective learning that influences learner's self-efficacy (Garrison, Kanuka, 2004). It encourages adolescent students, improves their self-confidence and reduces the stress which they experience while transitioning.

Digital learning environments enable the teacher to create a personal relationship with students and plan a variety of learning materials suitable for the learners while providing immediate and personal feedback. The use of technological tools contributes to the learning of mathematics (Roschelle et al., 2007). The use of technology enables students to experience independent inquiry-based learning, and develop ideas and concepts. Technology enables teachers to carry out personal learning in which every student progresses according to his/her abilities and degree of understanding. Teachers can also follow up in real time on their students' performance and difficulties in understanding mathematical principles.

Finally, digital learning environments facilitate the interaction between teachers and students and cooperation in the learning process (Kllogjeri, 2010). Weiss (2010) maintains that the combination of a smart teacher and smart technology produces successful classes. Technology improves teachers' teaching and learners' learning. On the one hand, it offers teachers different tools that provide a differential solution to the learners' range of abilities and needs. It enables the teacher to support learners in diverse situations of learning and provide feedback on students' performance in real time (Weiss, 2010). It also helps students reduce the gaps in different areas of knowledge. On the other hand, it motivates learners, increases their motivation, and enables academic growth while using in a variety of mediums (Stanford et al., 2010).

Author contributions

This project was conceptualized by Maha abu Hatoum. Data were collected and analysed by Maha abu Hatoum and Tomasz Przybyła and interpreted by Maha abu Hatoum. The manuscript was written by Maha abu Hatoum and Tomasz Przybyła.

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REFERENCES

- Addi-Raccach, A., Biran, H., Friedman-Goldberg, S. (2011). *Middle Schools: Characteristics and Challenges*. A review invited as background material for the work of the Committee of Language and Literacy. <http://yozma.mpage.co.il/SystemFiles/23075.pdf> (Hebrew) [Access: 13.05.2023].
- Akos, P., Lineberry, C., Queen, J.A. (2005). *Promoting a Successful Transition to Middle School* (1st Ed.).
- Alloway, T.P., Carpenter R.K. (2020). The relationship among children's learning disabilities, working memory, and problem behaviours in a classroom setting: Three case studies. *The Educational and Developmental Psychologist*, 37(1), 4–10. <https://doi.org/10.1017/edp.2020.1>.
- American Psychiatric Association, APA (2013). *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*. (DSM-5). Washington, DC: American Psychiatric Association.
- Ashburn, E., Floden, R. (2006). *Meaningful Learning Using Technology - What Educators Need to Know and Do*. New York: Teachers College Press.
- Asmussen, K., Corlyon, J., Hauari, H., La Placa, V. (2007). *Supporting Parents of Teenagers*. Policy Research Bureau. Produced by the Department for Education and Skills. <http://prb.org.uk/publications/RR830.pdf>
- Baddeley, A.D., Logie, R.H. (1999). *Working memory: The multiple-component model*. In: A. Miyake, P. Shah (eds.), *Models of Working Memory: Mechanisms of Active Maintenance and Executive Control* (pp. 28–61). Cambridge University Press. <https://doi.org/10.1017/CBO9781139174909.005>
- Barber, B.K., Olsen, J.A. (2004). Assessing the Transition to Middle and High School. *Journal of Adolescent Research*, 19, 3–30.
- Brody, C.M., Davidson, N. (1998). *Professional Development for Cooperative Learning: Issues and Approaches*. Albany, New York: State University of New York Press.
- Ben Yehuda, T., Licht, P. (2013). *Implementation of a Model for Tailored Intervention: Teaching Groups of Learners with Difficulties in Mathematics Who Are Integrated in Regular Education*. In: G. Avisar, S. Reiter (eds.), *Inclusion: Learners with Disabilities in the Education System*. Haifa: Achva Press. (Hebrew)
- Birenboim, M., Gazit A. (2005). HILA (Teaching – Learning – Assessment): A Computerized Environment for the Cultivation of a Learning Community. *Kivunim – Online Directions, Online Journal of Teacher Training in Israel*. (Hebrew)

- Bouck, E.C., Park, J., Stenzel, K. (2020). Virtual manipulatives as assistive technology to support students with disabilities with mathematics. *Preventing School Failure. Alternative Education for Children and Youth*, 64(4), 281–289. <https://doi.org/10.1080/1045988X.2020.1762157>
- Bouck, E.C., Jordan, S. Park, J.. (2020). Virtual Manipulative-Based Intervention Package to Teach Multiplication and Division to Secondary Students With Developmental Disabilities. *Focus on Autism and Other Developmental Disabilities*, 35(4), 195–207. <https://doi.org/10.1177/1088357620943499>
- Brasseur, I.F., Hock, M.F., Deshler, D.D. (2005). *The Bridging Strategy*. Lawrence, KS: The University of Kansas Center for Research on Learning.
- Byrnes, V., Ruby, A. (2007). Comparing Achievement between K–8 and Middle Schools: A Large-Scale Empirical Study. *American Journal of Education*, 114(1), 101–135. <https://doi.org/10.1086/520693>
- Chen, C.H., Law, V. (2016). Scaffolding Individual and Collaborative Game-Based Learning in Learning Performance and Intrinsic Motivation. *Computers in Human Behavior*, 55, 1201–1212.
- Cheung, A.C.K., Slavin, R.E. (2012). How Features of Educational Technology Applications Affect Student Reading Outcomes: A Meta-Analysis. *Educational Research Review*, 7(3), 198–215.
- Cichy, I., Kaczmarczyk, M., Wawrzyniak, S., Kruszwicka, A., Przybyła, T., Klichowski, M., Rokita, A. (2020). Participating in physical classes using Eduball stimulates acquisition of mathematical knowledge and skills by primary school students. *Frontiers in psychology*, 11, 2194.
- Cichy, I., Kruszwicka, A., Kryszman, A., Przybyła, T., Rochatka, W., Szala, E., Wawrzyniak, S., Bronikowski, M., Klichowski, M., Rokita, A., Eduball as a Method of Brain Training for Lower Performing Students with Dyslexia: A One-Year Experiment in Natural Settings. *Int. J. Disabil. Hum. Dev*, 21(4), 335–351.
- Clark, J., Paivio, A. (1991). Dual Coding Theory and Education. *Educational Psychology Review*, 3, 149–210. <https://doi.org/10.1007/BF01320076>.
- Clark-Wilson, A., Hoyles, C. (2019) A research-informed web-based professional development toolkit to support technology-enhanced mathematics teaching at scale. *Educational Studies in Mathematics*. <https://doi.org/10.1007/s10649-018-9836-1>
- Clements, D.H. (1999). “Concrete” Manipulatives, Concrete Ideas. *Contemporary Issues in Early Childhood*, 1(45). <http://dx.doi.org/10.2304/ciec.2000.1.1.7>
- Covington, M. (2000). Goal Theory, Motivation, and School Achievement: An Integrative Review. *Annual Review of Psychology*, 51, 171–200.
- Crompton, H., Grant, M.R., Shraim, K.Y.H. (2018). Technologies to Enhance and Extend Children’s Understanding of Geometry: A Configurative Thematic Synthesis of the Literature. *Journal of Educational Technology & Society*, 21(1), 59–69. Retrieved from: <http://www.jstor.org/stable/26273868> [Access: 08.04.2021].
- De Castro, Marcus Vasconcelos et al. (2014). Effect of a virtual environment on the development of mathematical skills in children with dyscalculia. *PloS one*, 9(7), e103354. <https://doi.org/10.1371/journal.pone.0103354>.
- de Jong, T. (2010). Cognitive Load Theory, Educational Research, and Instructional Design: Some Food for Thought. *Instr Sci*, 38, 105–134. <https://doi.org/10.1007/s11251-009-9110-0>

- Dunleavy, M., Dexter, S., Heinecke, W. (2007). What Added Value Does a 1:1 Student to Laptop Ratio Bring to Technology-Supported Teaching and Learning? *Journal of Computer Assisted Learning*, 23, 440–452.
- Drijvers, P. (2019). Embodied instrumentation: combining different views on using digital technology in mathematics education. Paper presented at the Eleventh Congress of the European Society for Research in Mathematics Education, Utrecht, the Netherlands, 6–10 February 2019.
- Eccles, J.S., Harold, R.D. (1993). Parent-School Involvement during the Early Adolescent Years. *Teachers College Record*, 94(3), 568–587.
- Eccles, J.S., Roeser, R.W. (2009). *Schools, Academic Motivation, and Stage-Environment Fit*. In: R. M. Lerner, L. Steinberg (eds.), *Handbook of Adolescent Psychology: Individual Bases of Adolescent Development* (pp. 404–434). John Wiley & Sons Inc. <https://is.muni.cz/el/1423/podzim2010/PSY516/um/EcclesRoeser12.pdf>
- Elkins, J. (2002). Learning Difficulties/Disabilities in Literacy. *Australian Journal of Language and Literacy*, 25(3), 11–18.
- Ellerbrock, C.R., Main, K., Falbe, K.N., Franz, D.P. (2018). An Examination of Middle School Organizational Structures in the United States and Australia. *Education Sciences*, 8.
- Evangelou, M., Taggart, B., Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I. (2008). *Research Report DCSF-RR019*. Institute of Education, University of London.
- Fraillon, J., Ainley, J., Schulz, W., Friedman, T., Gebhardt, E. (2014). *Preparing for Life in a Digital Age. The IEA International Computer and Information Literacy Study International Report*. Amsterdam: IEA. https://research.acer.edu.au/cgi/viewcontent.cgi?article=1009&context=ict_literacy [Access:13.05.2023].
- Garrison, D.R., Kanuka, H. (2004). Blended Learning: Uncovering Its Transformative Potential in Higher Education. *The Internet And Higher Education*, 7(2), 95–105.
- Geary, D.C. (2004). Mathematics and Learning Disabilities. *Journal of Learning Disabilities*, 37(1), 4–15.
- Greefrath, G., Hertleif, C., Siller, H.St. (2018). Mathematical Modelling with Digital Tools - A Quantitative Study on Mathematizing with Dynamic Geometry Software. *ZDM Mathematics Education*, 50(1), 233–244. <https://doi.org/10.1007/s11858-018-0924-6>.
- Griffith, S.F., Hagan, M.B., Heymann, P., Heflin, B.H., Bagner, D.M. (2020). Apps as learning tools: a systematic review. *Pediatrics*, 145(1): e20191579, <http://dx.doi.org/10.1542/peds.2019-1579>.
- Hattie, J., Timperley, H. (2007). The Power of Feedback. *Review of Educational Research*, 77(1).
- House, R., Tirosh, D. (2015). It Is Possible Differently – Arithmetic in a Different Look – A Didactic Model for Teaching Mathematics. *Strong Number*, 26, 53–60. https://ymath.haifa.ac.il/images/stories/mispar_chazak_2000/issue26/ron-dina.pdf (Hebrew)
- Hsu, P.S. (2016). Examining Current Beliefs, Practices and Barriers about Technology Integration: A Case Study. *TechTrends: Linking Research and Practice to Improve Learning*, 60(1), 30–40.

- Ilam, G. (2003). *The Philosophy and Psychology of Vygotsky: From Cultural Instruments to Psychological Instruments*. In: A. Kozulin, G. Ilam (eds.), *Lev Vygotsky – Thought and Culture* (pp. 364–373). Jerusalem: Branco Weiss Institute. (Hebrew)
- Jeynes, W.H. (2007). The Relationship between Parental Involvement and Urban Secondary School Student Academic Achievement: A Meta-Analysis. *Urban Education*, 42(1), 82–110. doi:10.1177/0042085906293818
- Kirschner, P.A., Sweller, J., Clark, R.E. (2006). Why Minimal Guidance during Instruction Does Not Work: An Analysis of the Failure of Constructivist Discovery, Problem-Based, Experiential, and Inquiry-Based Teaching. *Educational Psychologist*, 41(2), 75–86.
- Kllogjeri, P. (2010) GeoGebra: A Global Platform for Teaching and Learning Math Together and Using the Synergy of Mathematicians. In: M.D. Lytras et al. (eds.), *Technology Enhanced Learning. Quality of Teaching and Educational Reform. TECH-EDUCATION 2010. Communications in Computer and Information Science*, 73. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-13166-0_95
- Lavi, Z. (1990). *Challenges in Education, Towards a More Open School*, Sifrat Poalim, HaKibbutz HaArtzi, HaShomer HaTsair. (Hebrew)
- Linchevsky, L., Tuval, H. (1993). The Role of the Models as an Auxiliary Means for Those with Difficulties in Arithmetic: Analysis of the Concept of the Fraction. *Trends*, 35, 96–109. (Hebrew)
- Lupien, S.J., McEwen, B.S., Gunnar, M.R., Heim, C. (2009). Effects of Stress throughout the Lifespan on the Brain, Behaviour and Cognition. *Nat Rev Neurosci*, 10(6), 434–445.
- Lytras, M. (2007). Teaching in the Knowledge Society: An Art of Passion. *Journal of Knowledge Management British Journal on Educational Technology*, 1(2), 1–9. <https://doi.org/10.1504/IJTCS.2007.014205>
- Matoof, E. (2014). Levels of Cooperation: Towards Cooperative Work in the Classroom. Retrieved from: <https://digitalpedagogy.co/2014/07/27/%D7%A9%D7%99%D7%AA%D7%95%D7%A4%D7%99%D7%95%D7%AA/> (Hebrew) [Access: 13.05.2023].
- Mascia, M.L., Perrone, S., Bardi, D., Agus, M., Penna, M.P., Lucangeli, D. (2018). Digital Life, Mathematical Skills and Cognitive Processes, Paper presented at the International Association for Development of the Information Society (IADIS) International Conference on Cognition and Exploratory Learning in the Digital Age (CELDA) (15th, Budapest, Hungary, Oct 21–23, 2018).
- Mayer, R.E. (2001). *Multimedia Learning*. Cambridge, UK: Cambridge University Press.
- Mayer, R.E. (2009). *Multimedia Learning* (2nd Ed.). New York: Cambridge University Press.
- Mayer, R.E. (2014). Cognitive Theory of Multimedia Learning. In: R.E. Mayer (ed.), *The Cambridge Handbook of Multimedia Learning* (2nd Ed., pp. 31–48). New York, NY: Cambridge University Press.
- Mayer, R.E. (Ed.). (2005). *The Cambridge Handbook of Multimedia Learning*. New York: Cambridge University Press
- Mayer, R., Moreno, R. (2003). Nine Ways to Reduce Cognitive Load in Multimedia Learning. *Educ Psychol*, 38, 43–52. https://doi.org/10.1207/S15326985EP3801_6

- Mayer, R., Moreno, R. (2005). A Cognitive Theory of Multimedia Learning: Implications for Design Principles. *91*.
- McGee, C., Ward, R., Gibbons, J., Harlow, A. (2003). *Transition to Secondary School: A Literature Review*, Report to the Ministry of Education University of Waikato. <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.621.2039&rep=rep1&type=pdf> [Access: 13.05.2023].
- McMahon, G.P. (2007). *Getting the HOTS with What's in the Box: Developing Higher Order Thinking Skills within a Technology-Rich Learning Environment*. Thesis for Doctor of Philosophy. Curtin University of Technology.
- Meltzer, L., Katzir, T., Miller, L., Reddy, R., Roditi, B. (2004). Academic Self-Perceptions, Effort, and Strategy Use in Students with Learning Disabilities: Changes over Time. *Learning Disabilities Research & Practice, 19*(2), 99–108.
- Mioduser, D., Nachmias, R. (2001). The Integration of the Internet in Education. *Studies in Technology and Science: Journal for Issues of Technological-Scientific Education, 34*, 3–6. Retrieved from: <https://www.matar.tau.ac.il/wp-content/uploads/2015/02/newspaper14-docs03.pdf> (Hebrew)
- Montis, K.K. (2000). Language Development and Concept Flexibility in Dyscalculia: A Case Study. *Journal for Research in Mathematics Education, 31*, 541–556.
- Moreno, R., Mayer, R. (2007). Interactive Multimodal Learning Environments. *Educational Psychology Review, 19*(3), 309–326.
- Morgenstern, E., Pinto, I., Vagerhoff, A., Hoffman, T., Lotati, S. (2019). *Future-Oriented Pedagogy: Trends, Principles, Implications, and Applications*. Jerusalem: Ministry of Education, The Pedagogical Administration, Research and Development, Experiments, and Initiatives Department. (Hebrew)
- Moyer, P.S., Bolyard, J.J., Spikell, M.A. (2002). What Are Virtual Manipulatives? *Teaching Children Mathematics, 8*(6), 372–377.
- Moyer-Packenham, P., Salkind, G., Bolyard, J.J. (2008). Virtual Manipulatives Used by K-8 Teachers for Mathematics Instruction: Considering Mathematical, Cognitive, and Pedagogical Fidelity. *Contemporary Issues in Technology and Teacher Education, 8*, 202–218.
- Moyer-Packenham, P., Suh, J. (2012). Learning Mathematics with Technology: The Influence of Virtual Manipulatives on Different Achievement Groups. *Journal of Computers in Mathematics and Science Teaching, 31*(1), 39–59.
- Moyer-Packenham, P., Westenskow, A. (2013). Effects of Virtual Manipulatives on Student Achievement and Mathematics Learning. *International Journal of Virtual and Personal Learning Environments, 4*(3), 35–50. <https://dx.doi.org/10.4018/jvple.2013070103>
- Nachmias, R., Mioduser, D. (2001). The Integration of the Internet in the Education of Learning Online – E-Learning. *Eureka – Journal for Teaching Sciences and Technology in the Elementary School*. September, *14*, 6–15. (Hebrew)
- National Council of Teachers of Mathematics – NCTM (2000). *Principles and Standards for School Mathematics*. Reston, VA: Author.
- Niesen, V., Sachs Wise, P. (2004). Transition from Elementary to Middle School: Strategies for Educators, National Association of School Psychologists, HCHS section 3.

- O'Donnell, A.M., Kelly, J. (1994). Learning from Peers: Beyond the Rhetoric of Positive Results. *Educational Psychology Review*, 6, 321–349.
- Ouyang, J.R., Stanley, N. (2014). Theories and Research in Educational Technology and Distance Learning Instruction through Blackboard. *Universal Journal of Educational Research*, 2(2): 161–172.
- Oszwa, U. (2006). *Zaburzenia rozwoju umiejętności arytmetycznych. Problem diagnozy i terapii*. Kraków: Impuls.
- Oszwa, U. (2008a). *Wczesna diagnoza dziecięcych trudności w liczeniu. Wybrane zagadnienia*. Kraków: Impuls.
- Oszwa, U. (2008b). *Psychologia trudności arytmetycznych u dzieci. Doniesienia z badań*. Kraków: Impuls.
- Oszwa, U. (2009). *Psychologiczna analiza procesów operowania liczbami u dzieci z trudnościami w matematyce*. Lublin: Wydawnictwo UMCS w Lublinie.
- Paas, E., Ayres, P. (2014). Cognitive Load Theory: A Broader View on the Role of Memory in Learning and Education. *Educational Psychology Review*, 26, 191–195. <https://doi.org/10.1007/s10648-014-9263-5>
- Prensky, M. (2010). *Teaching Digital Natives: Partnering for Real Learning*. Thousand Oaks, CA: Corwin.
- Prensky, M. (2018). The emerging alternative to our current world-wide academic education: REAL-WORLD-PROJECT / EMPOWERMENT EDUCATION. The Global Future Education Foundation and Institute. http://marcprenskyarchive.com/wp-content/uploads/2018/10/Prensky-End-to-End_Real-World-ProjectEmpowerment_Education-03.pdf [Access:13.05.2023].
- Przybyła, T., Duszczak, M., Kruszwicka, A., Rochatka, W., Klichowski, M. (2021) *Zastosowania neurofeedbacku w edukacji matematycznej: eksperyment Speed-Math z udziałem uczniów wyższych klas szkoły podstawowej*. In: T. Przybyła (ed.), *Liczy w cyfrowym świecie. Rozmowy o współczesnej edukacji matematycznej dziecka* (pp. 101–123). Poznań: Wydawnictwo Naukowe UAM, Seria Psychologia i Pedagogika.
- Przybyła, T. (2021a). Use of new technologies in working with children with dyscalculia. *Społeczeństwo. Edukacja. Język*, 14, 251–265. [https://doi.org/10.19251/sej/2021.14.1\(16\)](https://doi.org/10.19251/sej/2021.14.1(16))
- Przybyła, T. (2021b). Technologiczne wspomaganie uczenia się matematyki. *Studia Edukacyjne*, 4, 101–111.
- Putrawangsa, S., Hasanah, U. (2020). Sensorimotor-Based Digital Media: An Alternative Design of Digital Tools in Mathematics Education.
- Rutherford, S. (2014). *Collaborative Learning: Theory, Strategies, and Educational Benefits*. New York: Nova Science Publishers, Inc.
- Rash, N. (2008). *The Middle Schools in Israel: Problems, Difficulties, and Possible Solutions*. Jerusalem: Van Lear Group for Education. <https://www.vanleer.org.il/publication/%D7%97%D7%98%D7%99%D7%91%D7%95%D7%AA-%D7%94%D7%91%D7%99%D7%A0%D7%99%D7%99%D7%9D-%D7%91%D7%99%D7%A9%D7%A8%D7%90%D7%9C/> (Hebrew) [Access: 13.05.2023].
- Roschelle, J., Patton, C., Tatar, D. (2007). Designing Networked Handheld Devices to Enhance School Learning. *Advances in Computers*, 70, 1–60.

- Rosen, Y. (2011). *Teacher-Led Technology-Rich Environment: Educational Effects*. In: S. Barton et al. (eds.), *Proceedings of Global Learn Asia Pacific* (pp. 1878–1885). AACE.
- Saha, R.A., Ayub, A.F.M., Tarmizi, R.A. (2010). The Effects of GeoGebra on Mathematics Achievement: Enlightening Coordinate Geometry Learning. *International Conference on Mathematics Education Research 2010 (ICMER 2010), Procedia - Social and Behavioral Sciences*, 8, 686–693.
- Salomon, G. (1981). *Communication: Concepts in Educational Discussion*, Sifriat Poalim. (Hebrew)
- Salomon, G. (2000). *Technology and Education in the Information Era*. Haifa: Haifa University & Zmora-Beitan. (Hebrew)
- Schmidt, M.C.S. (2016). Dyscalculia ≠ Maths Difficulties. An Analysis of Conflicting Positions at a Time that Calls for Inclusive Practices. *European Journal of Special Needs Education*, 31(3), 407–421. <https://doi.org/10.1080/08856257.2016.1163016>
- Seloraji, P., Kwan-Eu, L. (2017). Students' Performance in Geometrical Reflection Using GeoGebra. *Malaysian Online Journal of Educational Technology*, 5(1), 65–77.
- Shalita, R., Friedman, A., Hartan, R. (2011). *Visual Orientation in Action - Education in the Visual Era*, Mofet Institute, School of Research and Development of Programs in Training Teaching and Education Workers in the Colleges. (Hebrew)
- Shaughnessy, J.M., Garfield, J., Greer, B. (1996). *Data Handling*. In: A.J. Bishop, K. Clements, C. Keitel, J. Kilpatrick, C. Laborde (eds.), *International Handbook of Mathematics Education* (Vol. 1, pp. 205–237). Dordrecht, Netherlands: Kluwer.
- Shute, V.J. (2008). Focus on formative feedback. *Review of Educational Research*, 78(1), 153–189.
- Skadberg, Y.X., Kimmel, J.R. (2004). Visitors' Flow Experience While Browsing a Web Site: Its Measurement Contributing Factors and Consequences. *Computers in Human Behavior*, 20, 403–422.
- Sorden, S. (2012). The Cognitive Theory of Multimedia Learning. *Handbook of Educational Theories*. Charlotte, NC: Information Age Publishing.
- Stanford, P., Crowe, M. W., Hollie, F. (2010). Differentiating with Technology, *Teaching Exceptional Children Plus*, 6, 4, April.
- State Comptroller (2014). *Report of the State Comptroller: Teaching Mathematics, Annual Report 64C (for the Year 2013)*, 943–964. (Hebrew)
- Sternberg, R.J. (2003). *Cognitive Psychology* (3rd ed.). Belmont, CA, USA: Thomson/Wadsworth.
- Sweller, J. (2004). Instructional Design Consequences of an Analogy between Evolution by Natural Selection and Human Cognitive Architecture. *Instructional Science*, 32, 9–31.
- Sweller, J. (2010). Element Interactivity and Intrinsic, Extraneous, and Germane Cognitive Load. *Educational Psychology Review*, 22, 123–138. <https://doi.org/10.1007/s10648-010-9128-5>
- Sweller, J. (2011). *Cognitive Load Theory and E-Learning*. In: G. Biswas, S. Bull, J. Kay, A. Mitrovic (eds.), *Artificial Intelligence in Education. AIED 2011*. Lecture Notes in Computer Science, 6738. Springer, Berlin, Heidelberg.

- Tall, D., Razali, M. (1993). Diagnosing Students' Difficulties in Learning Mathematics. *International Journal of Mathematical Education in Science and Technology*, 24(2), 209–222. <https://doi.org/10.1080/0020739930240206>
- Ministry of Education, Administration of ICT, Technology, and Information Systems, Department of Information Technology (2013). The Adjustment of the Education System to the 21st Century: The Inculcation of Computer Literacy and Information. Retrieved from: https://sites.education.gov.il/cloud/home/tikshuv/Documents/aknayat_oryanut_yesodi.pdf [Access: 14.10.2022]
- UNESCO (2009). *Guide to Measuring Information and Communication Technology (ICT) in Education*. Paris: United Educational, Scientific and Cultural Organization. Retrieved from: http://www.uis.unesco.org/template/pdf/cscl/ICT/ICT_Guide_EN.pdf. [Access: 22.12.2013]
- United Nations Children's Emergency Fund – UNICEF (2017). *The Adolescent Brain: A Second Window of Opportunity A Compendium*. UNICEF Office of Research - Innocenti, Florence. Retrieved from: https://www.unicefirc.org/publications/pdf/adolescent_brain_a_second_window_of_opportunity_a_compendium.pdf [Access: 14.10.2019]
- Vargan, Y. (2010). The Middle Schools and Their Place in the Structure of Secondary School in the Education System. The Knesset: Center of Research and Information. June. https://fs.knesset.gov.il/globaldocs/MMM/c35b6b58-e9f7-e411-80c8-00155d010977/2_c35b6b58-e9f7-e411-80c8-00155d010977_11_9489.pdf (Hebrew) [Access:13.05.2023].
- Verbruggen, S., Depaep, F., Torbeyns, J. (2020). Effectiveness of educational technology in early mathematics education: A systematic literature review. *International Journal of Child-Computer Interaction*, 27, 100220.
- Volasnky, E. (2014). Pasi Sahlberg. *Echo of Education Journal*, 85(6), 40–41. (Hebrew)
- Weiss, D. (2010). Pedagogical Sympathy to Technological Instruments. *Echo of Education Journal*, 80–82. (Hebrew)
- West, P., Sweeting, H., Young, R. (2008). Transition Matters: Pupils' Experiences of the Primary Secondary School Transition in the West of Scotland and Consequences for Well-Being and Attainment. *Research Papers in Education*, 99999(1). <http://dx.doi.org/10.1080/02671520802308677>
- West, D.M. (2012). *Digital Schools: How Technology Can Transform Education*. Washington, D.C.: Brookings Institution Press.
- Westwood, P. (2007). *Commonsense Methods for Children with Special Needs*, (5th Ed.), London: Routledge.
- Westwood, P. (2016). *Reading and Learning Difficulties* (2nd Ed.). Melbourne: Australian Council for Educational Research.
- Widder, M., Berman, A., Koichu, B. (2014). Dismantling Visual Obstacles to Comprehension of 2-D Sketches Depicting 3-D Objects. *Proceedings of PME 38/ PME-NA 36 Conference: Mathematics Education at the Edge*. Vancouver, Canada. Jul 15-20.
- Wong, A., Leahy, W., Marcus, N., Sweller, J. (2012). Cognitive Load Theory, the Transient Information Effect and E-Learning. *Learning & Instruction*, 22, 449–457. <https://doi.org/10.1016/j.learninstruc.2012.05.004>

- Yerushalmy, M. (2006). Slower Algebra Students Meet Faster Tools: Solving Algebra Word Problems with Graphing Software. *Journal for Research in Mathematics Education*, 37(5), 356–387.
- Young, J. (2017). Technology-enhanced mathematics instruction: A second-order meta-analysis of 30 years of research. *Educational Research Review*, 22, 19–33.
- Yong, S.T., Gates, P., Chan, A. (2019). Similarities and Differences in Learning of Metacognitive Skills: Computer Games Versus Mathematics Education. *International Journal of Game-Based Learning*, 9, 1–14. <https://doi.org/10.4018/IJGBL.2019010101>
- Zbiek, R.M., Heid, M.K., Blume, G.W., Dick, T.P. (2007). *Research on Technology in Mathematics Education: The Perspective of Constructs*. In: F. Lester (ed.), *Handbook of Research on Mathematics Teaching and Learning* (Vol. 2, pp. 1169–1207). Charlotte, NC: Information Age Publishing.

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The impact of smartphone on child and youth independence in the age of social networking and global news

Introduction

The processes of globalization, news coverage, social networking, and the smartphone have led the global population to recognize and be aware of what is happening everywhere in the world at every moment. The news, and especially online news reported on websites and social networks, is an accessible, dominant, and popular source of information. News has a tendency to be negative, and in crisis events such as natural disasters and terrorist attacks, the reports become intense and may lead to rising levels of stress, anxiety, and mental distress in the population, including parents and their children. This combination of circumstances and characteristics leads to an increase in parenting and supervision by parents, with implications for the diminished independence of their children. Today's younger generation is less independent than previous ones (today's children experience less independence and freedom in outdoor activities, they also find it difficult to make decisions on their own). This generation is part of an infantilizing society and grows up more slowly than previous ones.

The aim of this article is to review current social issues and phenomena including globalization, media, online news, and the use of the smartphone, in order to present and point out a relationship and conceptual connection between them – the first of its kind, to the best of our knowledge – leading to conclusions about the increasing lack of independence of contemporary children and youth.

1. Globalization and the speed of information in a postmodern world

Globalization is a tremendous process in which boundaries are disappearing, emerging markets are evolving and becoming more sophisticated, new wealth is created in free trade, the media is disseminated unchecked in all directions, and people are free to choose their identities and lifestyles from an expanding range of possibilities (Bauman, 1998). Thanks to globalization, people from all over the world are much more connected than before (Ursah, 2009). There is no single culture today that is not exposed to the penetration and influence of foreign cultures, other ways of life, other religions, and technological achievements from other countries anywhere in the world (Stenger, 2010). Information flows rapidly; business, services, and sales go from one end of the world to the other; tourism and international communication has intensified and become boundless. It is a phenomenon that characterizes the political, economic, and cultural atmosphere all over the world (Ursah, 2009).

Until the end of the 1980s, the word 'globalization' was hardly used, neither in academic journals nor in the popular press, while today it is a common, well-known, and widely used concept. Mostly, globalization is seen in its economic context, but it is also significant in the great and profound changes it has brought about in terms of time and space in human life. People are influential upon and influenced by their local and remote geographical world, both directly and indirectly, more quickly than ever before. For example, in the global consumer world, living habits and norms affect a person's consumption habits on one side of the world, and these in turn affect manufacturers and factory workers on the other side of the world. The communications revolution and information technology are also a major part of the globalization process, as in the economic sphere. For example, markets that operate twenty-four hours a day depend on satellite and computer technologies which have a major impact on a wide range of areas of activity (Giddens, 1998). Furthermore, in the postmodern and global world, people do not have to move much physically; people move all the time without getting out of their chairs, shifting rapidly between spaces, for example, switching between TV channels or websites, and physical distance now has much less significance.

So, of all the factors and means of technical mobilization, such as trains, cars, and aircraft, a particularly important role is played by information. Information transfer is a form of communication that does not involve physical movement on the part of the consumer. Here too, technology has

evolved, streamlined, and intensified. Ultimately, the evolution of technology and the advent of the Internet have eliminated, at least with regard to information, the very concept of “transit”, i.e. the distance to be traversed, and made it available instantly anywhere in the world (Bauman, 1998). Today, there is almost no dependence on physical location, and distances are almost irrelevant. The speed of communication and interaction has reduced time and space to a minimum, and their boundaries no longer have any effect. The world is becoming an entirely networked place via communication lines, giving the feel of a “global village”, at least in terms of the speed of information and communication (Gusacov, 2016). If in the past the world was founded on space, territory, physical and human boundaries, in the postmodern era, on the same territorial, physical, architectural and engineered space, another human space has been composed: cyberspace¹. Although this space is devoid of spatial features, it nevertheless has a special material feature of instantaneous expansion, which obscures the difference between “here” and “there”. Eliminating space and time distances, thanks to technology, exacerbates the polarization of humanity; it frees some people from territorial constraints and transforms some of the community’s features into non-territorial ones (Bauman, 1998).

2. Internet changing the news

This being the case, technological developments and the advent of the Internet for the general public since the early 1990s have made globalization a genuine reality for the common man. Since the beginning of the revolution in communications technology, especially since the launch of efficient search engines, the amount of information accessible to people has been unprecedented. Every piece of social, historical, economic, technological, or medical information from any corner of the world is available and within reach (Stenger, 2010). Moreover, the proliferation and popularity of the Internet since the early 1990s, and the rise and dramatic increase in news sites on the Internet over the decades (Elangovan, Gupta, 2015; Fernandes, 2015) have made it a leading and significant source of information and news.

The human need for information, in addition to the need for controlling the information environment, leads to engagement and seeking behaviour,

¹ The Internet is considered an imaginary space without a physical location in which communication over computer networks takes place (www.oxfordlearnersdictionaries.com [Access: 27.04.2020]).

which is partly fulfilled by viewing and reading news. Online media consumption and online news providing rapid updates are readily available and continuously satisfy this need. This is one of the benefits of online news as compared to the press and the evening news on television and radio (Althaus, Tewksbury, 2010).

The Internet has influenced and changed the news media in many ways. For example, there is a trend whereby fewer and fewer people start the day listening to the radio, watching TV, or reading a written press document, and more people use the Internet to get familiar with the news (Newman, 2019). The numbers of newspapers and magazines have dropped dramatically, as has their advertising revenue as a result of online competition. The Internet has led to the establishment of many news sites that have made changes and adjustments in order to accommodate news coverage to online platforms and target audiences. For example, writing style and presentation of information content had to be adjusted in favour of a more casual, short-form writing style, with short posts incorporating interaction with online readers, photos, videos, hyperlinks interwoven with text, and more (Uddin, et al., 2016; Christin, 2015). The result is that more and more people prefer to read digital news and fewer read printed news (Liu, 2017), and accessing online news sites has become commonplace for many people in the world (Motamedi, Choe, 2015; Knobloch-Westerwick, 2005).

Over the years, the popularity of news sites has only increased, and this has provided an easy and quick way to transfer information worldwide (Fernandes, 2015). That is, news sites have also become global. For example, television news channels have begun to maintain Internet-based news sites that can be viewed worldwide and are gaining even greater popularity and follow-up. A great example is the BBC News site (the British Broadcasting Corporation), a global brand with the potential and ability to attract more readers in the US than American news sites and channels such as Fox News, USA Today, and the Los Angeles Times (Thurman, 2007).

3. The social network as a news source

At the same time, the various social networks that emerged have also progressed and improved. Over time, social networks have become a dominant locus of online engagement, especially with the advent of Facebook in 2004 and later Twitter, YouTube, Instagram, WhatsApp, and more, becoming tools and daily occupations. Social networking enables a fast and real-time virtual conversation, as well as one with multiple participants,

which has met the whole world's need for instant communication satisfaction (Almog, Almog, 2016; Newman, 2019). Accordingly, the news and press channels have made historical adjustments and altered their content in accordance with technological development (Goggin et al., 2015), and news information has also become social information on social networks (Tatar, Antoniadis, 2014). In this way, news can be consumed not only on the news websites, on television, from newspapers or on the radio, but also on social networks that serve as news-reporting platforms, such as Facebook (Turcotte et al., 2015). As another example, Twitter, a social network focused on rapid and compact communication, is used for sharing personal updates and spontaneous ideas, entertainment information, lifestyle, and celebrity coverage. But besides, Twitter allows for widespread dissemination of breaking news reports; it contains a lot of useful information at the news level and reviews breaking news stories in a manner similar to traditional media coverage (Zhao et al., 2011). This is how it has become not merely a social network, but also an important news media outlet. Twitter hosts many news agencies, such as CNN and the BBC, that make sure to release and publish news in the form of tweets all the time and consistently. And this is one of the contemporary ways of spreading news very widely, intensely, and incessantly² (Wu, Shen, 2015).

In 2019, a trend was observed whereby social-media engagement around news had become more private. That is, there had been a transition from open social-media platforms like Facebook to more private social media, through messaging apps, such as WhatsApp, Facebook Messenger, Viber, and Telegram, and these show an increase in use for news purposes. WhatsApp, for example, an app designed primarily for private groups, most often comprising friends, family, or work colleagues, has become a premier social network, one of the most significant and popular in the world, for news discussion and sharing. While the news is not the main focus, it is the subject of discussion and is increasingly shared within groups (Newman, 2019). Therefore, social networks allow viewing of many types of content, including entertainment, information, and news. With respect to news reports, the importance of both interpersonal communication and the human element is of great importance. That is, there is great significance to the two-way relationship on social networks compared to the one-way relationship that traditional media such as television and the press have with their audience. The sharing and recommendations of opinion leaders,

² According to an app store review, since April 19, 2020, Twitter has been downloaded 500+ million times.

whether acquainted with or distant from the user, have an impact on content dissemination, media trust levels, and repeated use of the same media (Turcotte et al., 2015).

4. Popularity and distribution in the online world

Over time, social media have become one of the most popular Internet services in the world. Social media help users to search for information, get updated, and get involved in civil and political activities and in the community. They can foster new connections and strengthen existing community connections by updating and reporting on what is happening among contacts (Gil de Zúñiga et al., 2012). Furthermore, following the development of powerful mobile devices, led by the smartphone, and in light of their popularity and expanding use around the world, there has been an increase in the use of social-networking sites, which has accelerated the consumption of online news even more significantly (Tatar, Antoniadis, 2014; Uddin et al., 2016). Indeed, it has been found that the use of mobile devices for news search is only increasing worldwide (Goggin et al., 2015). Many prefer to check and track news taking advantage of mobile digital devices such as smartphones or tablets (Taylor et al., 2015). People still use computers to consume the news, but the smartphone is better for most people because of its convenience and flexibility. In addition, more and more people go first to the social networks to search for news and only then to a direct news channel (Newman, 2019).

Online information has huge and rapid distribution potential. The information presented there can catch the attention of a large number of users in a short period of time (Uddin et al., 2016). Many companies have already conducted tests and research on users' attention and the popularity of digital news, and many articles have been published in an attempt to understand the winning formula for a popular news article and predict the popularity of digital content in general. Such information is important and worth a lot of money to journalists and advertisers (Liu, 2017). The popularity of the articles and content which are published on online and social-networking sites is constantly evaluated by measuring the number of views, the number of comments and responses, reviews, the number of votes or other types of rating metrics, site access, time spent on the webpage with the article, and the number of shares and likes (Chopra et al., 2019; Fernandes, 2015; Tatar et al., 2011). Webmasters can examine the cumulative data using analytics software programs (Tatar et al., 2011)

such as Google Analytics, Omniture, Chartbeat, Visual Revenue, and others. This provides detailed and often also real-time statistics on the behaviour of online readers. Sometimes journalists and advertisers have access to some of the data. For example, some journalists claim that the articles that receive the most clicks are articles about sex, celebrities, crime, and practical advice. In comparison, news, politics, and international arts are less watched (Christin, 2015).

Today, news consumers have a huge amount of information to choose from on various sites. There are several factors that can lead to exposure or selection of a particular site or article, among them, the sentiment and emotional intensity behind the story. Human emotions are a significant element that drives and guides human behaviour, especially on news sites and social networks (Chopra et al., 2019). Another factor is the number of views of a given article. Due to the way search engines are designed, an increased number of views has significance for the article's exposure, leading to further increases later. And one of the top factors are the explicit recommendations the viewer receives for information to consume online, allowing a window of opportunity for exposure to other articles and content on the same site (Knobloch-Westerwick, 2005; Tatar et al., 2011). When individuals forward and share information about local or global events through apps and websites, this helps spread important news to a wider audience worldwide. And these behaviours are actively used to help spread news about important events in the world (Zhao et al., 2011). The number of times a news article is shared is indicative of the article's popularity, and it seems that in the current information world, more and more people are enjoying reading and sharing online news articles, which become part of users' entertainment (Ren, Yang, 2017).

5. The smartphone increases and empowers everything

As already mentioned, some of the parameters for measuring the popularity of information on the web in general and of online news in particular are determined by the amount of sharing, likes, and responses to the content or the article (Uddin et al., 2016). Now, thanks to smartphones, when the news content on the online network is relatively easy to produce, with small, concise, and low-cost presentation of information, the information is consumed and has the potential to be widely shared across the World Wide Web (Tatar, Antoniadis, 2014). At the same time, applications that allow direct content exchange between users are emerging, and online news

platforms have become an important and attractive source of information. Thanks to this, there can be convenient and quick access to the latest news, combined with social media that allows online users to interact by writing comments, voting, and sharing online social links quickly and easily (Tatar et al., 2011).

No doubt, the smartphone has changed its purpose from what was originally assumed. If initially the mobile phone existed for the purpose of making a call from anywhere while enjoying mobility, over the years, the cell phone has evolved to become a technology with many different functions: from the alarm clock and phone book to advanced music playing, a means for fast Internet browsing, digital camera, video games, and more (Groening, 2010). The mobile phone that has become a smartphone has evolved to become an important part of daily life (Weiss, 2003). Today, it is involved in and influences almost every field of life, for example, in the area of interpersonal communication, through conversations and messages; in the social field, through social networks; in the use of information and knowledge search; in leisure time for entertainment and relaxation, and so on (Elhai, 2017). Thanks to the various applications, it is possible to access, read, create, and participate in almost any field: from cooking to listening to music, games, shopping, learning, working, photography, orientation in space, and more. In the area of news, news apps provide instant and up-to-the-minute information (Elangovan, Gupta, 2015). In addition, there may be overlap and sharing between the different usage characteristics. For example, relaxation can be achieved through playing games, while the need for socializing can also be satisfied with a multiplayer game. The search for information and updates on the news can be obtained and provided not only through search engines and sites intended for this but also, as stated, through the various social networks (Elhai, 2017).

The smartphone has transformed many ways of communicating, consuming, and using the Internet which have become much more accessible, available, and faster than before. Furthermore, the use of smartphones has become habitual for many people, a habit of quick and repeated examination of the device, examining information lightning fast, and this is a repetitive action. The habit can become automatic for some users. The duration of smartphone use in test subjects is short but continuous throughout the day. This use is usually limited to several apps, and usually the same apps will be in “flash” use all the time. While using and searching, when new information is revealed, it provides reinforcement for users’ behaviour, and by clicking refresh, they check for new updates that they have not yet seen. Testing habits may lead to the increasing use of the smartphone in general (Ou-

lasvirta et al., 2012). In some cases, this searching and browsing can cause biological changes in the brain (increased secretion of the neurotransmitter dopamine) that can lead to smartphone addiction (Weinschenk, 2012).

6. The problematic side of technology and news media

This being the case, every technology is both a burden and a blessing; it is not either-or but both-and. When technology enters a particular company, it will bring about changes and will be implemented to the greatest extent possible. The role of people in society is to understand what the purpose of the technology is and what it is designed to do. New technology creates new definitions for old concepts, even if unconsciously, and technology also adds new terms and concepts (Postman, 1992). The spread of information technology is closely related to the processes of globalization and media revolution described so far (Giddens, 1998). The media is very influential and exerts great power on the popular, collective, and individual imaginations. The photos, stories, and images presented seem stronger and more real than reality. Life on the screen diminishes life in reality and pulls the user out of it; life on the screen seems to be desirable and tends to be considered real. A lot of this is thanks to the spectacular and curated images shown, because these professional images entice users, and reality cannot compete with them (Bauman, 2000).

People's knowledge of their environment and much of their world view rely upon and are drawn from various sources of communication (McNaughton-Cassill, Smith, 2002). Thanks to global communication, viewers and consumers of information can witness big events in distant places. This testimony, of course, has cognitive effects on the minds of viewers, and sometimes the images become engraved in the minds of many people throughout the world and can serve as shared memories. Widespread reporting on foreign events at the global level depends on the dramatic nature of these events and the images they produce. These raise the potential and likelihood of coverage by global media channels and replacement of the local time and space of local news. There are many stories that are not just local and can be part of the experience of many cultures worldwide, and if the story does not exactly match a particular culture, its essence can be taken and linked to the values or virtues that can be accessed anywhere in the world. For example, helping animals on the other side of the world can demonstrate humaneness or can be associated with the value of caring for innocents in distress (Gurevitch, 1991). Similarly, a violent or terrorist

event that affects a particular place raises concern elsewhere in the world, and a demonstration against a local regime can influence and lead to ideological resurgence elsewhere in the world (Guzansky, Heller, 2012).

People pay more attention to negative information than to positive information. In addition, reactions to negative news are stronger, longer lasting, and more impactful than positive information and news. Accordingly, news coverage tends to be more negative (Soroka, Adams, 2015). Death, for example, is important to the media and news, because it is interesting, intriguing, and appealing to viewers (Walter, 1995). In addition, people tend to emphasize the negative and dangerous aspects of their lives, and the media influence their attitudes and views about problems that occur in their immediate and distant environments. At the same time, people tend to believe that negative social issues such as crimes, drug use, education problems, racism, and life-threatening issues are far more problematic in the country at large than in their specific communities. The media plays a significant role in this discrepancy and incongruity, as exposure to global media influences the increased perception of problems in the wider world. Another influencing factor is the manner in which people gather information and knowledge. That is, in the immediate community, knowledge is gained from direct experience and close sources, whereas in distant places, knowledge relies on the media, which tends to be negative as previously said, and it has a greater impact on the attitudes and views of distant people than close and familiar situations (McNaughton-Cassill, Smith, 2002).

The media are aware of the impact of negative news and the attraction of viewers and audiences to such content. And once there is a big and shocking crisis event, like terrorism or natural disasters, they come in droves, flooding the scene, and their pressure and hunger to get interviews and photos are palpable (Haravuori et al., 2011). The media intensely report on various global crises, which can shape global processes and feelings and help mould the attitude of the global public sphere. These events of crisis are covered and constantly monitored by worldwide news, from international terrorism and the war against it (Cottle, 2011), such as the attacks on the World Trade Center on September 11, 2001 that stunned the entire world and forced the realization that terrorism could reach anywhere (Pfefferbaum et al., 2014), to a financial collapse, like the subprime in the United States; from global epidemics such as swine flu, avian flu (*this article was written during the Coronavirus pandemic) to poverty and humanitarian disasters, human rights denial, environmental damage, global warming, and climate change (Cottle, 2011). This includes natural disasters like the 2004 Indian Ocean tsunami, which left hundreds of thousands dead, injured, or home-

less. Less than a year later, Hurricane Katrina hit the US Gulf Coast, leading to great destruction and enormous damage. Also, in 2011, the Great East Japan earthquake and tsunami killed more than 15,000 people, swept millions of tons of offshore debris, and released radioactivity of unknown levels of danger. Again, these unknown exposures highlighted the vulnerability of people around the world (Pfefferbaum et al., 2014). These are just some of the global crises that the international public has been exposed to through recent world news media. Of course, global-effect crises and catastrophes are nothing new. Consider the collapse of Wall Street in 1929, the Spanish influenza in 1918 and, of course, World War I and World War II, the nuclear bombs, and the pursuit of nuclear weapons, which remains a global threat to this day. The recent global crises are recognized as global and reported on in this way thanks to the media. Global crises are characterized by outcomes that reach beyond their national boundaries, are not limited to a local area, and have the potential for creating a global, postmodern, capitalist connection, a world without territorial and physical boundaries that is becoming increasingly interconnected and interdependent (Cottle, 2011).

7. A stressful period with crisis events

Postmodernism, or as Zygmunt Bauman called it, fluid modernity, is characterized by many areas of mass instability, insecurity, uncertainty, threat, and danger (for body, mind, and property). Everything changes very quickly; what is considered modern today will be considered outdated tomorrow; a lifestyle considered fashionable today will be ridiculed tomorrow. The changes and flow that lead to fluidity or instability enable humans to perceive the world as a place where everything is biodegradable and unmanageable, even the man himself; 'now' is the keyword in the life strategy. There is no spatial solidity, that is, no power for space but only for time; mobility rather than stasis is the rule (Bauman, 2000). In addition, the accelerated movement of information requires cleverness, guile, elusiveness, and even courage (Bauman, 1998).

Thus, the twentieth century was marked by advances in communication technology as well as increasing mental distress. Changes and technological advances, along with global economic changes in the second half of the twentieth century, increased the prevalence and availability of news sources as well as their negative nature, in addition to their visual presentation. The television, for example, can act as a social agent that can cause fear, alienation, and distrust among heavy viewers (McNaughton-Cassill, 2007).

Mass media is the main source of information for citizens, since it has the ability to be constantly available, instant, and up to date. The intense consumption of and search for information can lead to media dependence, and the more dependent on the media one is, the more important the media become to the user to fulfil their human need for information (Lachlan et al., 2009).

Accordingly, the media in general and news coverage in particular have a great variety of power and influence. News coverage can affect emotional reactions and states, the memory of the content, the viewers' knowledge, and different approaches and behaviours. However, media news, as mentioned, tends to be negative, sometimes, overly negative. Exposure to different media can affect people's way of looking at the world, their existing threats, their health and personal safety, and as a result, they can develop anxiety, stress, and emotional distress (McNaughton-Cassill, 2007). Therefore, if media events are not properly surveyed and conducted, this could have negative consequences and impacts on large populations (Jobes et al., 1996). The main way to learn about crisis events like tragedies, natural disasters, and terrorism is through the media and news (Busso et al., 2014). Therefore, the role of the media as managing and responsible for the coverage and reporting becomes especially central and palpable in these events. On the one hand, correct and reliable information is necessary to reduce uncertainty, inform the public of appropriate actions, and perhaps lower stress and anxiety levels. But on the other hand, acquiring information after a terrorist event or major natural disaster may not help to reduce anxiety and stress (Lachlan et al., 2009). With intense reportage, plus rumours that arise and spread in the context of such events, one can expect an increase in unpleasant psychological sensations (McNaughton-Cassill, 2007; Ben-Zur et al., 2012; Jones, 2017). Many studies have found an association between emotional distress symptoms, stress, anxiety, and even symptoms reminiscent of post-traumatic stress disorder (PTSD) on the one hand and contact and watching of the media on the other, especially during coverage and reporting of crisis events (McNaughton-Cassill, 2007; Bodas et al., 2015; Ben-Zur et al., 2012; Pfefferbaum et al., 2014). Many crisis events contain characteristics of confusion, uncertainty, threat and anxiety, short reaction time, and surprise. Also, they are likely to involve impacts such as loss of life and property (Lachlan et al. 2009). These features also affect the viewer and increase the need for information (Gadarian, Albertson, 2014). It is important to note that news consumption is usually undertaken actively and proactively by the media consumer when he or she decides

to watch TV or search for information on the Internet (Ben-Zur et al., 2012). Nevertheless, the anxiety that the viewer can feel affects his or her assessment of the reported details; that is, people in a calm state of mind do not immediately and automatically accept the information to which they are exposed without question. In contrast, anxious people are less likely to argue with and question threatening information and will assent to it and assimilate it more readily (Gadarian, Albertson, 2014).

A person's physical presence at crisis events can lead to a variety of emotional distress and psychological disorders. These consequences are especially heightened among children and youth, who are considered to be a more impressionable and thus vulnerable population. At the same time, exposure to media coverage of such events can also increase the likelihood or act as a trigger for the development and emergence of emotional distress symptoms, which can be similar to post-traumatic stress disorder. Here, too, children and youth are more vulnerable, especially given that they are a population that is more exposed to media consumption (Busso et al., 2014; Otto et al., 2007; Haravuori, et al, 2011). Sometimes just watching a report on a tragic event is enough to produce post-traumatic symptoms. In particular, children whose parents have a history of anxiety or depression are more likely to experience anxiety themselves (Otto et al., 2007).

8. The smartphone as a supervisor for protective parents

Thus, children and youth may respond with a sense of threat to the news coverage of crisis events. This sense of threat can be personal or social and can lead to anxiety. Parents have a significant role in guarding and protecting their children; through communication and verbal discourse they must explain, make connections, and mediate between what the child sees and the sense of threat he/she experiences, in order to help him/her contain and cope with the unpleasant sensations. In this way, parents can also help themselves with their own perceptions and the sense of threat they experience (Comer, 2008). In addition, it is the responsibility of parents to take care of their children's exposure to news coverage, as the exposure can be burdensome and problematic. Even if the children are already teenagers, parents should reduce their viewing, and limit them in the dose and content to which they are exposed (Busso et al., 2014). The more access a young person has to news and media, the higher the rate of viewing and consumption (Haravuori et al., 2011). Limiting access is not an easy task today, as the younger generation is one for which the Internet is constantly

available and easy to access and use, and is within immediate reach thanks to the smartphone (Twenge, 2017).

Given the review so far, in a global world where crisis events are in the palm of the hand thanks to the smartphone, and anxiety and stress levels are rising, at the same time, the smartphone paradoxically plays the opposite role both for parents and their children, i.e. that of a device that offers a sense of security and calm. The ability to be available, and in extreme cases the ability to call for help at any given moment, provides peace of mind. Therefore, many parents give their children smartphones from an early age, so that they can know where they are and feel safe knowing that their children have the possibility to contact them in a distressing situation. Now, in fact, the smartphone has been given another role, i.e. that of a mobile security guard. At the same time, this new role has its problems because of the messages of feeling insecure in society and the outside world unintentionally conveyed to children by parents (Rosen, 2004). Parents feel the need to supervise; they feel the need to be informed about their children's locations, friends, and activities, and the smartphone is a perfect and convenient tool to do so (Weisskirch, 2009). Parents' supervision and monitoring of their children constitutes a form of parental control, entry into the children's private space, and influencing of that space by their presence (Williams, Williams 2005). The presence of parents in a protective and supervisory capacity plays a significant part in the decline in children's independence and slower maturation compared to previous generations (Twenge, 2017). These characteristics are associated with and reinforce the process of infantilization that has taken place in Western capitalist society, where there is a kind of age denial as people do not act according to their actual age (Barber, 2007).

Children and youth today are part of a generation in which technological advancement is the fastest it has ever been, with an emphasis on smartphones and social networks, and these directly impact their lives (Kang, 2018). The children and youth who grow up with the smartphone in their hands, online and available all the time, meet less face to face, spend less time outdoors (Twenge, 2019), and accordingly, experience less independence and freedom in extracurricular activities, spend less time without their parents and more of their spare time on indoor activities, hang out less, and are less willing to work if this is possible, although a salary could leverage independence and enable them to outgrow parental dependency (Twenge, 2017). The smartphone allows them to consult at any given moment; they can share and ask and do not have to make decisions alone. For the younger generation, this situation reduces independence and increases insecurity

over decision making, and on the part of parents, the regular consultation, closeness, and availability serve to soothe anxiety and worries about their children's condition.

If in the past, when technology and communication were slower and less global, the person was less exposed to information about crisis events such as disasters, terrorist incidents, and tragedies, today, in the age of information and the Internet, when everything is readily available, global communication exposes the world to a huge amount of negative information, which increases the sense of anxiety and fear that affects many populations such as parents, children, and youth (Almog, Almog, 2016). As a result of the news's impact and its power, as has been shown, there is now a growing sense that the wider world is uncertain; there is a sense of polarization, a wariness of misinformation and information that is questionable (fake news). It is still difficult to know the reason for these feelings; perhaps the world has become a more depressing place or media coverage tends to be uncompromisingly negative – or perhaps a combination of the two. There seems to be a flood of news, some of which is contradictory. The viewer has the feeling that he/she does not have the ability to influence or change reality, which conflicts with the human need for control. It has been found that more and more people have stopped watching the news, and right now this seems to be the trend (Newman, 2019).

Conclusions

This paper has demonstrated that the increasing use of smartphones leads to a decline in the independence of children and youth. Reports on global events, with a predominantly negative cast, are constantly and immediately available on news channels and social media via the smartphone, and young people who use the smartphone intensively have an especially high level of exposure. With the human need to search for information constantly, the levels of symptoms and feelings of stress, anxiety, and emotional distress rise, especially among children and youth, who are more vulnerable and more exposed to the media in general and to social networks in particular.

As a result, parents may develop a sense of insecurity, which leads them to exhibit increasingly protective behaviours toward their children. Therefore, many parents give their children smartphones that then take on a new role as a supervisor, a guarding and monitoring tool. Although this way of using smartphones may calm parents, on the other hand, it can lead to their

penetration into the children's private space and can also send an unintended message to the children that society and the outside world are unsafe.

Accordingly, smartphones and parental involvement through them have implications and some causality regarding the lack of independence of the younger generation and a general process of infantilization in society.

The paper is a review article designed to present a new idea and perspective on an important and current situation. In order to flesh out the idea and establish it empirically, it is recommended to do quantitative follow-up research to measure and quantify data such as anxiety and stress levels, the amount of smartphone use, and parents' and children's news-viewing time.

REFERENCES

- Almog, O., Almog, T. (2016). *Generation Y – As if There is No Tomorrow*. Ben Shemen Mosh, Israel: Modan Publishing House. (Hebrew)
- Althaus, S.L., Tewksbury, D. (2010). Patterns of Internet and Traditional News Media Use in a Networked Community. *Political Communication*, 17(1), 21–45. <https://doi.org/10.1080/105846000198495>
- Barber, B.R. (2007). *Consumed: How Markets Corrupt Children, Infantilize Adults, and Swallow Citizens Whole*. New York, NY: W.W. Norton.
- Bauman, Z. (1998). *Globalization: The Human Consequences*. New York, NY: Columbia University Press.
- Bauman, Z. (2000). *Liquid Modernity*. Cambridge, UK: Polity Press.
- Ben-Zur, H., Gil, S., Shamshins, Y. (2012). The Relationship between Exposure to Terror through the Media, Coping Strategies and Resources, and Distress and Secondary Traumatization. *International Journal of Stress Management*, 19(2), 132–150.
- Bodas, M., Siman-Tov, M., Peleg, K., Solomon, Z. (2015). Anxiety-Inducing Media: The Effect of Constant News Broadcasting on the Well-Being of Israeli Television Viewers. *Psychiatry* 78(3), 265–276. <http://dx.doi.org/10.1080/00332747.2015.1069658>
- Busso, D.S., McLaughlin, K.A., Sheridan, M.A. (2014). Media exposure and sympathetic nervous system reactivity predict PTSD symptoms after the Boston Marathon bombings. *Depression and Anxiety*, 31, 551–558.
- Chopra, A., Dimri, A., Rawat, S. (2019). Comparative Analysis of Statistical Classifiers for Predicting News Popularity on Social Web. *2019 International Conference on Computer Communication and Informatics (ICCCI)*, 1–8.
- Christin, A. (2015). 'Sex, Scandals, and Celebrities'? Exploring the Determinants of Popularity in Online News. *Sur Le Journalisme – About Journalism - Sobre Jornalismo*, 4(2), 28–47.
- Comer, J.S., Furr, J.M., Beidas, R.S., Weiner, C.L., Kendall, P.C. (2008). Children and Terrorism-Related News: Training Parents in Coping and Media Literacy. *Journal of Consulting and Clinical Psychology*, 76(4), 568–578. <https://doi.org/10.1037/0022-006X.76.4.568>

- Cottle, S. (2011). Taking global crises in the news seriously: Notes from the dark side of globalization. *Global Media and Communication*, 7(2), 77–95. <https://doi.org/10.1177/1742766511410217>
- Elangovan, N., Gupta, H. (2015). Impact of Smartphone News Apps on Print Media – A Twin TAM Framework. *Journal of Business and Management*, 17(4), 1–9, <https://doi.org/10.9790/487X-17420109>
- Elhai, J.D., Levine, J.C., Dvorak, R.D., Hall, B.J. (2017). Computers in Human Behavior. Non-social features of smartphone use are most related to depression, anxiety and problematic smartphone use. *Computers in Human Behavior*, 69, 75–82. <https://doi.org/10.1016/j.chb.2016.12.023>
- Fernandes, K., Vinagre, P., Cortez, P. (2015). *A Proactive Intelligent Decision Support System for Predicting the Popularity of Online News*. In: F. Pereira, P. Machado, E. Costa, A. Cardoso (eds), *Progress in Artificial Intelligence. EPIA 2015. Lecture Notes in Computer Science*, vol 9273. Berlin, Heidelberg, Germany: Springer, Cham. https://doi.org/10.1007/978-3-319-23485-4_53
- Gadarian, S.K., Albertson, B. (2014). Anxiety, Immigration, and the Search for Information. *Political Psychology*, 35(2), 133164. <https://doi.org/10.1111/pops.12034>
- Giddens, A., (1998). *The Third Way, The Renewal of Social Democracy*. Cambridge, UK: Polity Press.
- Gil de Zúñiga, H., Jung, N., & Valenzuela, S. (2012). Social Media Use for News and Individuals' Social Capital, Civic Engagement and Political Participation. *Journal of Computer-Mediated Communication*, 17(3), 319–336. <https://doi.org/10.1111/j.1083-6101.2012.01574.x>
- Goggin, G., Martin, F., Dwyer, T. (2015). Locative News: Mobile Media, Place Informatics, and Digital News. *Journalism Studies*, 16(1), 37–41. <https://doi.org/10.1080/1461670X.2014.890329>
- Groening, S. (2010). From 'a box in the theater of the world' to 'the world as your living room': cellular phones, television and mobile privatization. *New Media and Society*, 12(8), 1331–1347. <https://doi.org/10.1177/1461444810362094>
- Gurevitch, M., Levy, M., Roeh, I. (1991). *The Global Newsroom: Convergences and Diversities in the Globalisation of News*. In: P. Dahlgren, C. Sparks (eds.), *Communication and Citizenship: Journalism and the Public Sphere in the New Media Age* (pp. 195–216). London, UK: Routledge.
- Gusacov, E. (2016). *Teachers Don't Have Eyes in the Back of Their Heads Anymore*. Tel Aviv, Israel: Mofet Publishing House. (Hebrew).
- Guzansky, Y., Heller, M. (2012). *One Year of the Arab Spring: Global and Regional Implications*. JCSS Memorandum. Tel Aviv, Israel: Institute for National Security Studies.
- Haravuori, H., Suomalainen, L., Berg, N., Kiviruusu, O., Marttunen, M. (2011). Effects of Media Exposure on Adolescents Traumatized in a School Shooting. *Journal of Traumatic Stress*, 24(1), 70–77. <https://doi.org/10.1002/jts>
- Jobes, D.A., Berman, A.L., Carroll, P. W.O., Eastgard, S., Knickmeyer, S. (1996). The Kurt Cobain Suicide Crisis: Perspectives from Research, Public Health, and the News Media. *Suicide and Life-Threatening Behavior*, 26(3), 260–271.
- Jones, N.M., Thompson, R.R., Dunkel, C., Cohen, R. (2017). Distress and rumor exposure on social media during a campus lockdown. *Proceedings of the National Acad-*

- emy of Sciences of the United States of America*, 114(44), 11663–11668. <https://doi.org/10.1073/pnas.1708518114>
- Kang, S., Liu, S., Li, H., Wang, D., Qi, X. (2018). Baicalin effects on rats with spinal cord injury by anti-inflammatory and regulating the serum metabolic disorder. *Journal of Cellular Biochemistry*, 119(9), 7767–7779. <https://doi.org/10.1002/jcb.27136>
- Knobloch-Westerwick, S., Sharma, N., Hansen, D.L., Alter, S. (2005). Impact of Popularity Indications on Readers' Selective Exposure to Online News. *Journal of Broadcasting & Electronic Media*, 49(3), 296–313.
- Lachlan, K.A., Spence, P.R., Seeger, M. (2009). Terrorist attacks and uncertainty reduction: media use after September 11. *Behavioral Sciences of Terrorism and Political Aggression*, 1(2), 101–110.
- Liu, C., Wang, W., Zhang, Y., Dong, Y., He, F., Wu, C. (2017). Predicting the Popularity of Online News Based on Multivariate Analysis. *International Conference on Computer and Information Technology (CIT)* (pp. 9–15). <https://doi.org/10.1109/CIT.2017.36>
- McNaughton-Cassill, M.E. (2007). The news media and psychological distress. *Anxiety, Stress and Coping*, 14(2), 193–211. <https://doi.org/10.1080/10615800108248354>
- McNaughton-Cassill, M.E., Smith, T. (2002). My world is ok, but yours is not: television news, the optimism gap, and stress. *Stress & Health*, 18(1), 27–33. <https://doi.org/10.1002/smi.916>
- Motamedi, S., Choe, P. (2015). Smartphone Information Displays When Reading News in Persian and English Languages. *International Journal of Human-Computer Interaction*, 31, 427–439. <https://doi.org/10.1080/10447318.2015.1038129>
- Newman, N., Fletcher, R., Kalogeropoulos, A., Nielsen, R. (2019). *Reuters Institute digital news report, 2019*. Retrieved from: <https://ora.ox.ac.uk/objects/uuid:18c8f2eb-f616-481a-9dff-2a479b2801d0> [Access: 24.04.2020].
- Otto, M.W., Henin, A., Hirshfeld-Becker, D.R., Pollack, M.H., Biederman, J., Rosenbaum, J.F. (2007). Posttraumatic stress disorder symptoms following media exposure to tragic events: Impact of 9/11 on children at risk for anxiety disorders. *Journal of Anxiety Disorders*, 21(7), 888–902. <https://doi.org/10.1016/j.janxdis.2006.10.008>
- Oulasvirta, A., Rattenbury, T., Ma, L., Raita, E. (2012). Habits make smartphone use more pervasive. *Personal and Ubiquitous Computing*, 16(1), 105–114. <https://doi.org/10.1007/s00779-011-0412-2>
- Oxford English Dictionary Online*. Retrieved from: <https://www.oxfordlearnersdictionaries.com/definition/english/cyberspace?q=Cyberspace> [Access: 10.04.2020].
- Pfefferbaum, B., Newman, E., Nelson, S.D., Nitiéma, P., Pfefferbaum, R.L., Rahman, A. (2014). Disaster Media Coverage and Psychological Outcomes: Descriptive Findings in the Extant Research. *Current Psychiatry Reports*, 16(9), 464. <https://doi.org/10.1007/s11920-014-0464-x>
- Postman, N. (1992). *Technopoly: The Surrender of Culture to Technology*. New York, NY: Vintage Books.
- Ren, H., Yang, Q. (2015). *Predicting and Evaluating the Popularity of Online News*. Stanford, CA: Stanford University Tech. rep.
- Rosen, C. (2004). Our cell phones, ourselves. *The New Atlantis*, 6, 26–45.

- Smilansky, M., (1991). *The Challenge of Adolescence. Volume 5: Coping with Needs and Stress*. Tel Aviv, Israel: Ramot. (Hebrew)
- Soroka, S., Adams, S.M.C. (2015). News, Politics, and Negativity. *Political Communication*, 32(1), 1–22. <https://doi.org/10.1080/10584609.2014.881942>
- Stenger, C., (2010). *Critique of Global Unreason: Individuality and Meaning in the Global Era*. Modi'in, Israel: Kinneret Zmora-Bitan. (Hebrew)
- Tatar, A., Antoniadis, P. (2014). From popularity prediction to ranking online news. *Social Network Analysis and Mining*, 4(174). <https://doi.org/10.1007/s13278-014-0174-8>
- Tatar, A., Leguay, J., Antoniadis, P., Limbourg, A., de Amorim, M.D., Fdida, S. (2011). Predicting the popularity of online articles based on user comments. In *Proceedings of the International Conference on Web Intelligence, Mining and Semantics*, WIMS 11, 67, 1–8. New York, NY: ACM.
- Thurman, N. (2007). The globalization of journalism online: a transatlantic study of news websites and their international readers. *Journalism*, 8(3), 285–307. <https://doi.org/10.1177/1464884907076463>
- Turcotte, J., York, C., Irving, J., Scholl, R.M., Pingree, R.J. (2015). News Recommendations from Social Media Opinion Leaders: Effects on Media Trust and Information Seeking. *Journal of Computer-Mediated Communication*, 20, 520–535. <https://doi.org/10.1111/jcc4.12127>
- Twenge, J.M. (2017). *iGen: Why today's super-connected kids are growing up less rebellious, more tolerant, less happy – and completely unprepared for adulthood*. New York, NY: Atria Books.
- Twenge, J.M.. (2019). The Unhealthy State of the Smartphone Age. *AASA School Administrator*, 76(Jun), 22–23.
- Uddin, T., Jamshed, M., Ahsan, T., Alam, M.S. (2016). Predicting the popularity of online news from content metadata. In: *International Conference on Innovations in Science, Engineering and Technology (ICISSET)*. IEEE, 1–5.
- Ursah, J.R., Baines, H.V. (2009). *Globalization: Understanding, Management, and Effects*. New York, NY: Nova Science Publishers, Inc.
- Walter, T., Littlewood, J., Pickering, M. (1995). Death in the News: The Public Investigation of Private Emotion. *Sociology*, 29, 79–596.
- Weinschenk, S. (2012). Why We're All Addicted to Texts, Twitter and Google. *Psychology Today*. Retrieved from: <https://www.psychologytoday.com/blog/brain-wise/201209/why-were-all-addicted-texts-twitter-and-google> [Access: 19.04.2020].
- Weiss, A.S. (2013). Exploring News Apps and Location-Based Services on the Smartphone. *Journalism and Mass Communication Quarterly*, 90(3), 435–456. <https://doi.org/10.1177/1077699013493788>
- Weisskirch, R.S. (2009). Parenting by cell phone: Parental monitoring of adolescents and family relations. *Journal of Youth and Adolescence*, 38(8), 1123–1139. <https://doi.org/10.1007/s10964-008-9374-8>
- Williams, S., Williams, L. (2005). Space invaders: the negotiation of teenage boundaries through the mobile phone. *The Sociological Review*, 53(2), 314–331. <https://doi.org/10.1111/j.1467-954X.2005.00516.x>

- Wu, B., Shen, H. (2015). Analyzing and predicting news popularity on Twitter. *International Journal of Information Management*, 35(6), 702–711. <https://doi.org/10.1016/j.ijinfomgt.2015.07.003>
- Zhao, W.X., Jiang, J., Weng, J., He, J., Lim, E., Yan, H., Li, X. (2011). *Comparing Twitter and Traditional Media Using Topic Models*. In: P. Clough et al. (eds.), *Advances in Information Retrieval. ECIR 2011. Lecture Notes in Computer Science*, 6611, 338–349. Berlin, Heidelberg, Germany: Springer. https://doi.org/10.1007/978-3-642-20161-5_34

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Parental involvement in school-ways of communication between teachers and parents

Introduction

Since the concept of 'school' originated, the triangle of parents, teachers and students has constituted a significant factor that has seen its 'ups and downs' over the years in all that relates to the parental involvement at school. Some supported the separation between the student's home and the school, while others considered the connection and cooperation between them to be essential. The student is found between the school and the parental home – and he/she also has an opinion on the matter. One of the important factors in parental involvement is the communication between the child's home and the school. In this article, I will describe the communication that took place in the past and the modifications that have occurred as a result of technological changes, social changes, and changes both in the student home and at schools. Parents' involvement works best when there is ongoing and effective communication between them and the teachers. In recent years, with the expansion of new technologies of communication and information, the use of these channels of communication between parents and teachers has increased.

The research literature presents different models to describe reciprocal relations between the school and parents (Olmstead, 2013; Addi-Raccah, Ainhoren, 2009). In the present work, I applied the research of Bauch and Golding (2000) to examine the contribution of the discourse on the new media to the increase of parents' involvement in school activities. This model includes the following types:

- 1) Bureaucratic – characterized by little involvement of parents and teachers. This is the traditional model, in which parents have a passive role while the teachers maintain their autonomous place in the classroom.
- 2) Teachers' professionalism – characterized by great involvement of teachers and low involvement of parents. In this model, teachers are perceived as experts who know what is good for their students.
- 3) Parent empowerment – characterized by high involvement of parents, as opposed to low involvement of teachers. In this model, parents can constitute a threat to the professional prestige of teachers and in fact weaken them. In this model, the relations between teachers and parents are characterized by tension and teachers' aspiration is to distance parents as much as possible.
- 4) Partnership – characterized by a high level of involvement of both teachers and parents. This model aspires to the optimal involvement of parents.

1. The involvement of the family in the education of our time

For many, the acquisition of education is a key to success in life. There is a tendency to perceive education as a means of social mobility and thus according to research there is a direct relationship between children's achievement at school and their chances of social advancement, happiness, self-fulfilment, and a better life (Givton, 2011). There are many reasons for the relationship between the school and parents: partnership between the child's family and the school improves the school's programmes and climate, helps teachers in their work, empowers school staff, provides support services for parents, improves parents' skills and their leadership, and links between families. However, beyond all these, one topic may be in common for all parents – the concern about children's achievement at school.

Recently, evidence that cooperation between teachers and parents indeed improves children's achievement and their success at school is growing stronger. The partnership contributes to the improvement in additional variables, such as self-esteem, behaviour at home and school, strengthening of interpersonal skills and decision-making skills. Moreover, it was found that when the student experiences a strong relationship between the school and their parents, he/she tends to exhibit fewer risky behaviours. It should be noted that these findings were obtained in a series of studies performed

in the United States, and there are not yet any unequivocal findings on the influence of parents' involvement on these variables in Israeli society (Greenbaum, Fried, 2008). It appears that the question on the agenda is not whether the partnership between home and school has a place and value but rather how and in what ways this partnership should be fulfilled and developed. Much has been written about the unique contribution of the home system and school system to the child's development. The partnership creates continuity and continuation (Bilha, 2014).

Parents and teachers have an important place in students' developmental and educational process. Parents and teachers are partners in the process in which adolescents acquire values, education, and behaviour norms. The educational system in Israel encourages parents' involvement in formal education in different ways. It was found that parents' involvement contributes both to students' social adjustment and academic achievement (Neal, 2012). The main part of parents' involvement (of any type) is the existence of a system of reciprocal communication between parents and teachers – two-way communication that has the goal to create a system of relations based on trust, give information about the curriculum and its goals, give information about problems at home, hold a discussion, exchange opinions, increase teachers' accessibility to parents' requests, and update on students' situation in the studies.

2. New channels of communication between parents and teachers

This section focuses on a number of issues relevant to the examination of new channels of communication between teachers and parents, and their implications for their implementation in the educational process of children and students. The involvement of parents, including the communication with staff at school, has influence on students wellbeing, cognitive development, and consequently achievements (Plotkin, Shapira, 2013; Kosaretskii, Chernyshova, 2013; Olmstead, 2013, pp. 28–38).

A direct, personal and quality relationship between parents and teaching staff is an essential condition for the optimal parental involvement in the life of their children's school (Friedman, 2010; Fisher, Friedman, 2002; Mor, 2012). Effective communication between parents and teachers and an open channel of communication are very important and have a positive influence on problem solving, which may improve the quality of education, sense of belonging and success of children. The researchers further found that par-

ents' involvement will increase as they feel that the school trusts them and as they feel an identity with the school values. In reality, however, the process of parental involvement encounters difficulties. For instance, the Committee for Family Relations in Early Childhood Education and Connection to the Child's Development and the Success in the Educational System expressed frustration regarding parents' involvement at school because of the fact that the school turns to parents only in the case of a conflict or a problem. The committee members' evaluation is very important for parents' involvement in the successes and positive messages (Greenbaum, Fried, 2008).

Information and communication technologies develop tremendously fast. They penetrate into every field, change our lifestyles, and become an important part of our culture and a main element in every field of existence (Salomon, 2000). The same is true for the channels of digital communication between the school and parents. The availability of new channels of media, such as email, social networks (such as Facebook, WhatsApp), systems of institutional communication (as in the example of Mashov¹ and Smart School) and smartphones makes it possible to offer synchronous and asynchronous, interpersonal, intergroup, dynamic communication that did not exist before.

Research studies show that electronic mail (email), an old digital implementation from the period of Web 1.0, is one of the most common means of communication between parents and teachers. According to teachers, the evaluation of parents through email facilitates the adoption of the steps required for the assistance of students who need help (Kosaretskii, Chernyshova, 2013; Thompson, 2008; Thompson, 2009).

Electronic mail is found to be effective in managing students by teachers, as messages are conveyed immediately to parents. However, the main communication between the two groups occurs around negative issues, both in terms of scholastic achievement and behaviour at school. However, it was found that parents and teachers attempted to phrase the negative information in a positive vein (Thompson, 2008). In another research study, Thompson (2009) found failures and fears in the use of this channel of communication: (1) erroneous interpretation of the message, (2) fears of the

¹ Mashov is a Hebrew acronym for Immediacy, Transparency, and Supervision. The word means feedback. It is an Internet-based system of school management developed in the year 2006. As of the year 2014, it has been deployed in 549 schools and educational systems in Israel. The use of this software by school staff, students and parents contributes to the transparency of school activity through regular updates, for the improvement of the relationship between school staff, students and their parents and the improvement of the efficiency of daily work among the educational staff.

use of asynchronous media, (2) fear of crossing the boundaries between teachers and parents, and (4) fear of shifting the responsibility for learning from students to parents.

The comparison of communication through the school website and email indicated that institutional systems for pedagogical and administrative management such as Mashov, MNBST², and Smart School are another channel of communication. Through these systems it is possible to obtain a daily report about what occurs during lessons at school and a report on the scores and scholastic achievement. The systems enable intra-organizational communication between staff members and communication with students and their parents (Binns, 2008; Olmstead, 2013). It should be noted that the educational system in Israel set for itself an objective to incorporate institutional systems as the main communication channel. The national computerized communication programme that commenced in the year 2010 explicitly declared that one of the goals to encourage communication between teachers, parents and students is to use information systems for pedagogical management (Ministry of Education, 2012).

Research studies found that the pace of the adoption of the institutional systems has increased and that these systems have a main place in the management of the school and in the communication between teachers, students, and parents. For instance, Blau and Hameiri (2011, 2012) measured the number of entries into the Mashov system in seven secondary schools in the first three years of the system. The research findings indicate that as teaching workers entered data into the Mashov system, the pace of entries of parents (primarily mothers) and of students increased and consequently the frequency of the interaction between teachers and parents also increased (the nature of the interaction was not examined). However, teachers (with the exception of beginning teachers) reported mental pressure and fear of criticism on the part of experienced teachers, management, and parents following the public documentation of their reports. One of the results was that in some of the cases the report was 'softened' and not fully faithful to the reality (Perlman).

Social networks, like Facebook, WhatsApp (used to send immediate messages, photographs, video and sound clips), Twitter, Google Plus are additional new channels of communication. 'Social networks' means environments that include a variety of online tools and means that enable the

² MNBST stands for Internet School Management System in Hebrew. It is a system open for use by all schools and a work tool that enables the management of the school schedule, reports and follow-ups on students' attendance, behaviour and evaluation.

creation and preservation of relations between users 24/7. The networks are a part of the variety of Web 2.0 applications, which are characterized by the creation and collaboration of contents between users with shared interest. The world on social networks is a world of 'here and now', where users look, respond and are present (Kortz, Chen, 2012). Facebook is the largest and most known social network in the world. As its founders state, "connect with friends and the world around you on Facebook" (<https://www.facebook.com/>). The use of the environment is free and allows the user (from the age of thirteen up) to join a group or groups of users and to communicate with other members of the group. The users can create a personal profile for themselves, as well as a list of people for whom it is possible to send messages and with whom it is possible to share information, pictures and films. Research indicates that this social channel is still in its infancy as a channel of communication between teachers and parents, but in principle teachers express willingness to use it (Olmstead, 2013).

Brooks and Boskilla (2013) examined the incorporation of the Facebook social network as a means of communication between teachers and parents. They found out that most parents (81%) who participated in the study maintained that Facebook is an effective tool for the improvement of rapid communication between them and class teachers, in contrast to traditional means, which are not rapid and accessible immediately for performance, such as contact notebooks and telephone calls. In addition, most saw Facebook as a tool that makes it easier for them to receive daily information from class teachers, both through general messages and through personal messages and personal requests. The study further shows that the relation between parents and teachers improved as a result of the experience of communication between them using Facebook. They maintain that the communication through Facebook contributed to the extension of trust and cooperation between teachers and parents. During the school year in which the study was performed, the relationship between teachers and parents expanded from the contact notebook and weekly telephone calls to daily contact, which is independent of time and place. Many parents responded via their mobile phone immediately after the message was sent. The parents felt that the communication was strengthened and led to mutual relations of trust. Another finding of their research study showed that the transfer of information and the exposure of parents to different contents contributed greatly to the feeling of partnership. Aside from the messages created by teachers about different activities held in class, parties, pictures, and so on, parents shared pictures from their everyday life at home, ideas for trips, and suggestions for joint activities.

The accelerated development of wireless technologies and infrastructures contributed to the appearance of mobile means, including smartphones that have Internet access and allow a variety of actions for communication and browsing. Smartphones provide possibilities of communication in a variety of visual, textual, and audiovisual representations. In addition, they increase the frequency of use of communication applications such as email, Facebook, WhatsApp, Webtop (a Smart School application for the mobile phone), and so on.

Blau and Hameiri (2012) examined the use of smartphones for work with the Mashov system among teaching workers, students and parents in 429 schools. The data were based on system data (not self-reporting). They found that the number of entries of teaching workers into the system from the smartphone influenced the number of entries of students and parents. In their opinion, the option to enter data from the smartphone in real time during lessons can reduce the workload of teaching workers as far as entering continuous data into the system is concerned, and thus allow them more time in the recesses, tutorial hours and after work for additional educational activity. Moreover, the use of the Mashov system creates a new culture of online interaction between the school, students their parents.

To conclude, the limited review of research studies presented in this section shows that the appearance of digital channels of communication and communication means such as smartphones offers a variety of communication processes that did not exist before both in their visual design and access to them. One of the main questions addresses the degree to which the technological setting changes and may change in the future even more the nature of the relationship between the teachers, students, and parents.

3. The meaning of the changes that occurred in the relationship between parents and teachers

Parents and teachers have an important place in the developmental and educational process of students. Parents and teachers are partners in the process in which adolescents acquire values, education, and norms of behaviour. The educational systems in Israel encourage the involvement of parents in institutionalized education in different ways. It was found that parents' involvement contributes both to students' social adjustment and scholastic achievements (Neal, 2012). The main part of parental involvement (of any type) is the existence of a system of reciprocal communication between parents and teachers, two-way communication with the goal

of creating a system of relations based on trust, providing information on the curriculum and its goals, providing information on problems at home, holding a discussion, changing opinions, increasing teachers' access to parents' requests, and receiving updates on students' studies.

Parents' involvement works best way when there is ongoing and effective communication between them and teachers (Hoover-Dempsey, Whitaker, Ice, 2010). In recent years, with the extension of the use of new technologies of communication and information, the use of these channels of communication between parents and teachers has increased.

The concept of 'new communication technologies' refers to communication such as computers or smartphones, which are based on the Internet. In the context of Internet-supported communication channels, we discuss the use of a school communication system supported by the school website (such as Mashov), email and social networks, technologies supported by mobile phones that primarily address messaging (SMS) and WhatsApp messages. Since the new communication channels enable the direct transfer of messages, without the mediation of students, at any time and at any place, their use increases the mutual availability existing between parents and teachers significantly.

In the era of an information society, the communication between parents and teachers is shaped by the types of communication that exist today at schools. Every channel is adjusted to the different types of relationship between teachers and parents. The fundamental assumption is that communication between parents and teachers is a process of information exchange, formation of conventions, involvement in the educational processes, coordination of actions, fulfilment of needs of the different parties, and effective emphasis of educational goals. The literature notes that teachers' initiative is important to create effective communication between teachers and parents. They must create a high frequency of contact with parents and encourage parents to be involved both in school activities and their children's learning process (Ho, Hung, Chen, 2013).

In this sense, communication between teachers and parents needs to be positive and supportive, so that it can create opportunities for cooperation and encouragement to continue it. It is important to state that although the general public feels that access to the Internet and use of smartphones are universal, the data indicate significant differences between various groups in the population, both in terms of Internet accessibility and the use of smart devices. The knowledge about these gaps is important, because it defines the target population that can benefit from this communication as opposed to the population that can benefit only from face-to-face communication or communication by regular means (letters or class notebook).

Digital gaps. In the discussion of technology-supported communication, it is necessary to take into account the fact that there are 'digital gaps' in Israel. A first-order digital gap is the difference between the ability of groups in society to use information and communication technologies such as the Internet and smartphones. A second-order digital gap consists in computer skills across the groups that have the possibility of using these technologies. Regarding digital gaps of the first order, the data in Israel are relatively current. It becomes clear that 80% of households in Israel have a home computer, but only 71% have an Internet connection. In the division by the decile according to average net income per person, there are large gaps in the ownership of a computer and Internet connection: 95.5% of the households in the top decile have a computer in comparison to only 60% of households in the bottom decile, while 93.2% of the households in the top decile have an Internet subscription as opposed to only 38.1% in the bottom decile (Central Bureau of Statistics, Findings from a Survey of Household Expenses, 2012, 2013).

A clear conclusion that derives from the data presented in the previous paragraph is that the use of new technology channels at schools makes it necessary to examine every class and every school with regard to the level of accessibility of these means to parents and degree of use of computers and smartphones. Especial attention is required when making an intelligent decision on the level of the use of technology, so as to prevent a situation where parents remain disconnected from this relationship with teachers.

Technological availability. The research study differentiates between reliance on stationary technology (such as a home computer) and reliance on mobile technology (such as smartphones). The use of mobile devices significantly changes the frequency of communication between parents and teachers (Kortz, 2014). The possibility of carrying the device everywhere at all times causes the contacts of parents with teachers and teachers with parents to be very frequent and happening at all hours of the day, even after school. It appears that the fundamental assumption of the contacts is that the very use of mobile devices dictates a norm of availability, which primarily obligates teachers to be available for parents at all times and places. This creates a load of communication, blurring of the boundaries between private life and school, both of teachers and parents, educational obligations of teachers and reciprocal expectations of immediate availability. The expectation of accessibility and availability may harm the effectiveness and efficiency of the communication and teachers' ability to meet parents' expectations. Teachers report a feeling of an overload and possible harm in their private lives because of the difficulty with setting a boundary between work and private life (Kortz, 2014).

'Digital immigrants' and 'digital natives.' Aside from the gaps that exist in the accessibility and availability of technology across various groups in the population, there is a significant intergenerational gap in the attitude of parents and adolescents to technology. The name 'digital natives' has been given to the generation of people born in the middle of the 1980s and later, who grew up in a world of information and digital communication. The name 'digital immigrants' has been given to the generation born before the year 1964, who grew up in a world before the personal computer (Prensky, 2001). The practical meaning is the perception that 'digital natives' live the language and culture of the Internet, alongside which they grew up. The terms express essential differences between the generations in the understanding and use of technology, with the recognition that, beyond the regular generation gap, there are also many other differences between the generations, both in the technological ability and in the interest and desire to understand and use technology.

This generational gap in relation to technology is perceived as influencing the adolescents' system of relations with their parents and teachers. The main argument on the matter of intergenerational differentiation is that the generation of 'digital natives' addresses learning in a different manner than the previous generation. They are accustomed to learn through the simultaneous use of many channels of information (such as photographs, films, and digital information search using a search engine) and can hold social relations through the simultaneous use of a large number of channels. This may constitute a focus of conflict between teachers and students and between parents and adolescents (Padilla-Walker et al., 2012). In addition, parents find it difficult to achieve mastery of the channels of communication that youths prefer and therefore problems in communication frequently arise between parents and children. The reason is that the communication of youths is based primarily on sparse channels of communication and on the young people's use of the language of abbreviations typical of their peer group, a language that is frequently not understood by their parents (Rosen, 2010). In contrast to parents and teachers, youths are less troubled by the need to maintain privacy, a situation that weakens the borders of privacy, both of the school and family. Moreover, in the scholastic realm the children frequently prepare homework during conversations on new channels of communication with peers, while watching clips and writing on Twitter. These facts cause concern among parents who are anxious about their children's ability to focus on scholastic tasks and spark a feeling that children become addicted to technology. It is possible that the intergenerational gap will disappear over time, but

at this stage the awareness of it is very important to the understanding of the communication between parents and children. Hence, this understanding is also important to the understanding of the implications of the new means of communication on the beneficial relations between parents and teachers.

Conclusions

From the article we can conclude that communication between students' homes and school has changed over the years. In recent years, it seems that the changes have occurred mostly due to technological and social changes.

In the past, communication usually took place through a contact notebook, a landline phone, parents' days and/or the parents' summons to school. Mainly due to technological developments, one can identify new communication channels and different communication patterns such as emails, personal WhatsApp, group class WhatsApp, SMS, Facebook, Skype and of course smartphones available and active 24/7 anywhere and anytime.

The relationship between teachers and parents has become quick and immediate and of course the expectations from both sides is for a quick and immediate response. Along with the messages and instant communication, there is a constant fear of crossing borders or misunderstanding the messages. This is one of the reasons for continuing to have parents' days at school that include physical presence and face-to-face conversation. All this in spite of the fact that there are digital school systems in place, such as "feedback", which report to parents on their child's condition including grades, achievements and/or difficulties and problems daily.

According to researches, the use of Facebook has contributed to increasing the trust between parents, teachers and the school, hence it has been beneficial for the cooperation between parents and teachers. The existence of smartphones in the hands of everyone (parents, teachers and students) enables both verbal and visual communication 24/7. Already these days, it can be recognized that the nature of the relationship and its frequency between parents and teachers has undergone great change.

Along with the benefits of immediate and collaborative accessibility, there is a concern that there may be a gap between populations that have access to technologies and those that do not. Examples of such populations include new immigrants, those with low socioeconomic status or those who oppose the use of the Internet, such as ultra-Orthodox religious people.

Another difficulty that may create a gap is between young teachers and veteran teachers. Some veteran teachers find it difficult to cope with these innovative systems. Even among parents, different levels of difficulty in using technologies can be identified between young and older parents.

REFERENCES

- Addi-Racah, A., Ainhoren, R. (2009). School governance and teachers' attitudes to parents involvement in schools. *Teaching and Teacher Education*, 25(6), 805–813.
- Bauch, P.A., Goldring, E.B. (2000). Parent-teacher participation in the context of school governance. *Peabody Journal of Education*, 73(1), 15–35.
- Bilha, N. (2014). *Whose Child Is It? On the Parents' Relations with Their Children's Schools*. Tel Aviv: Mofet Institute. (Hebrew)
- Binns, Y. (2008). *The use of the Mashov [Immediacy, Transparency, Supervision] program in the dialogue between the parents and the school: The Kafr Kaana middle school*. M.A. Thesis, The Open University. (Hebrew)
- Blau, A., Hameiri, M. (2011). *Smartphone in the school – Is the next generation really here? Pedagogical management of the mobile phone in the educational staff and in the families*. In: Y. Ashet Alkaly, A. Kaspi, N., Gary, Y. Kellman, V. Silver-Varod, Y. Yair (eds.), *The learning person the technological era* (pp. 17–24). (Hebrew)
- Blau, A., Hameiri, M. (2012). *A new way to realize the right to know: Increase of the involvement of students and parents in what is done in the educational institutions through an online system for pedagogical management – Mashov [Immediacy, Transparency, Supervision]*. Retrieved from: <http://goog.gl/BO1pxt> (Hebrew) [Access: 10.09.2021]
- Brooks, S., Boskilla, D. (2013). *Incorporation of Facebook as a means of communication between teachers and parents: Action research*. M.A. Thesis, The Center for Academic Studies. (Hebrew)
- Central Bureau of Statistics (2013). *Findings from the Household Expenses Survey 2012*. Retrieved from: www.cbs.gov.il/www/hodaot2013n/15_13_343b.doc (Hebrew) [Access: 27.07.2014].
- Fisher, Y., Friedman, Y. (2002). Parents and the school – Reciprocal relations and involvement. *Pages*, 47, 11–37. (Hebrew)
- Fisher, Y., Friedman, Y. (2009). *Parents and the school: Reciprocal Relations and involvement*. Research instruments series. Jerusalem: Szold Institute. (Hebrew)
- Friedman, Y. (2010). *Relations between school and parents in Israel: background material for the work*. (Hebrew)
- Givton, D. (2011). About What Student Is the Law Concerned? The Law of Student's Rights – Its Contribution and Role in the View of Legal Rulings. *Law and Business*, 14, 767–768. (Hebrew)
- Greenbaum, Z., Fried, D. (2008). *Family relations in the framework of early childhood education: Picture of the Situation and recommendations*. Israel National Academy for Sciences. (Hebrew)

- Ho, L., Hung, C., Chen, H. (2013). Using theoretical models to examine the acceptance behavior of mobile phone messaging to enhance parent teacher interactions. *Computers & Education*, 61, 105–114.
- Hoover-Dempsey, K.V., Whitaker, M.C., Ice, C.L. (2010). *Motivation and commitment to family-school partnerships*. In: S.L. Christenson, A.L. Reschly (eds.), *Handbook of school-family partnerships* (pp. 30–60). New York: Routledge.
- Kortz, G. (2014). *Uses of new media: Collection of data from interested parties – Teachers and parents: A review of the literature*. National Academy of Sciences. (Hebrew)
- Kortz, G., Chen, D. (2012). *Intentional online learning – A digital toolkit for the teacher*. Or Yehuda: Center for Academic Studies. (Hebrew)
- Kosaretskii, S.G., Chernyshova, D. (2013). Electronic communication between the school and the home. *Russian Education and Society*, 55(10), 81–89.
- Ministry of Education (2012). *Adjustment of the educational system to the 21st century: Masterplan*, 12th edition, Retrieved from: <http://goog.gl/6oKIJb> [Access: 1.01.2022] (Hebrew)
- Mor, A. (2012). To speak with the parents even when 'everything is alright'. *Echo of Education*, 90. (Hebrew)
- Neal, R.B. (2012). Checking in or checking out? Investigating the parent involvement reactive hypothesis. *The Journal of Educational Research*, 105, 79–89.
- Olmstead C. (2013). Using technology to increase parent involvement in schools. *TechTrends*, 57(6), 28–38.
- Padilla-Walker, L.M., Coyne, S.M., Fraser, A.M. (2012). Getting a high-speed family connection: Associations between family media use and family connection. *Family Relations*, 61, 426–440.
- Perlman, M. (2014). *What are the reciprocal relations between the teachers' use of systems for information management and their sense of accountability?* In: Y. Ashet Alkaly, A. Kaspi, N., Gary, Y. Kellman, V. Silver-Varod, Y. Yair (eds.), *The learning person the technological era* (pp. 74–79). (Hebrew)
- Plotkin, A., Shapira, T. (2013). *Contribution of the cooperation between the school and the parents in the construction of educational authority*, Trends in the Administration of Education 2013 Conference, Book of Abstracts, Gordon Academic College. (Hebrew)
- Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9.
- Rosen, L. (2010). *Rewired: Understanding the iGeneration and the way they learn*. New York: Palgrave Macmillan.
- Salomon, G. (2000). *Technology and education in the information era*. Haifa and Tel Aviv: Haifa University and Zmora Beitan. (Hebrew)
- Thompson, B. (2008). Characteristics of parent-teacher e-mail communication. *Communication Education*, 57(2), 201–223.
- Thompson, B. (2009). Parent-teacher e-mail strategies at the elementary and secondary school. *Qualitative Research Reports in Communication*, 10(1), 17–25.

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