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Editorial

It seems that the word *challenge* is one that fits very well with modern educational processes. Presenting the 18th issue of the Multidisciplinary Journal of School Education, the main theme of which is *Facing Educational Challenges*, we would like to invite you to reflect on selected educational challenges. In the face of dynamic social changes, especially in the recent months of the coronavirus epidemic, what a child or young person experiences in the educational space is of paramount importance. The challenges to education presented by the authors of the articles in issue 18 concern both students and teachers, as well as institutions that organize educational process.

The first article focuses primarily on the educational challenge faced by a modern university. However, it seems that the analysis presented may lead to an in-depth reflection on the organization of educational processes in an institution at any level. In his article *MacIntyre and the Challenges of Higher Education in the 21st Century*, Miguel Angel Belmonte asks questions based on Alasdair MacIntyre's critical approach to the organization of contemporary university. It is up the reader to come to conclusion whether it is possible to adopt MacIntyre's proposal as presented by Miguel Angel Belmonte.

Three articles deal with the challenges faced by teachers. In the article *Entrepreneurship in High School Education – Perspectives of Colombian Teachers* Angélica Rico Alonso and Angela Cardenas discuss the problems faced by teachers teaching entrepreneurship. The analysis of the research results presented in the article shows that teaching entrepreneurship in a country such as Colombia, where there is a lot of unemployment, is badly needed. It is important to teach entrepreneurship in such a way that students acquire broad competences in this area, both in terms of knowledge and practical skills. A significant challenge in the face of the

need for effective teaching of entrepreneurship is developing and conducting adequate teacher training. As the authors have shown, teachers feel dissatisfied in this respect.

In the article *Motivation of Early Childhood Education Teachers in the Pursuit of Pedagogical Mastery* Anna Szkolak-Stępień presents the results of her empirical research. They indicate that the main motivating factor for teachers is higher remuneration.

In the article *Teachers' Awareness of the Development of Perceptual Motor Functions in Pupils with Mild Intellectual Disabilities at a Primary School in the Czech Republic*, Lucie Loosová and Jan Viktorin draw the readers' attention to the challenges faced by the teachers of students with mild intellectual disabilities connected with the development of their perceptual motor functions. We can conclude from the text that the effective way to achieve positive results in this area is to ensure the cooperation of the teacher, school, family and the counselling centre.

To give a fuller picture of the situation of the children with mild intellectual disabilities, we are publishing one more article by Lucie Loosová Jan Viktorin, entitled *Perceptual Motor Skills in Children and Pupils with Mild Intellectual Disabilities*. They argue that there is a relationship between the development of cognitive and executive functions and psychomotor development. Undoubtedly, it is an educational challenge to better understand the perceptual abilities of children with mild intellectual disabilities.

In the article *Coronavirus as an (Anti) Hero of Fairy Tales and Guides for Children*, Jolanta Karbowniczek and Beata Kucharska discuss the educational challenge posed by the coronavirus pandemic. The new reality gave rise to a new literary genre introducing children to the world of COVID-19 threat. This new genre comprises fairy tales and therapeutic children's stories, in which characters are struggling with the pandemic. Reading such fairy tales and therapeutic stories to children is supposed to help them get used to the reality of the pandemic and to promote behaviour protecting from the spread of the virus. The authors of the article give useful suggestions to the teachers on how to talk to children in this extraordinary situation.

We also invite you to read articles in the *Miscellaneous Articles* section: Alexandra Brestovičová, *Most Frequent Lexical Units in Mother–Infant Communication in Slovak Language*; Anna Miegoń, *The Educational Functions of the First Woman's Almanac in Britain. Media Literacy and The Ladies' Diary, 1704–1713*; María Rodriguez Velasco, *Color Symbolism in the Castilian Atlantic Bibles: Initials and Scenes from the Bible of Avila (BNM, Vit. 15-1)*.

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Thematic Articles

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MacIntyre and the Challenges of Higher Education in the 21st Century

Abstract

Reflection on the nature of the university and its role in contemporary society occupies an important place in the work of the philosopher Alasdair MacIntyre. His academic career and his view of the incommensurable nature of moral discourses combine to suggest an original and provocative proposal for a new model of higher education. This model is characterized by a unity based on a philosophical and theological formality capable of dispelling the dangers of fragmentation and utilitarian specialization. In MacIntyre's proposal, the university becomes the most important vehicle for organizing knowledge and, consequently, for ordering social life.

Keywords: university, crisis, educational challenge, organization of knowledge

Introduction

Alasdair MacIntyre was born in Glasgow in 1929 and spent his childhood and youth in London while always maintaining close ties with his relatives in Scotland and Northern Ireland, where his family on his father's

side was from. From the age of 13 to 16 years he studied at Epsom College in Surrey, where he was greatly influenced by a tutor who had studied under the philosopher and historian R. G. Collingwood. His reading of Collingwood led the young MacIntyre to John Ruskin, one of the greatest scholars and masters of English prose in the 19th century. MacIntyre then went on to graduate at the age of just 20, from Queen Mary College of the University of London, where he was awarded an honors Bachelor of Arts in Classics. At Queen Mary, he was greatly influenced by the scholarly virtues of W. Alison Laidlaw, a noted classicist of the time. Laidlaw helped MacIntyre to understand Plato, Aristotle, and other classics in a spirit of great love of truth and through a profoundly scientific approach. These were difficult times, the post-war years, and the future was full of uncertainty. MacIntyre joined the Communist Party of Great Britain at around this time, but soon became disenchanted with its organizational inefficiency and dissimulations of the crimes of Stalinism. At around the same time, he occasionally attended seminars given in London by the analytic philosopher A. J. Ayer, as well as meetings of the Christian Student Movement at Queen Mary. MacIntyre's interest in philosophy then led him to enroll in the MA program at the University of Manchester, where his MA thesis was entitled *The Significance of Moral Judgements*. Indeed, the subject of moral judgments and their epistemological and practical status would be among the main themes of his philosophy throughout his life. He taught Philosophy at the University of Manchester for six years before deciding to move to the USA in the late 1960s. The decision to emigrate was driven in part by his disappointment with the growing politicization of European universities and in part by the opportunity of developing his project for the study of moral language and cultural contexts in a country much more suited for comparison of rival cultural traditions. In the 1970s, he taught and pursued his research at Brandeis University, Boston University, and Wellesley College, all in the state of Massachusetts. From 1977 on, he concentrated his efforts on developing his own philosophical project. This he presented in 1981 in one of the most influential works of the last century in the field of practical philosophy, *After Virtue*. The book sent out veritable philosophical and literary shock waves,

dividing audiences and attracting both strong supporters and radical critics. The following year he left Massachusetts to work at Vanderbilt University in Nashville, Tennessee, later taking up an appointment at the Catholic University of Notre Dame in Indiana. Although he subsequently worked at other American universities, he continued to be linked to Notre Dame until his retirement. In 2010, he joined the Center for Contemporary Aristotelian Studies in Ethics and Politics at London Metropolitan University, while maintaining his status as a United States resident. Over the course of his career, Alasdair MacIntyre has received honorary degrees from four American universities, three British universities and one Irish university, as well as numerous other honorary distinctions and accolades from around the world.

These brief biographical notes serve to explain why we should listen carefully to what Alasdair MacIntyre has to say about the role of the university in contemporary Western societies. As we shall see, MacIntyre is deeply critical of the university world as it is today, in both Europe and the United States. However, this critique is not the result of any open or concealed resentment towards the particular institutions at which he has been engaged. Rather, it is the result of the development and application of his philosophical project. Generally speaking we can say – even at the risk of falling into crude simplification – that MacIntyre's project begins with his realization of the incommensurable nature of moral discourses used in different philosophical and cultural traditions. It then continues with an argument for a greater degree of reasonableness and explanatory capacity of one's own and others' shortcomings within the Aristotelian–Augustinian–Thomist tradition, in which he includes himself. Finally, the project concludes by stating the urgent need to restore a *locus* where dialogue between rival traditions can take place without ideological prejudices or the interference of economic utilitarian discourses. This *locus* should be, precisely, the university, and that is why, throughout the opening decade of the 21st century, the Scottish philosopher insisted repeatedly on the need to rethink the university, its nature, and its goals.

The educational dimension of the current crisis

As a result of a decade of global economic crisis and this year's global pandemic, when we talk about current educational challenges, we focus mainly on such issues as the lack or overuse of new technologies in the classroom and at home; the digital divide; the lack of connection between what is learned at school or university and the real needs of a changing society; cutbacks in public spending; etc. In this context, one is tempted to take another look at school and university with a view to determining how they can be employed to resolve future health and financial crises. We also frequently hear the wish expressed to transform education into a process that safeguards the multicultural and democratic nature of society (Harris, 2012).

MacIntyre's vision of all this is very different. His habitual ability to provoke also emerges in this field as he assures us that the educational dimension of systemic crises does not revolve around a lack of education as Western educational institutions understand it. The problem is just the opposite. What there has been too much of is people educated in the way that these institutions understand education, that is to say, as a specialist technical formation which guarantees that individuals can achieve their personal life goals. What is needed instead, he says, is the creation of an "educated public" that eschews utilitarian discourses and instrumental visions of education (Mueller, 2019).

The responsibility of the university

A large proportion of the greatest disasters that have occurred in recent decades were caused by some of the most distinguished graduates from the world's most prestigious universities. How did this become possible? The answer is, above all, due to mistaken general education approaches, both at school and in undergraduate and graduate education, where certain individuals have been enabled to make transcendent and well-thought-out decisions without knowing what they were really doing. MacIntyre (2009b, p. 360) exemplifies this in the case of the 1997 collapse of the hedge fund Long-Term Capital Management, which was

the great forerunner of the financial crisis that would occur ten years later. The truth is that the confidence of those responsible for making decisions was reinforced by the presence on the board of Long-Term Capital Management of two Nobel-Prize-winning economists. Their confidence in the new mathematical models used was both blind and absolute. And, as far as economic theory and mathematics were concerned, no expert doubted that these people knew exactly what they were doing. However, what they lacked was knowledge of history and of political culture: knowledge of history, because they failed to take into account the vicissitudes that earlier companies had encountered when running high risks, and knowledge of political culture, because they did not take into account the peculiarities of one of the countries within which markets operate, Russia. They misinterpreted events there in the 1990s and failed to realize that Russian leaders were capable of changing – and, in fact, ended up changing – their economic policies in sudden, unforeseen ways.

The collapse of Long-Term Capital Management had something of the character of a farce, a comedy in which greedy experts fell victim to their own expertise, while the long global financial crisis that began a decade ago has some of the characteristics of a tragedy. This is a tale in which self-confident characters walked blindly over a cliff. In their hubris, they took all too many others with them. Highly educated, obedient cohorts of people with the most prestigious university degrees who trusted blindly in sophisticated mathematics whose applications they did not understand and who failed to realize that these roads had already been travelled many times before, with dramatic results. What they lacked was a broader curriculum in both undergraduate and graduate education that would have given them access to a vast body of knowledge in different fields, as well as enabling them to articulate, hierarchize, and integrate this knowledge. And that is precisely what contemporary universities neither offer nor even believe that they should offer (Stolz, 2017).

Current trends and aspirations in the university

In one of his most important works, *Three Rival Versions of Moral Enquiry: Encyclopaedia, Genealogy, and Tradition*, MacIntyre (1990) described

the failure of enlightened morality due to its having moved away from the reality where the self finds its roots. The liberal university is responsible for conveying to thousands of people of different generations the message that neither an objective good nor a community in which we can find meaning for what we do exists. We must all blindly choose a meaning if we so desire – to each his own. In this way, the university fails to provide knowledge that is capable of imposing order on the infinite multiplicity of small, unaggregated elements of knowledge (Cross, 2014). The university student is at a fork in the road where there are no signposts. How can we guide their choice? The university then reappears to tell them that the only elegant way out is through specialization, which is aimed at achieving a place in society from which the student can obtain all the satisfactions they aspire to. From this perspective, the student is first and foremost a citizen who is a consumer and a spectator, necessary for the system to continue to function.

The university: A mirror image of the postmodern world

A mirror image of the postmodern world, the university is one of the greatest producers of what Zygmunt Bauman called the liquid society and of which it is, in turn, the reflection. This reflection also existed in other periods of human history, such as Classical Greece. Plato's Academy and Aristotle's Lyceum reflected the spirit of a golden age for the development of philosophical genius. In contrast to them, Socrates's school represented the voice of a relativism more subtle than that of the Sophists, and the identification of politics with rhetoric. In *Whose Justice? Whose Rationality?* MacIntyre (1988) already hinted that the real predecessors of the modern liberal university were the followers of Socrates and not the Academics or the Peripatetics, because if the debate on good and evil cannot be resolved rationally, then only persuasion remains. Rhetorical capacity becomes the only useful philosophical instrument, and the path of investigation is reduced to advancement in the egotistical dominance of the universe.

Referring to another historical context, the time of the medieval universities, MacIntyre (1998) frequently stresses the revolutionary role played by St. Thomas Aquinas. Generally speaking, the plurality of schools that existed at the time (schools rooted in Latin Averroism, Augustinianism, Franciscanism, etc.) viewed Thomas as a threat and a danger because he questioned the overall approach to teaching, proposing instead a radically integrative new articulation. St. Thomas was not content with being allowed a place in which to discuss Aristotle. He was convinced of the need to rethink all content within a new synthesis. Accordingly, St. Thomas's points of disagreement with university approaches in the 13th century are the same as those that would lead him to oppose today's liberal university. Today, MacIntyre points out, American academic culture and its universities, for example, tend to present themselves as tolerantly welcoming of a host of heterogeneous views: positivism, pragmatism, Heideggerianism, deconstructivism, libertarianism, neo-Marxism, etc. St. Thomas, however, would not have accepted his own inclusion in this list. He was convinced that a *university* in which the curriculum was pure *diversity* without any form to provide unity and meaning to the whole was unacceptable.

The difficulty of distinguishing what is specific to the university as such: The barbarism of specialization

Universities first appeared in the Middle Ages. Their vocation was both to serve the unity between teachers and students and to foster unity among the varying contents of knowledge. Following the Enlightenment and the establishment of the modern liberal state, these original intentions were adapted. Now, the university was organized as an instrument of cultural/national combat while also concentrating international research efforts and generating a multidisciplinary scientific community with a cosmopolitan mindset. This was a new form, then, and therefore a new way of understanding the *unity* assured by the university. This type of university, however, was unable to withstand the challenges of the 19th century, let alone those of the twentieth. In the 19th century, the values of the Enlightenment continued to serve as the basis for safeguarding a certain unity, a more or less unified idea of civilization and progress

and a certain notion of higher education in the likeness, to give an example, of the English gentleman. Nevertheless, certain clear-sighted thinkers and men of action such as John H. Newman warned of the essential incapacity encapsulated in the liberal approach, as it was prone to being carried away by relativism and skepticism. In an article entitled *The Very Idea of a University: Aristotle, Newman, and Us*, MacIntyre (2009b) insisted that disagreement over unified knowledge is the main reason why today's academic and university world considers Newman's concept of the university to be not only false, but totally irrelevant and meaningless.

The liberal university, having lost its capacity to provide a unique universal integrating framework, distanced itself from study by encouraging specialization. Although it still retained the misleading name of university, what has developed there is a series of studies that are increasingly specialized, in line with what José Ortega y Gasset called the "barbarism of specialization": the specialist or expert, according to the Spanish thinker, "knows" very well their tiny corner of the universe. However, they are radically ignorant of all the rest. The economists at Long-Term Capital Management are a good example of these true specialists.

The compartmentalization of university life as a reflection of the multiple fracture of the postmodern individual

Another cause of this failure of the modern liberal university is the loss of an enlightened public or community. The demand for universal literacy and the role of schools as places of education aimed at the preservation of the established social order lies behind the practical disappearance of this enlightened public. The emergence of the mass media reinforced this loss and created an almost insurmountable breach between academia and the general public. We should not think, however, that the university is merely a victim of social and cultural changes. Rather, the barbarism of specialization is one of many symptoms of the internal fracture of the postmodern individual. Compartmentalization goes beyond the different institutional structures that characterize the social fabric to take shape around the practical belief that each sphere of life has its own rules of action, each independent of the other. The individual obeys

different codes of conduct according to the different roles he or she plays: one in family life, another at work, yet another during leisure time, and another as an army reservist, for example. But the individual has no any means of overcoming this type of multiple schizophrenia.

The scientific disciplines that constitute the subjects of study at university have multiplied since the 19ᵗʰ century. Moreover, within each discipline, the academic world encourages researchers to focus on an increasingly contracted subdiscipline. The methods that universities use to reward knowledge are based precisely on maintaining the academic status quo of specialization. We think, for example, of how doctoral theses are conceived in terms of the delimitation of their subject, or how the mechanisms for internal promotion within universities are organized.

An example of the university's inability to do more than mirror the factures of the postmodern individual is the case of Michel Foucault, as MacIntyre describes it in *Three Rival Versions*. In 1970, the French philosopher – known above all for his radical critique of social and academic conventions – accepted an invitation to give the inaugural lecture at the prestigious and traditional Collège de France. In his address, Foucault began by questioning the academic criteria used to lend validity to a textual commentary or other conventional means of academic expression, such as the very genre of the lecture. He considers these criteria an artificial mechanism for exercising domination and control over knowledge. In self-referential key, his lecture, therefore, is laid bare, stripped of the protecting mechanism that he himself criticizes. However, Foucault ends his lecture with the expected reference to one of his professors, Jean Hyppolite, and, moved, receives the applause of a rapt audience, delighted to have added another great *nom* to the list of lecturers at the Collège: "The radical has become a conserver, if not a conservative. Subversion has been subverted through its employment of the very academic mode which it aspired to undermine" (1990, p. 235).

In an article entitled *The End of Education: The Fragmentation of the American University*, MacIntyre (2006d) described the vicious circle of fragmentation within the university as a representative exponent of fragmentation in postmodern society. This vicious circle begins with the design of

specialized higher university studies that turn earlier studies into prepa-ration, also with specialization in mind, and aimed precisely at enabling these higher studies. In their choice of electives, MacIntyre says, students at American universities tend not to stray from their chosen specializa-tion because they are afraid of earning worse grades if they take subjects in which they may not fare so well at first. Teachers themselves also tend to give their students specialized training even if they believe these young people need a wider range of knowledge from other disciplines, and they end up supplying their charges with what they ask for, not what they need, for fear of being penalized in student evaluations and harm-ing their own professional academic careers. The problem is that students then find themselves studying a series of subjects, each of which has a person responsible for organizing it internally but with no one respon-sible for making the connections between the parts. The students them-selves are incapable of making those connections, assuming that such a thing is even possible.

The need for action in the opposite direction to institutional iner-tia: In search of order

Besides criticizing the fragmentation of the university curriculum and noting how this and the broader fragmentation of society as a whole are interconnected, MacIntyre sketches out an alternative proposal for reforming university curricula and the way to understand the relation-ship between teachers, their teaching, and their research. More specifi-cally, he considers that undergraduates should receive a general – but not superficial – education in three well-defined and interrelated disci-plines. The first is mathematics and the physical and chemical sciences, so that they can understand recent discoveries about the brain. The second is knowledge of the history of ideas in their social, political, and economic context. The third is knowledge of two or three languages and their respective cultures. All three elements should have philosophical con-tent to enable the student to think about the relationships between mind and body, the meaning of history, and the questions posed by our rela-tionship to other cultures. The most astonishing element in MacIntyre's

proposal is his insistence that teachers (mathematicians, physicists, biologists, historians, language and literature teachers, anthropologists, and philosophers) should be dedicated not only to teaching their own discipline but also the curriculum as a whole, so that they themselves are able to formulate and pursue rival and alternative responses to an integrated curriculum such as the one the Scottish philosopher proposes, identifying the advantages and disadvantages of each.

MacIntyre is well aware of the resistance that a proposal like his would meet from the academic world. And he sees this resistance as an additional symptom of the complacency that affects university leadership, concerned only with maintaining the status quo. In answer to the objection that this type of integrated curriculum might endanger the adequate preparation of students for their inevitable future specialization, MacIntyre retorts by stating that it is precisely a unified understanding of knowledge and an idea of the order of things and knowledge of things that will best prepare them to develop their research skills most satisfactorily.

The transition from secondary to higher education: The basic education of the pre-university student

The problems that MacIntyre finds in the education students receive before they enter university are, firstly, a lack of criteria about what it means to study at university, about the integration of the different parts of knowledge, etc., and secondly, the absence of a broad, coherent culture. The latter is due to the fact that, very often, the tendency towards specialization appears even in secondary education, with the result that secondary-school pupils consider useless and devoid of interest everything that is not directly related to the degree that they want to pursue in the future.

What MacIntyre finds lacking in the American university system, unlike its European counterpart, is a liberal and not superficial component in the education provided at high schools. He insists that, unless this system is restructured, it will be impossible to reconstruct the university system itself. What the Scottish philosopher demands is that a student beginning

a university degree should be provided with conceptual and logical tools that enable them to consider questions and answers to the proposals they receive at university and about everything they themselves are doing. However, this approach would require, from the outset, a radical change in our understanding of the purposes of human action in general and of intellectual activity in particular. The market-based, utilitarian mindset that has become predominant in academia would have to be completely eliminated. Secondary-school students today – and this is something that goes back for many generations – see the university as a lever to obtaining a good job. The universities themselves encourage this mindset in their marketing strategies. Even the political world often requires the university world to adapt its functioning to the changing needs of society, as if the function of the university were primarily to supply individuals who are both technically well-educated and docile enough to occupy the posts assigned to them. But this would imply negating the main purpose of the university, which is none other than to constitute the scene where an enlightened public can find well-formulated and appropriate questions about the hierarchy of knowledge and the relationship between knowledge, technique, and human development, and where rational and coherent answers to such questions can be sought.

The challenges to the Catholic university in the 21st century

The fragmentation of knowledge in today's universities occurs in exactly the same way at secular universities as at religious universities, whether Catholic or Protestant. Historically speaking, we could point to the secularizing tendency of leaders of religious institutions to adopt the mechanisms of modern liberal institutions as a cause of this situation. In fact, however, the status of theology in the academic world is simply that of one more discipline among many.

In his book *God, Philosophy, Universities: A Selective History of the Catholic Philosophical Tradition*, MacIntyre (2009a) returns to the problem of the fragmentation of knowledge and introduces the need to recover its

unity through an architecture whose cornerstone is theology, no matter whether this is Catholic or Protestant theology. Even dialectical materialism supplied Soviet universities with a vehicle for the integration of knowledge that gave meaning to all research at them, even if this was in the wrong direction, precisely because it was based on false premises. The problem with Western universities, and the Western world in general, is their renouncement of a unitary view of reality and the subsequent move to take refuge in specialization and fragmentation. At the old Soviet university, atheism was not merely a particular theological position, but a practical position that gave a certain order to all secular knowledge. In the modern Western university, atheism slips in through the back door in the form of simple ignorance of God, of whom there is only circumstantial evidence as a part of studies of the history of religions or some similar discipline. That is why MacIntyre believes that Catholic universities have a special responsibility to change this situation (Rist, 2013).

Institutional renewal: Leading the change in direction

Only a complete restructuring of the university and pre-university curriculum can resolve the problem of the fragmentation of knowledge. From the Catholic perspective, the advantage lies in its confidence in the capacity of reason to ask the correct, decisive questions about what we should study and in what sense. When MacIntyre wrote *Three Rival Versions*, he chose Pope Leo XIII's encyclical *Aeterni Patris* as a model of the Catholic tradition. The encyclical proposes St. Thomas Aquinas as an infallible guide for the organization and method of higher studies. A century later, John Paul II's encyclical *Fides et ratio* contained a fierce defense of the capacity of human reason to determine the truth of things. MacIntyre is convinced that only a university capable of philosophically questioning the organization of knowledge and how to attain it will be able to find the unity that can begin to correct the global fragmentation of society. However, the Scottish thinker does not deny that a university can exist without the support of Catholic theology, but with a philosophical vision that is open enough to give unity to knowledge. The problem is that this has become almost impossible in practice and would in

any case be a project that would be enormously difficult to sustain over time. Nor does MacIntyre propose that we restore the university from the 13th century as St. Thomas conceived it – and which was different, as we have noted, from the university he actually experienced – in the 21st century. MacIntyre is well aware that what he proposes may seem absurd and unfeasible. Indeed, it seems absurd, yet it is absolutely indispensable if we are to successful resolve the current challenges. This is a project suggested to us by the Catholic philosophical tradition itself. Research into particular sciences cannot be isolated from philosophical inquiry, and philosophy is forged through the relationship with theology and other disciplines. All of this requires the presence of the university (MacIntyre, 2009a, p. 179). The truth is, however, that the type of university in which to develop this project may not be the type that is common today, and which MacIntyre calls "the research university," that is to say, one where specialization is sacred and the idea of the university as a search for unified knowledge is unthinkable (Hutter, 2009). However, this concept of the university has become so powerfully institutionalized that the main obstacle we would encounter would be the very idea that teaching and research staff have of themselves.

The renewal of teachers: The need to turn back

In his article *Catholic Universities: Dangers, Hopes, Choices*, MacIntyre (2001) offers a provocative analysis of what a fragmented and fragmenting research university is. He believes that the touchstone for determining whether a university is entering into such a dynamic is to inquire into its system for promoting teaching staff – for example, whether a university has no problems promoting a teacher who is unable or unwilling to give classes to undergraduates and, at most, teaches doctorate courses while boasting a wide range of publications, exclusively in his/her area of specialization, etc. And if this same university finds it impossible to promote a teacher who works well with beginners or even pre-university students, not only because they are able to transmit their discipline, but because they are able to show their pupils how that discipline is integrated into knowledge as a whole and reality in general, although he/she

has published only a few articles and a few excellent thoughts on teaching, then such a university is actively contributing to fragmentation and disorder.

Another factor that reinforces fragmentation is the bureaucratic system of university assessment. Despite the differences between different legislative frameworks, the general tendency is to create a new intellectual caste that establishes academic procedures which everyone must follow, with the result that the contents of research are only considered appropriate if they further an approach based on continuous specialization. Consequently, for example, the author of several philosophical articles will be assessed by a bureaucrat who may never have read Aristotle. Sometimes assessments are conducted according to rankings of publications that are often self-referential. How can someone who advocates the need for radical change in approaches to higher research be assessed appropriately? Where will they publish their article? The obvious consequence of all this is that the academic world has become a powerfully established field in which any attempt at transformation clashes with self-protective procedures that oblige novice teachers to choose between adapting to these mechanisms or changing their profession (Murphy, 2013). Institutions are similarly forced to accept the rules of the academic game with the result that, more or less consciously, they also direct their teachers and researchers towards approaches that increase fragmentation.

Only a radical reform of views on the teacher and the researcher's mission can reverse this dynamic (Torre, 2020). Such a reform, however, would require us to emerge from the system without losing touch with scientific development in the different disciplines, as suggested earlier. It would require, first and foremost, the provision of a solid philosophical education to members of the university institution, not only the teachers, but also the leaders. This would enable the university to introduce the curriculum that MacIntyre proposes, one in which the sciences, the history of ideas and society, and knowledge of languages and cultures are formally unified through their connection with philosophy and theology. From this perspective, we can conceive of the university as a therapeutic

community (Smith, 2003), since it defends us against the danger of fragmentation and invites us to think together.

The indispensable philosophical and theological formality of curricula at Catholic universities

MacIntyre's diagnosis of the university's situation in today's world also extends to Catholic universities. According to the Scottish philosopher, the fact that these include theology and philosophy as specializations without consequence for the overall ordering of studies means that the same trends towards fragmentation and market-based study are repeated there. Another common error among Catholic universities is to believe that the difference between them and secular universities should consist in the fact that they stage religious ceremonies on solemn occasions or organize prayer groups as complementary activities during the academic year. What these minimalist approaches achieve is a betrayal of what the *magisterium* itself teaches, especially in the Apostolic Constitution *Ex Corde Ecclesiae*. That document, MacIntyre reminds us, establishes that university studies should always strive to determine the place that corresponds to each of the scientific disciplines and the meaning they have within the framework of a particular view of mankind and the world. This particular vision, in the case of Catholic universities, should lead them to teach Catholic philosophy and theology, without which the appropriate formality that gives unity to studies would be wholly lacking. Secular universities, if they wish to be anything more than a simple hodgepodge of disconnected disciplines, should find their own formality, perhaps by revising the liberal tradition itself, although this would become clearly problematic given that, in reality, the fragmentation they suffer is caused by the liberal tradition itself. Protestant universities, where in theory one could also find a frame of reference and a vehicle for formal unity in their own theological vision, present a different case.

The mission of philosophy and theology in supplying an order of knowledge to the work and contents of the academic field goes beyond university life itself. The mission transcends the university world in seeking to offer society criteria to adopt in order to ask the right questions

about the meaning of human activity. In this sense, MacIntyre finds complete agreement between *Ex Corde Ecclesiae* and the encyclical *Fides et Ratio* when, in his comment on the latter, he wrote:

> We have within our social order few, if any milieus within which reflective and critical enquiry concerning the central issues of human life can be sustained and the education to which we subject our young is not well-designed to develop the habits of thought necessary for such questioning … When plain persons do try ask those questions about the human good and the nature of things in which the philosophical enterprise is rooted, the culture immediately invites them to think about something else and to forget those questions. (MacIntyre, 2006a, p. 182)

It is also true that the Church's authority promises that certain answers will be found, though this does not prevent (on the contrary) the continuation of philosophical activity: "Philosophical questioning, when it encounters the mystery of God's self-revelation, does not come to an end, but is entrusted with new and additional tasks, for which it is provided with new and enriched resources" (MacIntyre, 2006a, p. 182).

Conclusion

Faced by the great health, economic, and even cultural crisis we are currently immersed in, it might seem superfluous to ponder a philosopher's analysis of the situation of the universities and their role in the world – even more so when it comes to a thinker like Alasdair MacIntyre, who focuses on seemingly more practical issues which, therefore, affect everyone and not just that rather small section of society that is directly involved in academia. However, the truth is that the Scottish philosopher published numerous reflections on the subject of the university in the first decade of the 21st century, and that these pieces are fully in line with the rest of his works, even functioning as a necessary conclusion to the application of what is usually known as the *After Virtue* project.

The situation of the university today is an unequivocal sign of where society is heading. Conversely, a radical reform of the university is essential in order to provide society with the tools necessary to overcome the challenges that the 21st century has revealed, challenges that are the result of shortcomings and failings in previous centuries. Only a university with a philosophy capable of structuring the order of humanist, scientific, and technical knowledge, assigning to each a place from which the whole makes it possible to ascertain a global significance, will be able to make this an institution that orders social life through the authority recognized by a community sufficiently endowed with the essential cultural elements. The university must once again become a seat of knowledge recognized as such by the many. That is what *auctoritas* means, in the sense of knowledge recognized by many, a multitude that is a sufficiently educated people.

An academic cannot ignore his or her cultural, social, and political vocation. In his book on Edith Stein, MacIntyre (2006c) compared the Jewish German philosopher's trajectory to that of one of the most important 20th-century thinkers, Martin Heidegger. While Stein integrated her philosophical research into her very life, even accepting great sacrifices, Heidegger separated his activity as a philosopher from his political engagement and in this way made it impossible for the university to become a place for critical reflection and a guide for social culture.

A wisdom-based university must be capable of putting its own home in order before serving as a guide to society. Putting its home in order entails radically rethinking both curricula and the articulation between pre-university and university teaching, as well as the academic career as a whole. This is not an easy task, and may even be completely unfeasible, and there is no way that it can be successfully achieved if, through inertia, an institutional policy is maintained which insists that the modern university project is still alive when all that remains of it is its ghost, albeit a ghost that accommodates an academic oligarchy more concerned with maintaining the status quo than with rediscovering and reinventing the university.

The present and future of higher education in the 21ˢᵗ century invites us to endorse the old adage *sapientis est ordinare*, enabling the university to become an institution that enlightens and is a source of order for social life.

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Entrepreneurship in High School Education – Perspectives of Colombian Teachers

Abstract

The term entrepreneurship has been seen from a productive perspective, tending towards the development of business ideas. However, today it is also associated with the strengthening of skills and attitudes on a personal level. In Colombia, Law 1014 of 2006 regulates entrepreneurship as part of academic training, at all educational levels. Despite it being an initiative raised by the government, concrete actions on the subject are being directed by teachers in classrooms. For this reason, the views of high school teachers, through the lens of qualitative research, are essential for exploring the reality that education occupies in this aspect, and that increasingly highlights some obstacles which hinder its progress.

Therefore, the aim of this article – immersed in the framework of a doctoral thesis about the practices of entrepreneurship among high school teachers in public schools in Bogotá – is to expose which actions have been aimed at integrating entrepreneurship into Colombian high school education from the experience of teachers, as well as to unveil their criticism of the absence

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of the entrepreneurial process from the first grades established in the law, the role of the National Service of Learning (SENA) as an important institution in Colombia related to entrepreneurship in the classrooms, the lack of a more human vision that is less focused on production in entrepreneurship education, and the huge gap in teacher training in the area.

Keywords: entrepreneurship, entrepreneurship teachers, high school education, education alliances

Introduction

The meaning of the word entrepreneurship, according to Filion (2009), descends from the Latin *inprender* which means to undertake; in ancient Greece it was used in connection with people who carried out commercial activities. Abu-Saifan (2012) exposes how some of these views are closely related to the economic environment: Schumpeter's perspective from 1934, which defines an entrepreneur as an innovative individual; McClelland, who in 1961 defined it as one who takes risks; Kirzner as a referee in 1978; Carland et al. as a strategic thinker in 1984; and finally Timmons and Spinelli, in 2008, as a holistic, persistent, and committed leader.

These definitions focus on the term as a fundamental part of the economy; however, they highlight characteristics that describe a behavioral profile that can be encouraged from the classroom as a disciplinary area. We believe that the answer to the question, "Can anyone who wants to learn be taught to be a good entrepreneur?" is "yes" (Saravasthy & Ventakaraman, 2011, p. 117). Thus, entrepreneurship has built a space within the educational field through gradual incorporation of actions aimed at the creation of a company, developing skills, and promoting creativity and innovation from school.

The enactment of educational plans and policies in Colombia around the theme of entrepreneurship outlines a set of actions that permeate school life and are seen as an alternative that can reduce unemployment rates and generate sustainable economic development as well.

The introduction of Law 1014 of 2006, which promotes the culture of entrepreneurship – the main interest of which is the development of General Labor Competencies (GLCs) and the promotion of an interaction between the educational community and the productive chains from preschool to the eleventh grade of high school – constitutes a potential response to these needs.

In high school – which in Colombia refers to the last two years of school, tenth and eleven grades – as explained by Law 1014, it is necessary "to strive for innovative productive development, generating conditions of competition in equal opportunities, expanding the base productivity and their entrepreneurial capacity, to unlock the creative potential of generating better quality work" (Camacho, 2010, p. 35). As a result, institutions of public education have been forced to implement entrepreneurship within their processes; however, the absence of links with the productive environment, the lack of inter-institutional support with universities and technical and technological education institutions – being necessary connections to establish successful actions in the field of entrepreneurship – have been evident.

The guidelines of Law 1014 of 2006 cover all levels of education, but their lack of specific details in their materialization generates various interpretations when public schools try to adopt them. In some educational institutions, general aspects were considered to fulfill these guidelines, such as including a specific class on entrepreneurship in high school, holding business fairs, or incorporating them through cross-sectional projects, while in other schools it was simply ignored, without giving them a true meaning or making their economic and social impact important.

Therefore, this article is intended to describe the actions developed in order to incorporate entrepreneurship in high school education from the teaching experience in Bogotá, Colombia, for instance, the implementation of alliances with technical education institutions and universities, in addition to other strategies that have provided students with the necessary tools and skills to access the world of work. Likewise, it aims to highlight the critical role that teachers have had as an important and decisive part of educational entrepreneurship, in the transformations that

institutions have undergone and the various proposals generated to be able to adopt it.

Entrepreneurial skills in high school education

Some skills in entrepreneurship education that are regarded as fundamental, according to Studdard, Dawson, and Jackson (2013, p. 3) in their review of diverse authors include leadership, adaptability, creativity perseverance, and financial education . These skills offer the students the opportunity to confront a variety of challenges throughout their lives. There are more types of competencies that are intended to develop other characteristics of an entrepreneur, which are classified according to their nature, such as technical, managerial, and organizational ones. Thus, oral and written communication can be included inside the universe of technical skills. Among management skills, it is possible to find planning and decision-making. From the realm of history, entrepreneurs must also have personal skills such as innovation, creativity, risk-taking, and persistence. For Kuratko (2004) "the characteristics of seeking opportunities, taking risks beyond safety, and having the tenacity to push an idea through to reality, are combined in a special perspective that permeates among entrepreneurs" (p. 3).

Based on the historical evolution of entrepreneurship conceived of by Boutillier and Uzunidis (2014), "the Schumpeterian entrepreneur has charisma and authority. The importance of authority cannot be absent; it is often a matter of surmounting local resistance, of winning relationships, and of being able to face heavy challenges" (p. 24). In high school education, these aspects are meaningful in view of the challenges posed by a globalized world. Although an entrepreneurial attitude can be cultivated in all stages of life, it can be reinforced especially during adolescence, regarding the axis of entrepreneurship education that for Fayolle (2013) "is positively associated with entrepreneurship-related human capital assets (knowledge, skills, positive perceptions of entrepreneurship, and intentions to become an entrepreneur)" (p. 696). The training process

of entrepreneurs in Colombian high schools considers the skills to be an essential component.

For the Colombian Ministry of Education (2020),

> education is defined as a process of personal, cultural, and social permanent learning, based on a comprehensive understanding of the human person, his/her dignity, and his/her rights and duties. The Colombian education system is made up of early childhood education, preschool education, basic education (five grades of primary and four grades of secondary), high school education (two grades and ending with the bachelor's degree), and higher education. (p. 1)

The two grades of high school are nowadays the focus of entrepreneurship education, but its adoption has been studied more in technical education than in the academic modality. Bearing in mind the approximation done for the National University related to high school and the articulation program by Celis, Gomez, and Díaz (2006), "it continues to privilege the separation and hierarchization between academic and technical modalities, considering the latter of lower social and academic status, oriented towards sectors of the population with lower incomes and low-paid occupations" (p. 5); as a result, the relationship between entrepreneurship and workforce has created a special nexus with the technical modality.

The experience of implementing entrepreneurship in Colombia has reached some advances through cooperation between schools, institutions, and universities, the establishment of a law, and the participation of SENA as a leader institution in entrepreneurship; all of these actions have shaped the present and future of schools around the topic of entrepreneurship.

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Implementation of entrepreneurship in high school education: Actions from alliances

Intending to respond to the needs of entrepreneurship education in Colombia, Law 1014 of 2006 frames the obligation for all educational institutions to incorporate this topic as a class. This law defines it in Article 13 as "a specific area of training for entrepreneurship and the generation of companies which must be incorporated into the curriculum and developed throughout the entire curriculum." With this parameter, the mandatory inclusion of a class on entrepreneurship leads to the construction of an official curriculum for this subject, especially in high school. However, this regulation requires it to be incorporated from preschool on in order to strengthen culture and innovation in all educational cycles.

Regarding the induction of entrepreneurial culture in schools, this article emphasizes that it is necessary "to transmit knowledge at all school levels, to form a favorable attitude of entrepreneurship, innovation, and creativity, and to develop competencies to generate companies" (Law 1014, 2006); thus, the content of the entrepreneurship class is included, considering various implementation strategies as a specific subject in accordance with the law. The skills promoted by entrepreneurship have been more developed in high school education, as a consequence of the articulation processes of high school and tertiary education, and orientation promulgated by the Ministry of National Education (MEN) in 2008 and by the Office of the Mayor of Bogotá, within the sectorial education plan for 2008–2012 which states that

> this model seeks the transformation of schools in their pedagogical, administrative, and organizational fields so that grades tenth and eleventh assimilate and deploy appropriate, relevant content and methodologies of higher education, through the semester syllabuses, the adoption of the system of academic credits and preparatory cycles, and the implementation of forms of academic evaluation and university type. (Alcaldía Mayor de Bogotá, 2008, p. 74)

One of the most relevant strategic alliances of educational institutions for the articulation of high school and higher education, aimed at the tenth and eleventh grades, is the one established with the National Learning Service (SENA). As a preceptor of this field in Colombia, SENA offers programs that support schools in specific technical training in various fields for work, which are supported by schools and are reflected in the pedagogical component of their Institutional Educational Projects (IEPs). This articulation that exists with some public schools in Bogotá has allowed students to appropriate knowledge, delve deeper into a disciplinary field, and ratify decision-making regarding their professional vocational choice.

The objective of these programs, specifically with SENA, as described by the MEN (Ministerio de Educación Nacional, 2006) is to "allow educational institutions to access curricular programs based on labor competence standards. These norms are defined with the productive sector and serve as references to grant labor certifications" (p. 6). The possibility of taking classes at school aimed at developing GLCs and entrepreneurial skills within the framework of a technical career makes articulation a benchmark that characterizes the institutions in which the productive project is the axis of their institutional work. Hence, the articulation processes are fundamental in the adoption of entrepreneurship and its interaction with the productive environment; additionally, in high school, they make it an essential aspect, to offer other alternatives to students.

Law 1429 of 2010, in addition to the recent, important Law 1780 of 2016, embrace the creation of young entrepreneurship, which according to the Chamber of Commerce of Bogotá (2016), an institution which supports the establishment of enterprises in Colombia,

> seeks to promote the creation of new young companies, understood as those created by natural or legal persons which are considered small companies, understanding small companies as those whose staff does not exceed 50 workers and whose total assets do not exceed 5,000 Minimum Current Legal Monthly Wages. (p. 1)

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This legal support and the SENA foundations promote new ventures that may be born from seeds in high schools. In Figure 1, there is a diagram of the most important aspects of entrepreneurship implementation in high school and its fundamental objective to strengthen entrepreneurial skills.

Figure 1. Implementation of entrepreneurship in high school education
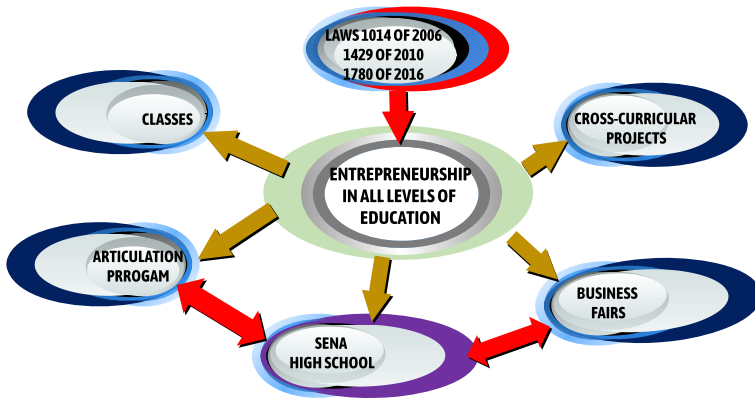
In Colombia, the role of SENA – a leading technical education institution in the country – and MEN Laws 1014 of 2006, 1429 of 2010, and 1780 of 2016 are promoting the culture of entrepreneurship and supporting the need to link the curricula of educational institutions with the productive sector in order to improve living conditions: "through alliances and inter-institutional agreements that support the purposes of the educational establishment and provide support to its processes" (Ministerio de Educación Nacional, 2010, p. 31), which translates into the adoption of multiple pedagogical processes that are linked with the productive ideas which arise within the classroom.

Currently, there are two types of high schools in Colombia: technical schools, which offer specific training in work areas, and academic schools, which mainly prepare students for an academic future at university. The technical schools have had to extend their schedules to include work on

entrepreneurship, from the high school modalities according to their area, created in alliance with universities and SENA. With the same purpose, the curricular aspect has been modified and made more flexible and principals and teachers have seen the need to focus their efforts on proposing training alternatives in order to make entrepreneurship a cross topic immersed in their IEPs – which still do not meet the implementation needs of the educational community. This a consequence, for example, of the deficit in infrastructure, scarce laboratories, a lack of teacher training and funding, among other things.

Methodology

This study was developed from semi-structured interviews with seven high school entrepreneurship teachers working in different schools in Bogotá with more than five years of experience in the area and six SENA instructors linked to the articulation process working in different schools than the teachers, in order to find different perspectives of the work on the subject. Likewise, four coordinators of the articulation program of SENA Bogotá, in the areas of business management and resource centers, were interviewed; their perspectives represented two lines of work with a strong presence in Colombian schools. Finally, the study included two school principals from a public school other than those of all the other study participants; they presented points of view from the field of management. The style of the interviews was selected according to the view of Choi (2018):

> Follow-up questions – also referred to as probes – are formulated relative to what interviewees have already said. Researchers sequence questions to generate free-ranging conversations about research topics that are directed by what participants have to say. This kind of qualitative interview is widely used across disciplines as a primary research method. (p. 233)

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Some guidelines for creating the interviews were fundamental in order to identify the diversity of perspectives which all the participants have about entrepreneurship, "formulating interview guides involves generating a list of questions and topics that are likely to elicit descriptions that speak to the research questions posed" (Choi, 2018, p. 237).

Moreover, we conducted a literature review about this subject in high schools, which revealed the importance of investigating the perspective of teachers and their experience in reality, beyond the scope of theory. All of these aspects have configured a qualitative study of a descriptive order, foreseeing the development of entrepreneurship in education, its history and the role of teachers, principals, coordinators, and other institutions in its transformations. According to Loeb et al. (2017), "the process of descriptive analysis is iterative, with each step building upon others and requiring reconsideration and modification as the researcher's understanding of the phenomenon, relevant theory, and the study advances" (p. 9).

It seeks to highlight the teacher's work in their daily practices, reflecting their concerns, expectations, and needs, as part of their innate humanity. As a consequence, this qualitative research dealt with people in constant activity, which for Cárcamo (2007) "emphasizes the interpretation of the particular phenomena that occur in a context of defined time and space" (p. 88). The space and the phenomena to approach revolve around entrepreneurship and the way it has been developed in high schools. Figure 2 illustrates the methodological process in this study.

As a discipline, entrepreneurship has been strongly influenced by the productive perspective, for this reason, in agreement with Atkinson (2017), "qualitative research methods help to gain insight into the processes involved in co-constructions of meaning, lived experiences, cultural ritual, and oppressive practices" (p. 65). We took into consideration the images associated with the term entrepreneurship and its cultural tradition involved throughout the management history. Teachers, instructors, coordinators, and principals are not distant from this historical development and its implications in education. Their practices, activities, and strategies are permeated by the productive environment, which has built the roots

Figure 2. The methodology developed to investigate perspectives about entrepreneurship in high school education
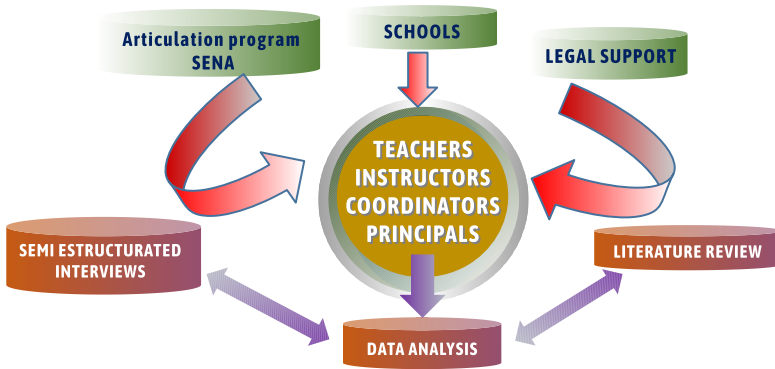
of modern entrepreneurship. In the same way, policies and laws currently have assisted some actions adopted by schools for fostering entrepreneurship in their institutions – Laws 1014 of 2006, 1429 of 2010, and 1780 of 2016, as well as the SENA parameters are implemented in high school education.

For Marín (2018), when observing people in their daily life, a qualitative researcher obtains direct knowledge of social life. Therefore, by meeting directly with teachers in schools, it was possible to recognize the social bond between them and the individuals around them, which is seen as essential for a reflective discussion. For this reason, as Marín (2007) points out, there are relationships and movements between paradigms based on the interactions that guide the research. In this scenario, where the director, the school teachers, instructors, and coordinators of SENA provided fundamental support to the process, as a source of real data, and they allowed a discussion of the various experiences collected and the visions they assume about governmental policy.

For this objective, the interviews allowed an inquiry into the strategies they have designed to implement entrepreneurship in their institutions, thus achieving "the active involvement and learning of the interviewer and the interviewee to favor the identification and analysis of the issues"

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(Simons, 2011, p. 71). This exploration sought to explore the process of inclusion and adoption of entrepreneurship in high school, from teachers, all permeated under the influence of educational public policy.

Entrepreneurship objectives from teachers' experience: Realities and contrasts

Based on the regulations on entrepreneurship which are in place in the country, this has been incorporated into the academic program of educational institutions and has created a new compendium of requirements that schools must deal with in response to this challenge. New needs arise, especially in terms of the work of teachers, who are ultimately responsible for bringing entrepreneurship to the classrooms. According to its preponderant role, "entrepreneurship education is characteristically a contextual phenomenon and in this perspective, the educator's relevant context and background are central factors for understanding their personal background and the teaching infrastructure available for entrepreneurship education" (Ruskovaara & Pihkala, 2012, p. 214). For this reason, when the experience, training, and profile of the entrepreneurship teacher who currently works in high schools are discovered, certain elements emerge, such as the implementation of transversal activities in the classrooms, some curricular innovations, and the uncertainty generated by comparing all of them. Another aspect which arises is certain disastrous realities experienced by the teachers, who are facing high expectations from these ministerial guidelines.

Article 2 of Law 1014 of 2006 reflects the main purpose: "to promote the entrepreneurial spirit in all educational levels of the country." Of course, this objective is carried out under the responsibility of the teachers, with the curricular adjustments that this implies. Likewise, Law 1429 of 2010, which favors the creation of companies and benefits for those under 28 years of age, inspires the training of entrepreneurship in young people with a view to setting up companies as the pinnacle of the process carried out through this evolution from preschool through primary and

secondary school to university education. According to Díaz and Celis (2010a), "teachers in many cases perceive that the objective of their area is to generate self-employment or survival units so that their students can occupy themselves and have some income" (p. 206). This perspective reinforces the idea that entrepreneurship is conceived with a limited vision, towards the production of goods and services, or to prepare pupils for the job market.

Findings

In the dialogue established with high school teachers and a group of instructors and coordinators belonging to SENA, whose role is to develop accompaniment in schools included in the program, it was found that there is a great gap between the expectation generated when addressing entrepreneurship in schools and the reality, because "the subject of entrepreneurship is assigned to a teacher who has not graduated in education or who does not have knowledge of the subject, and simply tries to do a project" (Teacher 1). "Entrepreneurship in SENA does not work as a cross-sectional area, and Law 1014 is not being applied. Those in charge of giving workshops in that area are the psychologists" (Coordinator 1). In other words, the aspirations expressed in the regulations are different from the processes experienced by teachers, especially in the handling of information that they have in the area. This contrast is illustrated in Figure 3.

The schools which have adopted the articulation program have the support of SENA instructors, whose perspective shows an implementation of the subject, through their foray into specific subjects in the modalities they develop. However, the entrepreneurship class was not designed to be taught in this alliance, as explained by instructors who work in schools: "SENA is strengthening this through productive projects" (Instructor 1). "From the technical and technological part, entrepreneurship is the core, because it is related to transforming what is learned from theory and developing it into practice" (Instructor 2). From the perspective of the SENA instructors, the productive phase is the peak of entrepreneurship training,

so the maximum objective of the training is reached when the students manage to consolidate a productive idea and are able to carry it out in the academic semester.

Figure 3. Current situation of entrepreneurship in high school: Expectations and realities
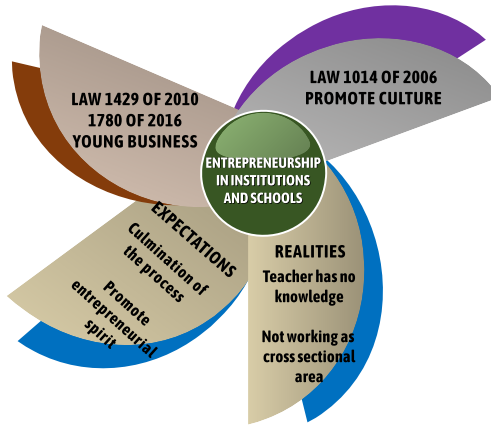
For principals, there is an empty space about this topic in education at schools, in comparison to the development obtained by other governments around the world: "Entrepreneurship is important in education, but there is still a long way to go, compared to other countries" (Principal 2). Further, they consider it necessary to become more flexible about the way entrepreneurship is conducted in schools: "We stick very closely to the contents of a program, of a curriculum, we do not see other things that are sometimes necessary to develop skills" (Principal 1). In the administration's perception, entrepreneurship in schools is more than a class, and it requires teamwork with all the components of the institution to ensure that it is effective: "With the example that I can give to others, or to the people who are under my responsibility, initiatives take shape" (Principal 2).

The objectives pursued by the teaching of entrepreneurship vary according to the experience of the teachers and the alliances they establish within the framework of technical training, and the goals for SENA are

based on the success of the presentation of the productive project. The adoption of entrepreneurship, in a study carried out by Rico and Santamaría (2018) in schools in Bogotá, showed that technical training is a vital element which directly affects the implementation of entrepreneurship in schools, by virtue of

> the relationship between the IEP and the entrepreneurship class in schools revolves around technical training programs and training in GLCs. Their transformations depend on the profile of the technical training programs, which, for example, SENA imparts in the institutions. This is an indication that aims to understand that the IEPs of schools have a technical training character, which supports the programs that work in their classrooms. (p. 110)

Schools adjust their training objectives to involve entrepreneurship in their IEPs, in addition to integrating it with other school activities. In other words, the institutions which offer technical media adopt the entrepreneurship classes as a result of their articulation with SENA or the universities and incorporate it as a requirement in the emphasis they promote. According to Sánchez and Gutiérrez (2013), "in Bogotá and Medellín, although with different emphases, it is conceived that the articulation processes must contribute to overcoming the disconnection of education with the dynamics of the productive world" (p. 78) – dynamics which, from the point of view of technical training, support the creation of a company as the axis of entrepreneurship and which are undoubtedly led by teachers.

For the coordinators, the issue of entrepreneurship "is not linked to the productive structure [and] there is little support to start prototypes from ideation" (Coordinator 3). This point of view reinforces the studies carried out by Dimas and Malagón (2011), where the findings showed that "the incidence of institutions with technical identity in the social, economic, political, and cultural dynamics of the environment is very limited, especially because the societal conception that exists about high school

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education is to guarantee access to higher education" (p. 55). Although there is interest on the part of technical education to offer GLC, in the case of the academic modality its objective is to prepare for university education. Table 1 illustrates some of the responses of the interviewees and their vision of the relevance of this subject in education in Colombia.

Table 1. A part of the analysis of semi-structured interviews

	1. Do you consider the topic of entrepreneurship to be relevant within education in Colombia?	
INSTRUCTOR 1		It is an essential tool in the training and education processes in Colombia. It allows the student to generate project creation and go out into the world of work.
INSTRUCTOR 2		Yes, I consider it necessary to give a lot to the students, to teach them that they should create a company, teach them to be entrepreneurs, and not simply workers.
INSTRUCTOR 3		Yes, it is relevant; first of all, because entrepreneurship is born in all of us, it is created and developed from childhood what creativity and development mean.
COORDINATOR 1		It is very important since children start their training process in preschool. This is because the educational and insertion model in economic life is changing day by day.
COORDINATOR 2		Definitely yes. It is vital that students or apprentices come up with some basics on the topic. The apprentices arrive without knowledge, so it should be a cross-sectional subject that focuses on the development of skills.
TEACHER 1		It has fallen into education, with the task of generating within the students a spirit to change, to innovate, to generate business ideas. In the education system, this task has been generated, and this is how we seek to ensure that people really begin to look at that entrepreneurial attitude to assume a life project, assume their role in society when they finish their first beginnings of education.
TEACHER 2		The Teaching of Business Management and entrepreneurship in Colombia is totally relevant because it is vitally important to promote business thinking between the children and youth of our country. Unfortunately, it is a field little addressed in Colombia, especially in public education; they are very few schools implementing it.
TEACHER 3		Yes, totally. Entrepreneurship is not only one action, but it is a way of life. It is a mindset. If we develop an entrepreneurial mindset, they can transform the country's economy, transform their lives, and transform their society and transform the communities close to them.
TEACHER 4		Entrepreneurship in school is extremely important to help people develop those necessary competencies to undertake, so I justify that it is extremely important to undertake at school.
PRINCIPAL		It is relevant within education in Colombia, and the initiative will always be a determining factor for education and to develop specific objectives.
ANALYSIS		**From the points of view of the interviewees, the relevance of entrepreneurship within education in Colombia is evident. The perspective of all the participants stands out, reinforcing the vital importance of promoting entrepreneurial thinking among children and young people. The emphasis proposed was to establish agreements to support the development of the necessary skills to undertake. The need to promote entrepreneurs from the classrooms is reiterated, but not to train workers.**

Despite being a relevant topic for all interviewees, entrepreneurship in some institutions is seen as a "useless" subject that, despite being regulated, does not have the necessary importance within the curriculum, as expressed in the opinion of one of the SENA coordinators: "Unfortunately, instead of motivating the students, the topic of entrepreneurship is demotivating because in SENA the entrepreneurship classes or workshops became useless classes" (Coordinator 1). This situation arises as a consequence of the lack of cohesive work between the processes proposed by SENA within the articulation and the expectations and needs embodied in the institutional priorities of the schools. Seen through the lens of the critical reality of teachers, the development of articulation with SENA requires an engine which works harmoniously, with the institutional priorities of the school, the purposes and desires of the students, and the requirements which improve the reality of the entire community in order to achieve a functional and effective alliance.

Teachers as an important and decisive part of the transformations for the adoption of entrepreneurship in high school

Teachers, since the enactment of Law 1014, have been in charge of leading the process of training in entrepreneurship at the preschool, primary school, high school, and university levels. Figure 4 presents the views on this initiative of various groups of people involved in the process. One of them is are the principals, who make decisions regarding schedules, infrastructure, and resources. Another group are representatives of higher education institutions, such as Distrital University, Uniminuto University, or the International Corporation for Educational Development, apart from SENA, the most relevant. These institutions have agreements with schools, by providing instructors, curricula, and materials. Finally, on the lowest line of this figure, are the teachers, who are located in the classrooms, essential protagonists of the whole group.

Those directly involved in the subject of entrepreneurship in high school treat it as a crucial tool that helps to develop a variety of skills, as one teacher stated: "Entrepreneurship is not a single action, but rather a way of life" (Teacher 3). It is a process that should be implemented from pre-school education, considering that "entrepreneurship must be formed from pre-school, in consonance with the child's innate abilities" (Coordinator 2). In the same sense, they emphasize that although it is a process that should start with the youngest children, it must not only involve the educational community, because "we have to address all environments, the family, the educational environment, the university, and the business world" (Instructor 3). The role of the teacher is decisive in the actions undertaken.

Teachers carry with them an immense responsibility, which in the framework of a practical reality, according to Mizgier (as cited in Camacho, 2010) shows that

there is a need to prepare teachers at all levels of the formal educational system from preschool to higher education, understood as a permanent learning process. The Faculties of Education, for example, do not prepare primary and high school teachers in these new dimensions of personal and professional behavior. (p. 23)

Entrepreneurship training for teachers shows an empty space that the universities have left and, as a consequence, has generated a lack of perspective in education. There is a need for instruction that understands the meaning of virtual work, creativity in the times of Artificial Intelligence, the adaptation of new productive initiatives, and the promotion of quality of life. Despite the efforts made by the Chamber of Commerce, an entity which regulates the creation of companies in Colombia and SENA, according to Pilonieta (2009), in Bogotá some actions were established to incorporate entrepreneurship in education, one of them being the "training of teachers as multipliers of the promotion of entrepreneurship" (p. 11). Since the passage of Law 1014 of 2006 there has been

an attempt to implement this training, but it still has immense potential to be exploited. In Figure 4, some general points of view taken from the interviews are presented.

Figure 4. General perspectives about entrepreneurship in high school
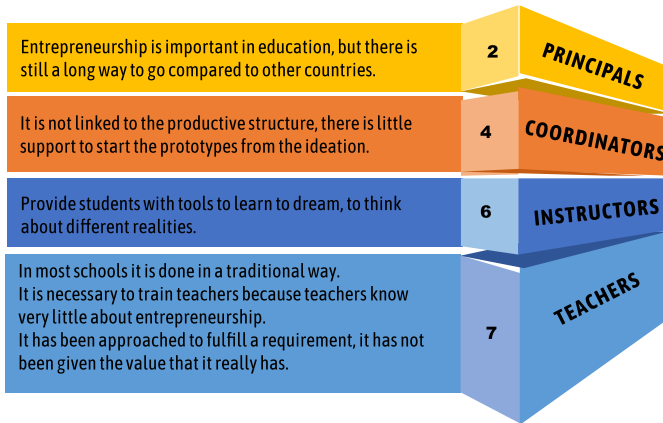
The urgency of training is one of the most frequent claims of entrepreneurship teachers, both in SENA and in public schools:

> "It is necessary to train teachers because teachers know very little about entrepreneurship. Learning to undertake or teaching to undertake is not just done using a board and marker; it is necessary to develop skills in the students. And if teachers don't have those skills, well, they won't be able to develop them in their students. (Teacher 3)

As a result of this situation, the teachers who work in entrepreneurship find their own way of appealing to their own strategies to acquire the necessary information for their work – in addition to considering the subject from a business perspective to consolidate a productive project to show at school fairs. As one teacher expressed, "students are only involved in that process when there is a college fair" (Teacher 4). Teaching

revolves around the presentation of a product or service, in events organized annually or semi-annually, in harmony with the planning of the institutional schedule, an aspect which detracts from the importance of entrepreneurship as part of a culture that concerns other aspects of life.

Conclusions

When approaching entrepreneurship from the teacher's perspective, it is possible to recognize that there is a regulation in effect in Colombia which regulates the adoption of entrepreneurship in the educational spectrum. From this perspective, Díaz and Celis (2010b) assert that

> in countries with critical unemployment problems, as is the case of Colombia, entrepreneurship has been making its way as one of the active labor market policies. As part of this active policy, Law 1014 of 2006 establishes the mandatory "promotion of the culture of entrepreneurship." (p. 374)

This law governs all educational levels; however, entrepreneurship has been incorporated more frequently in high school as a key part of the implementation of the articulation with higher education: "It is carried out in the opposite shift of students with an intensity of 13 hours weekly. The educational institution offers students, in agreement with SENA, work practice spaces that start from the second semester of the tenth grade" (Sánchez & Gutiérrez, 2013, p. 29). This organization favors the school work in entrepreneurship with the students of the last grades since they are finishing their school education and are ready to start their work or university life.

The Ministry of National Education is a government entity which has discreetly directed the actions in entrepreneurship, by providing materials such as Guide 39 and booklets for the articulation of high school and the productive environment, all of them focused on the development of GLCs, as described by Sánchez and Gutiérrez (2013):

In 2003, the Ministry of Education published the first document in that direction, entitled "Guide for the articulation of high school with the productive sector," which insists on the need to train in job skills and to bring the educational sector closer to the productive … emphasizing the need to train in competencies of this nature from primary school education, with a special emphasis on high school. (p. 48)

The topic of entrepreneurship, from the point of view of school teachers, instructors, and SENA coordinators, is relevant within education in Colombia not only from the perspective of the national government, but also from an educational perspective, because it seeks to promote business thinking in children and youth. According to Tarapuez, Osorio, and Botero (2013):

In the case of Colombia, the two sectors with the greatest influence to include entrepreneurship on the government's agenda in the period 2002–2010 were education and production. Although the topic was relatively new in the period under review, significant experience had been gained in research, academic events, and the curricular and extracurricular training of entrepreneurs in the education sector. (p. 282)

For the teachers interviewed, entrepreneurship is essential, since it aims to help people develop those skills which are necessary to undertake their own life project. In addition, it should be carried out from preschool and primary school education, with topics such as the importance of saving; in middle and high school with aspects such as financial responsibility, family budget, and investment, among others; and finally at university with accounting and business administration. In the opinion of the teachers, the majority of professionals with university degrees do not have a background of financial knowledge. Likewise, the active participation of the educational community, SENA, and the teacher in this integrated work requires a profile of the empowered entrepreneurship

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teacher as the leader of the process, to achieve success in its implementation.

It is necessary to link the productive ideas generated from schools with the reality of entrepreneurship and the economic environment. This is a result of the role that companies are given in secondary schools that offer entrepreneurship: "the productive sector is assigned the function of providing practical spaces and offering training alternatives for students" (Sánchez & Gutiérrez, 2013, p. 51). The participation of the productive sector is limited to agreements with schools as school places for internships and they are not configured as possible partners for future businesses.

A strong call is made from the critical perspective of teachers, instructors, coordinators, and principals for the MEN to generate a public policy of teacher training in entrepreneurship which is not simply training in creating micro-enterprises, but a strategy to provide other elements which impact the personal and social life of students. As suggested by Leffer (2019), "if teachers aimed to improve their skills to be more professional and use an entrepreneurial attitude in their leadership, they would be more aware of business theories and their own learning processes" (p. 13). Likewise, there is a call to create an initiative to start strengthening curricula as a nerve center for the development of an entrepreneurial mindset, in line with the institutional priorities of schools. The expectation and reality of entrepreneurship training in high school education present a serious criticism of the intervention of SENA, the Secretaries of Education, and the MEN, which have left the teachers alone in their daily work. As a consequence, the introduction of entrepreneurship is not yet a reality in all public and private schools as established by law.

Limitations of the study and prospective

The academic nature of the schools, their participation in the articulation program, and their relationship with the implementation of entrepreneurship, are aspects about which there is currently an information

deficit. As stated by Cadena (2017), "there is still a lack of research on technical and academic high school education in public institutions that articulate with public and private higher education institutions. Regarding entrepreneurship training, it has only been addressed in technical secondary education" (p. 340). This lack of background constituted a limitation in this approximation, considering the differences between the technical perspective and the academic nature of schools, their core foundations, and their interest when adjusting their academic processes.

Another condition that, perhaps, affected this study was the choice of participants, limited to Bogotá city high schools, which could be considered a limitation to the applicability of the findings in other places. The decision to compare the point of view of teachers, coordinators, instructors, and principals who belonged to schools that nowadays are immersed in the articulation program with SENA instead of schools with no relationship with SENA or articulation could have yielded different results related to entrepreneurship.

An interesting extension of this research would be to compare and contrast the views of teachers of academic schools unrelated to SENA. While researchers have investigated the role of SENA in high school education, very few have delved into the entrepreneurial processes in schools where there is no articulation, and none have compared the views of technical educators against academic ones.

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Motivation of Early Childhood Education Teachers in the Pursuit of Pedagogical Mastery

Abstract

The article concerns the role of motivation among early education teachers in striving for pedagogical mastery. The aim of the exploratory research was to outline the motives of early childhood education teachers in their pursuit of pedagogical mastery. The main challenge was to determine what factors motivate a teacher to strive for excellence and what methods are used to achieve it. This question was answered by collecting empirical evidence from January to May 2019. The research conducted by the author was of a mixed nature (quantitative and qualitative).

The findings suggest that there are many motives for Polish teachers of early childhood education to achieve pedagogical mastery, but chief among them is financial gratification. In Poland, the amount of remuneration depends on one's professional degree. A professional career and its further advancement is balanced with the journey to achieve pedagogical mastery.

Keywords: early childhood education teacher, pedagogical mastery, motivation

Introduction

The teacher is one of the main educational actors at all levels of education, from kindergarten to university. Ożóg and Petkowicz (2009) define a teacher as "a person who teaches and helps others to learn by communicating content, developing the capacity for self-education, introducing moral values and attitudes, and participating in their upbringing as a social function" (p. 820). Okoń (2001) recognizes that a teacher is someone who "by passing on messages teaches others or teaches how to live" (p. 256). The first meaning of the word has evolved greatly due to new pedagogical tendencies and has become considerably closer to the second meaning. In view of this, a contemporary teacher is a person who is concerned with the education, upbringing, and development of the students they care for. The success of this work relies on a number of factors, including external conditions and curricula, but mainly on the teachers themselves. The quality of the educational process depends on the competence, personality, knowledge, and professional training of the teacher. The literature on the subject (e.g., Kwiatkowska, 2008; Śliwerski, 2009, 2010; Zacłona, 2012; Szempruch, 2013; Gołębniak & Zamorska, 2014) attaches the greatest importance to these factors and increasingly mentions *teaching mastery*, i.e., being an excellent teacher (Zjaziun, 2005; Szkolak-Stępień, 2016). It should be remembered, however, that the acquisition and broadening of individual professional teaching competences is balanced with the prospective professional development of a teacher, as reflected in their professional career and its advancement, and this in turn constitutes the road to pedagogical mastery (Szkolak- -Stępień, 2016, p. 26). In order for this process to take place, the teacher must be appropriately motivated.

Pedagogical mastery

Although in Polish literature the term *pedagogical mastery* is relatively new, its basic principles date back to ancient times. In ancient

Greece, attention was given to the high moral and mental qualifications of teachers (Wołoszyn, 2003, p. 88). This idea was revived in modern times. The 17th-century pedagogue Jan Amos Komeński was of the opinion that the only people equipped to educate young people are suitably trained teachers. In the 19th century, with the formation of pedagogy as a science, the first schools for teachers were established, not only offering access to knowledge in the subjects which would be taught later, but also creating the foundations for working with students. In the 20th century, even greater emphasis was placed on educating teachers, i.e., striving for professional mastery (Mazur, 2015, p. 43 ff.).

Before presenting the concept of *pedagogical mastery*, the terms *master* and *mastery* should be explained. The Dictionary of Contemporary Polish lists four definitions of the term master. For the purpose of this work, the first two are the most important. A master is:

1. "a person decidedly better than others in a particular field, superior to others in terms of skills.
2. a person considered a spiritual guide, a teacher because of superiority in a particular area of life" (Dunaj, 1996, p. 528).

Górniewicz (2017) defines a master as "a person gifted with exceptional talent in a given field of activity or holding a high position in the professional hierarchy" (p. 10). Since ancient times, masters have received exceptional treatment because of their mastery of science, art, sports, or other areas of social activity. Mastery, on the other hand, is defined as the "highest masterful skills in a given discipline" (Dunaj, 1996, p. 528). It follows from these definitions that mastery should be linked to the development of skills in a particular field.

Pedagogical mastery can therefore be described as an outstanding, high-level professional activity of an individual in the field of education or didactics. Mastery is a process that aims for perfection and in practice is never finished. It encourages self-improvement and development and provides encouragement for pedagogical work.

In English literature, the term *teacher professionalism* is used to describe pedagogical mastery. This term relates to the improvement of the

quality and standard of teachers' work and image. Demirkasimoglu (2010), who studied dozens of definitions of teacher professionalism, points out that it is most often defined as performing "professional work with its sociological, ideological, and educational aspects, aiming at achieving the highest standards in teaching profession which is based upon professional formation, knowledge, skill, and values" (p. 2051). According to Tichenor and Tichenor (2004–2005), a professional teacher is one who "is dedicated to teaching, represents the best in the profession, and sets the highest standards for best practice" (p. 90). In turn, Wise (1989) considered professional teachers to be people who "have a very good knowledge of the subjects they teach [and] know the standards and practice of their profession. Moreover, they are capable of analyzing and meeting the needs of their pupils" (pp. 304–305).

Bocharova (2016) analyzed a number of definitions of pedagogical mastery and on this basis developed her own interpretation. According to her, pedagogical mastery is "the highest level of pedagogical activity, which is expressed in the creativity of a teacher, and the constant improvement of the art of teaching, upbringing, and self-development of man" (p. 205). This consists of eight basic features. The first is professional competence, i.e., broad knowledge in the fields of psychology, pedagogy, methodology, didactics, the teaching of a given subject, communication, assessment, etc., – the entire knowledge which forms the skills and tools of a teacher. The next element that fits into the definition of pedagogical mastery is specific personality traits. A teacher/master should be rational, highly ethical, optimistic, empathic, determined, understanding, and tolerant. A teacher/master should use the appropriate pedagogical technique, including habits and skills which help to increase the effectiveness of didactic and educational processes. This means a pedagogical approach that, in essence, is the ability to control emotions and use the appropriate means of educational communication, language, gestures, etc. Pedagogical mastery also includes pedagogical tact, i.e., the ability to choose the right tone and style of communication, not only with students but also with other school employees. The next element is pedagogical creativity, i.e., the creative selection of methods and forms of teaching. The variety of student personalities makes

it necessary for the teacher to be creative and imaginative and to use non-standard solutions, as repetition does not facilitate the development of students. Humanistic orientation, which means focusing on the other person, morality, and spiritual values, is also very important. It relates to the awareness that upbringing depends on the personality and attitudes of the teacher. This orientation is expressed in the concern for the needs and welfare of a child, as well as its comprehensive development. The next element is a culture of communication, i.e., a masterful command of the spoken word and the ability to express thoughts in a precise, accurate, and understandable manner. Pupils value teachers who do not create barriers in communication and who are easy to communicate with. The last component is pedagogical skills, i.e., the special personality traits of the pedagogue which determine the success of pedagogical activity (Bocharova, 2016, p. 208).

The literature on the subject distinguishes three types of pedagogical mastery. The first and the lowest is imitative mastery. Its essence is to act according to existing patterns and to try to match the skills of a master. The second level of mastery relates to adopting proven and recognized teaching methods, but modifying, improving, and enriching them with one's own educational and didactic ideas. The final stage of mastery relates to a situation in which teachers use innovative ideas in their educational activities, enabling them to achieve outstanding didactic and educational results. Such innovative ideas could include, for example, the creation of a new computer program which will be successfully used in classes. It can be seen that reaching mastery is in itself a form of education that lasts throughout the professional life of a teacher (Galant, 1993; Szkolak-Stępień, 2016). Sobieszczyk and Wojciechowska (2015, pp. 58–59) distinguished as many as four stages of achieving mastery. These include the stage of methodological models, the stage of critical reflection, the stage of self-control, and the creative stage.

In pedagogical mastery, several important aspects can be distinguished:

- Ethical – Professional mastery, the process of striving for it, and the desire to achieve it are inalienable aspects of the professional ethics of a teacher. Mediocrity and ignorance are fundamental sins that should be excluded from the teaching profession;

- Esthetic – Mastery can be seen as a form of art. The teacher educates, and in doing so creates beauty. Those who, through mastery, skillfully and consciously pursue an accepted and set goal become masters in the creation of beauty;

- Humanistic – if work is defined as a deliberate and conscious activity, being an exclusive attribute of man, a constitutive element of humanity, then mastery in work is its affirmation, and at the same time the ascension to the highest peaks of humanism. Mastery in work is a source of human dignity;

- Didactic – A master increases the opportunities of development for students and serves to consolidate their knowledge and acquisition of it;

- Educational – A master is an authority to pupils (Szkolak-Stępień, 2016, p. 40);

Educational mastery requires not only the improvement of professional qualifications in order to make the teaching process more effective, but also lifelong learning in many areas of life.

Motivation of teachers in their pursuit of excellence

The concept of motivation is derived from the Latin language and is connected with words like *motus* or *motio*, meaning movement and motion, respectively (Korpanty, 2001, p. 286). In this context, motivation is linked to progress in action. According to the Dictionary of Contemporary Polish, motivation is "a factor which causes a person's action, encourages them to do something" (Dunaj, 1996, p. 540). Łukasiewicz and Ożóg (2009) defined motivation as "an internal system that organizes the behavior of individuals and leads to the achievement of states of affairs important to them, or a set of cultural and social factors that influence the behavior of individuals, groups, and communities" (p. 359). These authors emphasize that motivation is a set of motives that are responsible for the initiation, direction, intensity, maintenance, and completion of behavior.

In the literature on psychology, motivation is expressed either as a mental state or as a personality trait. As far as the first meaning is concerned, motivation is a state of internal tension, the aim of which is to induce behavior in order to reduce said state. In the second sense, motivation is the fixed attribute of an individual, which gives behavior a certain constant orientation (Wach, 1997, p. 7).

Motivation can be seen as the driving force of man. It is worth noting, however, that if motivation is too strong, it may impede action, and in extreme situations even paralyse it. This is due to the fact that strong emotional tension is able to disrupt and deform activities, thus causing them to be disorganized. If an individual is subject to strong motives, concentration is reduced, numerous errors occur, and the attention mechanism is weakened. It is therefore stressed that strong motivation reduces efficiency, which in turn reduces labor productivity (Penc, 1998, p. 137).

Motivation is divided into internal and external. Internal motivation occurs when stimuli appear spontaneously and cause a person to behave in a certain way. Internal stimuli can be, for example, an interesting job that involves challenges, the possibility of developing skills, or responsibility. External motivation, on the other hand, occurs when the stimuli come from outside. External motivators include salary increases, promotions, various types of awards, among other things, but also penalties or fear of being penalized (Pietroń & Pyszczek, 2007, pp. 9–10).

Considering external factors that motivate a person to work, these can be divided into wage and non-wage factors, while the latter can be further divided into tangible and intangible factors. Wage factors are, of course, the amount of remuneration for the work performed. The remuneration depends on a number of factors, including the type of work performed, the level of education, competences, and so on (Antoszak, 2017, p. 184). State policy and laws are of great importance in terms of wages. Through administrative decisions, the state may influence the salaries of employees, especially those employed by the government and local authorities. The second group consists of non-wage factors. Intangible non-wage factors are those that are tangible but are not provided in the form of monetary compensation. Intangible motivational factors include:

- medical insurance,
- additional insurance,
- accommodation,
- tickets for sporting activities, the theater, etc.,
- social security funding,
- a training system,
- benefits in the form of laptops, mobile phones, etc. (Leśniewski & Berny, 2011, p. 105),
- assigning more difficult tasks to the employee,
- extending the scope of responsibility and independence of the employee,
- consulting with the employee and including the employee in decision-making,
- treating the employee courteously,
- the employer recognizing the employee, or
- praising the employee (Ciechanowski, 2012, pp. 23–24).

The methodology of the research (summary)

In the methodological assumptions of any research are elements such as the aim of research, research problems, methods, techniques and research tools, the organization of the research, and the characteristics of the study group.

The general aim of this research was to outline the motives of an early childhood education teacher in achieving pedagogical mastery. The main challenge was to determine what factors motivate a teacher to strive for excellence and what methods are used to achieve it. This question was answered by collecting empirical evidence from January to May 2019. The research conducted by the author was of a mixed nature (quantitative and qualitative). The quantitative portion utilized a diagnostic survey. A total of 50 early childhood education teachers were surveyed using a proprietary questionnaire, with the majority of respondents being selected at random. The teachers came from different regions of Poland. Based on the

researcher's judgement, to supplement the quantitative research, a qualitative method was chosen. For this purpose, in-depth interviews were conducted with eight teachers from the city of Kielce. For this purpose, the selection of respondents was not randomized, as qualitative research is concerned with opinions and observations, rather than statistics.

Results

As mentioned above, the pursuit of pedagogical mastery may be dictated by numerous factors, as there are a number of motivators which encourage individuals to achieve excellence in the teaching profession.

Table 1 shows the motives that guided teachers in achieving pedagogical mastery.

**Table 1. Motives for the pursuit of pedagogical mastery
by the percentage of respondents who indicated them**

Motive	%
Earning higher wages	87
Pursuing self-fulfillment in the profession	66
Being an authority	48
Achieving a level equal to that of teachers who are perceived as masters	41
Being remembered by the students	37
Gaining recognition in the environment	33
Receiving rewards	28
Having a very good performance appraisal	26
Improving the performance of the school	19
Sharing knowledge with others	17
Testing oneself	16
Being recognized and valued	14
Personal development	12
Helping pupils with special educational needs	10
Fear of dismissal	4

As seen in Table 1, the factors which guided teachers towards pedagogical mastery were varied. Most of the respondents (87%) stated that higher wages were their main motive, so it can be concluded that wage motivation was the primary factor for respondents. An important motive was the need to fulfill oneself in the profession, i.e., to perform one's role as an educator (66%). Almost half of the respondents (48%) considered it important to be an authority, while 41% were motivated by the prospect of reaching the level of teachers who are perceived as masters. The smallest number of respondents claimed that they were motivated by the fact that they helped students with special educational needs (10%) or were afraid of being laid off from their jobs.

The question of motives for striving for pedagogical mastery also appeared during the in-depth interview. The teachers included in the study presented different motives for becoming a master of the profession.

"I won't lie. I wanted to achieve mastery of my profession for financial, and probably ambitious, reasons. Striving for professional mastery gives a sense of purpose to my work. The need to become a better and better teacher brought me a lot of satisfaction and pride" (K8).

"Of course, the financial incentive and the need to develop" (K3).

"Improving one's working conditions is a great motivation to strive for mastery. I'm not sure if you'll understand me correctly. What I mean is that if a teacher doesn't pursue further education, doesn't prepare for classes, it's much harder for him or her to work. Once a scenario has been developed, it will certainly be useful in the future. Mastery is achieved through experience. You need to improve in order to make your work easier" (K2).

"The aim of pursuing mastery is to perform your duties in the best possible way, to be a professional and to help students, because that's what we are here for. I would like to point out that by striving for mastery we develop and shape ourselves, our personality, and learn to be and live for others" (K6).

"Perhaps the strongest motivation is self-improvement, gaining skills to work with students. But it is also important to strive for authority. It may be because of vanity, but who doesn't want to be perfect, admired, valued for their work, and praised. That's when it becomes fun, inspiring, and motivating, and so the circle is complete" (K5).

The above statements show that teachers were guided mainly by financial considerations in their efforts to achieve pedagogical mastery. Gaining prestige among pedagogical staff played a significant role. Teachers emphasized a willingness to fulfill themselves in the profession, and to strive for personal development.

The early childhood education teachers were asked what methods they use to achieve pedagogical mastery. Their answers are presented in Table 2.

Table 2. Methods used by teachers in striving for pedagogical mastery by the percentage of respondents who indicated them

Category	%
Self-education	86
Conversations with other experienced teachers	72
Courses and training	68
Additional university studies	59
Engaging in various social and educational projects	53
Diligent performance of duties	47
Following the example of other teachers	34
Developing one's own passions and interests	22
Listening to the comments of pupils or parents	11

Table 2 shows that the largest percentage of respondents considered self-education to be the most important factor in striving for pedagogical mastery (86%). This was closely followed by conversations with experienced teachers (72%) and courses and training (68%). More than half of the surveyed teachers indicated that earning an additional degree (59%)

and engaging in various social and educational projects (53%) brought them closer to pedagogical mastery. Less than half of the respondents mentioned such methods as diligent performance of duties (47%), taking examples from other teachers (34%), developing one's own passions and interests (22%), or listening to the comments of pupils or parents (11%).

Similar answers appeared in the course of the interview.

"In order to become a master in my profession, I improve my work technique, I participate in the various forms of training imposed by the school, but also ones chosen by myself and sometimes paid for on my own. I try to broaden my knowledge and skills by studying pedagogical literature and literature on the subject. I worked as an examiner for the District Examination Board. I was taught exercises and I presented my classes to other teachers and mentored younger teachers. Striving for professional mastery gives a sense of purpose to my work. The need to become a better and better teacher brought me a lot of satisfaction and pride" (K8).

"I don't just stop at what the system requires of me, but I look for and learn what I need to know in order to be a role model and master in the eyes of my students. I want to do what I do well, and that's why I'm still educating myself. I also search for free online courses for teachers. This is how I strive for mastery" (K1).

"Striving for pedagogical mastery is a really difficult matter. I think every teacher would like to be good at what they do. The internet is a great help. I follow discussion forums for teachers and various blogs written by teachers. It's such a treasure trove of knowledge, you can draw on the ideas of others or ask different questions to become a high-level teacher" (K3).

"I like to seek advice from experienced colleagues and ask them for advice. When possible, I also try to participate in various types of conferences that deal with useful teaching ways and methods" (K6).

"For me, the most important thing is to see and understand the needs of the students, because they are what matters. Whenever I meet with students and treat them as equal partners, I see that they have specific problems, and I look for solutions to solve those problems and find an antidote, I think I'm climbing the ladder to mastery. This is very important to me, perhaps because I had a difficult childhood and met a teacher on my way who helped me a lot. Striving for mastery, and this may sound philosophical or strange, is listening to another person" (K5).

In their statements, teachers stressed the role of self-education and participation in various courses and training programs. They mainly emphasized the role of the internet as a priority form of improvement, and thus of striving for pedagogical mastery. The respondents pointed out that pedagogical mastery is achieved in cooperation with other teachers.

Conclusion

There are many possible motives for early childhood education teachers to achieve pedagogical mastery which balance with lifelong learning. An unquestionable factor that encourages teachers to continue to develop in the pursuit of perfection is a higher salary. In Poland, in accordance with the amended Teacher's Charter, there is a four-level system of rank promotion from trainee teacher through contract teacher and appointed teacher up to chartered teacher. There is also the title of professor of education, though this is honorary and is awarded to qualified teachers without changing their rank (Act of January 26, 1982 – Teacher's card, Journal of Laws No. 3, item 19, as amended). The promotion of rank involves an increase in salary. However, the financial reward for achieving consecutive ranks in professional advancement should be much higher, since, as already mentioned, it is the main factor that motivates people to improve their skills in the teaching profession. Moreover, parallel to promotion, remuneration should increase with the length of service of the teacher, and the amount should be determined by regulation. Therefore,

it is worth considering the introduction of specialization degrees after reaching the level of a certified teacher (the highest level of promotion). These would enable teachers to develop further. Degrees of specialization would not be mandatory, but would significantly increase teachers' competences, which would be the preferred way for teachers who really wish to achieve mastery of their profession.

> Professional development becomes a need for teachers with specific attitudes, with intellectual autonomy and openness, imagination and sensitivity. It is an important part of teachers' professional lives and influences their success and personal satisfaction at work with *young people.*" (Szkolak, 2012, p. 29)

Szempruch states that teachers' lifelong learning may be achieved in various forms of organization by public and non-public institutions, especially universities and training institutions. This consists of three basic elements that complement and overlap each other: education (teacher studies and pedagogical practice), supplementary education (e.g., graduate studies providing the qualifications necessary for employment, graduate studies providing qualifications in another specialization, qualification courses providing the qualifications necessary for employment in a given school or in a second specialization, or remote learning which provides qualifications), professional development (e.g., supplementary graduate studies, courses certifying them to perform other educational tasks, supplementary courses, supporting training, or remote learning) (Szempruch, 2001). Therefore, school principals should provide teachers with opportunities for further education, improvement, and, where possible, funding for participating in various types of workshops, training courses, and graduate studies.

Early childhood education teachers should also be encouraged to cooperate with other teachers.

> Cooperation between teachers is beneficial and much can be achieved through it. It improves problem-solving, among other

things, because you listen to different opinions. It helps to look at a given situation from a different perspective and, consequently, to decide together on a specific dilemma. Thanks to it, teachers can improve their individual skills and integrate. In addition, it offers the possibility to influence current problems, which results in a sense of greater responsibility for the fate of the school and its students. Cooperating teachers will be role models for pupils who will want to learn from them and also make decisions and solve problems together. In addition, efficiently cooperating teachers have the opportunity to engage in dialogue with other teachers from different disciplines and with different backgrounds or work experience. This cooperation often involves exchanging views, joint action planning or team problem-solving, sharing examples of good practice to improve one's own work and reflections on teaching and its effectiveness (Szkolak-Stępień & Vaskevic-Buś, 2017, p. 153).

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Perceptual Motor Skills in Children and Pupils with Mild Intellectual Disabilities

Abstract

This literature review analyzes eight specialized papers which focus on issues of the perceptual motor skills of children and pupils with mild intellectual disabilities. Children and pupils with mild intellectual disabilities have deficits in perceptual motor skills. The deficits of adaptive and intellectual skills of these children and pupils may be greater (mainly because of their conceptual and abstract reasoning) than their relative deficits of perceptual motor skills. Stronger perceptual motor skills in children and pupils with mild intellectual disabilities may be the target of school intervention as a means of alleviating problems in adaptive functions.

Keywords: literature review, perceptual motor skills, mild intellectual disability, children, pupils

Introduction

Intellectual disability is characterized by substantial limitations in the areas of adaptive behavior and intellectual function, which are demonstrated in everyday social and practical skills. Intellectual function deficits include deficits in cognition, learning, logical thinking, problem-solving, adapting to new (emerging) situations, and other skills. The limitations in adaptive behavior contain three types of skills, i.e., conceptual (writing, counting, reading, speaking, telling time, etc.), social (responsibility, interpersonal skills, solving social problems, self-confidence, etc.) and practical (self-service, employment, the use of money, telephoning, etc.). In approximately 85% of all cases, the individuals are categorized as having mild intellectual disabilities. This category defines the need of support in social, practical, and conceptual skills and in certain life activities (Boat & Wu, 2015; Di Blasi et al., 2007; Pinborough-Zimmerman et al., 2007; Schalock et al., 2007; Vuijk et al., 2010).

The fine motor skills of people with intellectual disabilities is particularly important since this area relates to both adaptive and cognitive functions and is a prerequisite for many daily activities. Fine motor skills are an important prerequisite for adaptive behavior in children and are essential to the overall development and health of children. Fine motor skills contribute to the success of children in kindergarten and affect primary school performance in reading, spelling, writing, and math (Cameron et al., 2012; Memisevic & Sinanovic, 2012; Obrusnikova & Cavalier, 2017; Suggate et al., 2017).

The coordination of visual perception and fine motor movements represents perceptual motor skills. Perceptual motor skills are an excellent indicator of a child's overall level of functioning, as they are strongly related to school performance and intellectual functions. However, the exact nature of the relationship between intellectual functions and perceptual motor skills is not clear. Some studies have used measures of intellectual function to predict perceptual motor skills (Beery & Beery, 2010; Graf & Hinton, 1997; Kulp, 1999).

Eye–hand coordination is an important part of perceptual motor skills and there is some overlap between perceptual motor skills and eye–hand

coordination. Eye–hand coordination is a skill where motor and visual processes are effectively applied together to carry out daily activities such as handwriting, doing chores, and getting dressed. Handwriting has been extensively studied in relation to perceptual motor skills. Research has confirmed the strong association between handwriting and perceptual motor skills (Pfeiffer et al., 2015; Shin et al., 2015).

Perceptual motor skills are dependent on intact fine motor coordination, motor inhibition, visual perception, and constant attention. An assessment of perceptual motor skills is an essential part of a psychological/educational assessment of the child's individuality in school planning. Although it is related to intellectual functions, perceptual motor skill deficits may be present even when there are no intellectual deficits. Because of their independence from intellectual functions and their complex structure, perceptual motor skills have been extensively studied in clinical populations in an effort to locate brain dysfunction and more accurately describe and identify perceptual motor skill deficits (Demsky et al., 2000). Mattison, McIntyre, Brown, and Murray (1986) studied children with specific learning difficulties (intelligence quotients ranging from 85 to 115) who had deficits of perceptual motor skills and were defined by having difficulty integrating motor coordination and visual perception which was not caused by specific problems with the motor or visual system. Other studies have examined perceptual motor skill deficits in specific groups. Schultz et al. (1998) found that children with Tourette syndrome had perceptual motor skills one standard deviation below the levels of children with typical development. Sutton et al. (2011) found that children with attention deficit hyperactivity disorder and traumatic brain injury had scores of more than one standard deviation lower than children with typical development. A study by Ercan, Yilmaz, Taş, and Aral (2016) showed that a group of children with speech-sound problems had significant deficits in perceptual motor skills of more than one standard deviation below a control group of intact children. An extensive study by Geldof, van Wassenaer, de Kieviet, Kok, and Oosterlaan (2012) showed that children with low birth weight and children born preterm had mild to moderate deficits in perceptual motor skills compared to children with typical

development. While studying perceptual motor skills in people with intellectual disabilities, Muñoz-Ruata, Caro-Martínez, Martínez Pérez, and Borja (2010) found significant deficits in perceptual motor skills, although their nature and extent in this population remained unclear.

Given the importance of the relationship between intellectual functions and adaptive behavior and perceptual motor skills, we have sought to better understand the extent and nature of perceptual motor skill deficits in children and pupils with mild intellectual disabilities in comparison to children and pupils with typical development.

Methodology

The literature review addresses the issue of perceptual motor skills in children and pupils with mild intellectual disabilities. We defined two basic thematic criteria for the selection of studies which are suitable for this analysis: perceptual motor skills and mild intellectual disability. We searched the titles in the Web of Science, ERIH+, and SCOPUS databases. The collection and study of the foreign literature on the subject was carried out at the beginning of 2020. We have tried to approach the chosen topic for the literature review in a comprehensive way. By analyzing and then synthesizing the findings, we investigated whether the deficits of perceptual motor skills in children and pupils with mild intellectual disabilities will show the same or different results as in children and pupils with typical development.

The criteria for including studies depended on the following specific guidelines and definitions. Firstly, for a study to be selected as one with children and pupils with mild intellectual disabilities, a definition of mild intellectual disability had to be included. Secondly, for a study to be selected for this review as one in which VMI (Visual Motor Integration) skills were assessed well, it had to include a standardized pencil-and-paper test commonly used for VMI assessment. Thirdly, for a study to be selected for this review as one containing a control group of typically developing children and pupils, a definition of typically developing had to be included.

Finally, the studies had to be written in English and published in peer-reviewed journals in the period 1989–2019.

A total of 57 different studies were included in the initial results. Subsequently, studies were excluded for the following reasons: children and pupils with mild mental disabilities who also had a comorbid diagnosis of cerebral palsy or autism spectrum disorder (n=18); research presented in the form of reviews, case studies, letters, or nonoriginal articles rather than peer-reviewed research (n=26); authors using tools other than VMI tests to measure fine motor skills or visual perception, e.g., visual form recognition, grooved pegboard, etc. (n=5).

After narrowing down the selection, we worked with the resulting eight empirical studies. Based on the established criteria for selecting the texts and according to the analysis, we synthesized the findings from the relevant studies into the literature review. In the systematic review, we tried to analyze the selected papers, to briefly present their characteristics, to determine their particularities, to evaluate their contribution to theory and practice, and to include the knowledge about the topic of perceptual motor skills in children and pupils with mild intellectual disabilities. Table 1 provides a general overview of the studies selected for this review.

Table 1. Overview of the analyzed studies on perceptual motor skills in children and pupils with mild intellectual disabilities

Author(s)	Title	Year, country	Research sample	Research aim
Gresham, F. M., MacMillan, D. L., Bocian, K. M.	Learning Disabilities, Low Achievement, and Mild Mental Retardation: More Alike Than Different?	1996, United States	152 pupils (67 pupils with specific learning difficulties, 40 pupils with low achievement, and 45 pupils with mild intellectual disabilities)	Comparing pupils with specific learning difficulties, low achievement, and mild intellectual disabilities in social skills, school achievement, cognitive functions, perceptual/motor functions, problem behaviors, school history, and involvement in school
Dykens, E. M.	Are Jigsaw Puzzle Skills "Spared" in Persons with Prader–Willi Syndrome?	2002, United States	21 children and pupils with Prader–Willi syndrome in the range of mild intellectual disability (9 boys and 12 girls) and 21 pupils with typical development (8 boys and 13 girls)	Examining previous clinical manifestations of children and pupils with Prader–Willi syndrome, including unusual word compilation and search

Wuang, Y. P., Wang, C. C., Huang, M. H., Su, C. Y.	Profiles and Cognitive Predictors of Motor Functions Among Early School-Age Children with Mild Intellectual Disabilities	2008, Taiwan	233 pupils with mild intellectual disabilities (142 boys and 91 girls)	Describing the sensorimotor profile of children with mild intellectual disabilities and examining the relationship between motor, sensory, and cognitive functions
Duijiff, S., Klaassen, P., Beemer, F., de Veye, H. S., Vorstman, J., Sinnema, G.	Intelligence and Visual Motor Integration in 5-Year-Old Children With 22q11 Deletion Syndrome	2012, Netherlands	65 children with 22q11-deletion syndrome in the range of mild intellectual disability (43 girls and 22 boys)	Investigating the relationship between the visual–motor integration and intelligence of children with 22q11 Deletion syndrome
Howley, S. A., Prasad, S. E., Pender, N. P., Murphy, K. C.	Relationship Between Reaction Time, Fine Motor Control, and Visual–Spatial Perception on Vigilance and Visual–Motor Tasks in 22q11.2 Deletion Syndrome	2012, Ireland	31 children with 22q11.2 Deletion syndrome in the range of mild intellectual disability (15 boys and 16 girls) and 26 children with typical development (12 boys and 14 girls)	Examining the visual motor skills and reaction time of children with 22q11.2 Deletion syndrome
Vicari, S., Mantovan, M., Addona, F., Costanzo, F., Verucci, L., Menghini, D.	Neuropsychological Profile of Italian Children and Adolescents with 22q11.2 Deletion Syndrome With and Without Intellectual Disability	2012, Italy	34 children and adolescents with 22q112 Deletion syndrome (of which 12 children had mild intellectual disabilities) and 83 children and adolescents with typical development (43 girls and 40 boys)	Identifying specific neuropsychological features of children and adolescents with 22q11.2 Deletion syndrome
Memisevic, H., Sinanovic, O.	Executive Functions as Predictors of Visual–Motor Integration in Children with Intellectual Disability	2013, Bosnia and Herzegovina	90 children with intellectual disabilities (of which 42 children had mild intellectual disabilities and 48 children had moderate intellectual disabilities)	Evaluating the relationship between executive functions and perceptual motor functions in children with intellectual disabilities
Lo, S. T., Collin, P. J., Hokken-Koelega, A. C.	Visual–Motor Integration in Children with Prader–Willi Syndrome	2015, Netherlands	75 children with Prader–Willi syndrome in the range of mild intellectual disability (34 boys and 41 girls)	Evaluating connections between perceptual motor functions and gender, age, intelligence, and genetic subtype in children with Prader–Willi syndrome

Findings of the review

A research study by Gresham, MacMillan, and Bocian (1996) aimed to compare pupils with specific learning difficulties, mild intellectual disabilities, and lower overall achievement in social skills, school achievement, cognitive functions, perceptual motor functions, problem behaviors, school history, and involvement in school in the United States. A total of 152 pupils were enrolled, of which 67 pupils had specific learning difficulties, 40 showed low achievement, and 45 had mild intellectual disabilities. The level of cognitive function in these pupils was tested using the Weschler Intelligence Scale for Children (WISC-III) and the Raven Colored Progressive Matrices (RCPM). As for the perceptual motor functions, they were tested by means of the Bender–Gestalt Test. The study found that cognitive functions were higher in pupils with specific learning difficulties than in pupils with low achievement and mild intellectual disabilities. Pupils with low achievement showed more success in school – especially with reading – than pupils with mild intellectual disabilities and specific learning difficulties. Pupils with mild intellectual disabilities demonstrated poor performance in all school areas compared to the group of pupils with specific learning difficulties and the group of pupils with low achievement. No differences were found between these groups of pupils in problem behaviors and social skills.

The American researcher Elisabeth M. Dykens (2002) conducted a study to investigate previous clinical manifestations of children and pupils with Prader–Willi syndrome, which included unusual word compilation and search. The research sample of this study consisted of 21 children and pupils with Prader–Willi syndrome who were in the range of mild intellectual disability (9 boys and 12 girls) and 21 pupils with typical development (8 boys and 13 girls). The research method was a one-hour test battery that individuals underwent under the supervision of trained research assistants. This set of tests included Kaufman's Brief Intelligence Test, standardized tests designed to test visual–spatial tasks, puzzles and strategies applied to them, and word searches. The results of the tests showed that the level of visual–spatial skills in children with Prader–Willi syndrome

is significantly lower than that of children with typical development. Slight differences were also observed for word searches. On the other hand, children with Prader-Willi syndrome were significantly better at solving puzzles, placing an average of 28.10 pieces of jigsaw puzzles, while children with typical development placed only 10.71 pieces correctly. Likewise, 71% of the children with Prader–Willi syndrome had scores above the average for children with typical development, whereas only one child (6%) with typical development scored above the average of children with Prader–Willi syndrome. In children with Prader–Willi syndrome, the ability to assemble the puzzle was not predicted by intelligence quotient, age, obsessive-compulsive symptoms, degree of obesity, or gender, but by the genetic subtype of the disorder.

In their study, Wuang, Wang, Huang, and Su (2008) focused on describing the sensorimotor profile of pupils with mild intellectual disabilities in Taiwan. They tried to explore the correlation between cognitive and motor functions in these pupils. The research was conducted on 233 pupils with mild intellectual disabilities aged 7 to 8 years. The inclusion criteria included the absence of serious behavioral and emotional disorders. Children with associated autism spectrum disorder, specific learning difficulty, cerebral palsy, blindness, deafness, neurological disorders, muscular dystrophy, or epilepsy were also excluded to prevent data distortion. The study was carried out in 2002–2006 and the data were obtained using standardized tests aimed at assessing cognitive, motor, and sensory functions in pupils with mild intellectual disabilities. The study found that pupils with mild intellectual disabilities had significant problems with fine motor skills. Sensory integration functions were also slightly impaired in these pupils. Processing speed, perceptual organization, and verbal understanding predict perceptual motor skill scores. The main finding was that pupils with mild intellectual disabilities showed dysfunctions in sensorimotor skills, the early identification of which is necessary for better inclusion in the ordinary school environment.

Duijff et al. (2012) focused their study on investigating the relationship between visual–motor integration and intelligence capabilities in 5-year-olds with 22q11 Deletion syndrome (DiGeorge syndrome).

The Dutch study included 65 children with DiGeorge syndrome who were in the range of mild intellectual disability. As the research method, the Dutch version of the Wechsler Preschool and Primary Scale of Intelligence and the Beery–Buktenica Developmental Test of Visual–Motor Integration, Visual Perception, and Motor Coordination were chosen. The results of the study point to the fact that intelligence deficits in children with DiGeorge syndrome may be greater than their deficits in visual perception. Visual perception and visual motor integration have a greater impact on the results of some partial performance tests than on the level of motor coordination. The origin of the deletion, the presence of a cardiac anomaly, and gender were not found to predict the score of visual motor integration. Based on these results, the authors of the study concluded that stronger abilities in visual motor integration in these children may be the aim of school interventions as a means of alleviating problems in their adaptive functions.

Howley, Prasad, Pender, and Murphy (2012) conducted a study that examined the level of perceptual motor functions and their response time using a series of standardized tests in 31 children diagnosed with 22q11.2 Deletion syndrome in the range of mild intellectual disability in Ireland. The results of these children were compared with the results of 26 intact children. Children with lower intelligence quotients were also involved in the study. During the research, the skills of individuals to understand the assignment and the subsequent reaction time of their perceptual motor functions was first tested. In the next part of the research, individuals completed the Wide Range Assessment of Visual Motor Abilities (WRAVMA), which included drawing, assigning, and a table with holes, in which individuals inserted pegs according to the assignment. Again, the reaction time of the perceptual motor functions was also investigated. From the results of the study we can conclude that the deficits of perceptual motor functions in children with 22q11.2 Deletion syndrome are primarily attributed to deficits in their psychomotor performance and their speed was influenced mainly by whether it was necessary to complete the task on time or not. So, we can say that if a child with 22q11.2 Deletion syndrome has unlimited time to complete a task,

the level of perceptual motor functions may be better than if there are time constraints.

Vicari et al. (2012) conducted a study to identify specific neuropsychological features of children and adolescents diagnosed with 22q112 Deletion syndrome regarding the possible variability due to intellectual disability. The research sample of this study was 34 Italian children and adolescents with 22q11.2 Deletion syndrome (12 girls and 22 boys) – 12 of whom had mild intellectual disabilities – as well as a group of 83 intact children and adolescents (43 girls and 40 boys). The research evaluated various areas, such as intelligence and specific skills in various neuropsychological subdomains (language, perceptual motor functions, and memory). The Stanford–Binet Intelligence Scale and the Wechsler Intelligence Scale for Children were used for intelligence testing. The area of perceptual motor functions was tested using the Visual Motor Integration, which consists of a sequence of 27 geometric shapes (from the simplest to the most complex), which were subsequently interpreted on paper. Furthermore, two subtests of the Visual Perception Test (VPT) were used to examine perceptual motor functions: VPT2 (combining identical patterns) and VPT4 (identifying the same patterns on a confusing background). The results of the research showed significant differences between children with DiGeorge syndrome and typically developing children, especially in the results of the VPT2 subtest. In the VPT4 subtest, children with DiGeorge syndrome had problems comparing patterns on a confusing background. Children with DiGeorge syndrome also had a lower score in the Visual Motor Integration Test than intact children. Children with DiGeorge syndrome showed a significant deficit in the area of perceptual motor functions, which persisted especially in children with DiGeorge syndrome without associated intellectual disability.

A study by Memisevic and Sinanovic (2013) aimed to evaluate the relationship between executive functions and perceptual motor functions in children with intellectual disabilities and the extent to which executive functions can predict the level of perceptual motor functions in these children. The research sample consisted of 90 children with intellectual disabilities from Bosnia and Herzegovina. Of these, 42 were in the range of

mild intellectual disability and 48 were in the range of moderate intellectual disability. The research method was the Behavioral Rating Inventory Executive Function (BRIEF), which focuses on monitoring, planning, emotional control, shifting, initiating, inhibition, working memory, and organization of material. Perceptual motor functions were measured using the Acadia Test of Visual–Motor Integration (VMI). The study revealed that only two subcategories of executive functions – monitoring and working memory – are an important prerequisite for the development of perceptual motor functions. The authors expected a stronger relationship between perceptual motor functions and planning. This result is attributed to the concept of planning being captured by monitoring scales and working memory. However, it is necessary to realize that all executive functions were positively related to perceptual motor functions. The authors also assumed that by practicing memory training, some children who have no difficulties in fine motor skills and visual perception can improve their performance in perceptual motor functions, thereby achieving more in school.

A Dutch study conducted by Lo, Collin, and Hokken-Koelega (2015), aimed to assess the level of visual motor integration in children with Prader–Willi syndrome, as well as to assess the factors that could influence it. The research sample of this study consisted of 75 children with Prader–Willi syndrome in the range of mild intellectual disability. The second phase of the research involved 54 children with Prader–Willi syndrome, 52 of whom completed the research. The level of visual motor integration was tested using the Beery–Buktenica Developmental Test of Visual–Motor Integration (Beery-VMI), in which the children were asked to interpret 30 geometric shapes (from the simplest to the most difficult) without a time limit. Visual perception, which was tested using the VMI supplementary visual perception test, was also among the areas tested. In addition, hand motor coordination was tested using the VMI supplementary motor coordination test. The children with Prader–Willi syndrome achieved very low scores in VMI tests in the study. Their level of visual perception and hand motor coordination was evaluated as below average. The complete test results of children with Prader–Willi syndrome in all tests are very poor compared to children with typical development.

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Conclusion

The studies of children and pupils with mild intellectual disabilities who were administered tests of Visual–Motor Integration found differences between children and pupils with mild intellectual disabilities and children and pupils with typical development. The results of some studies corresponded to the expected 2–3 standard deviation deficits in adaptive and intellectual functions that children and pupils with mild intellectual disabilities experience in comparison to children and pupils with typical development. Data on the relationship between adaptive behavior and visual–motor integration suggests that visual–motor coordination training helps adaptive behavior, which leads to better day-to-day functioning of children and pupils with mild intellectual disabilities.

Pupils with mild intellectual disabilities, according to a study by Gresham, MacMillan, and Bocian (1996), achieved lower results in the area of cognitive functions compared to pupils with specific learning difficulties. Similar results wre reported in the study by Wuang, Wang, Huang, and Su (2008), which suggests that pupils with mild intellectual disabilities showed significant difficulties with fine motor control and dysfunction in sensorimotor skills.

Two studies focused on the relationships of other functional areas with perceptual motor functions in pupils with intellectual disabilities. One of them examined the relationship between executive and perceptual motor functions, and found that only two of the executive functions – monitoring and working memory – have a direct relationship with the development of perceptual motor functions in these pupils. It should be noted, however, that all executive functions have a positive impact on perceptual motor functions (Duijff et al., 2012). The second study looked at the relationship between the intelligence of pupils with DiGeorge syndrome and the level of their perceptual motor functions. The results of the study show that intelligence deficits in these pupils may be greater than perceptual motor function deficits (Memisevic & Sinanovic, 2013).

In one study, the level of visual motor integration was examined in pupils with Prader–Willi syndrome. These pupils achieved very low scores

in tests focused on visual–motor integration. Their level of visual percep-
tion and motor coordination was also assessed as below average (Lo et al.,
2015). However, another study has shown that in strategic activities, such
as composing puzzles, these pupils are able to be much more successful
than pupils with typical development (Dykens, 2002).

Other studies have focused on pupils with DiGeorge syndrome, with
the results of one showing significant deficits in the perceptual motor
functions of these pupils (Vicari et al., 2012). The results of the second
study, which also looked at the perceptual motor functions in pupils with
DiGeorge syndrome, suggest that deficits in the area of these functions
can be primarily attributed to deficits in the psychomotor development
of these pupils. The level of perceptual motor functions in pupils with
DiGeorge syndrome can also be influenced by whether pupils have un-
limited time to complete the task (Howley et al., 2012).

If we were to define the connections between the results of individ-
ual studies, we should certainly mention that in all cases there were
deficits in the development of perceptual motor functions in pupils with
mild intellectual disabilities. It is also important to mention the relation-
ship between the development of cognitive and executive functions, the
stimulation of which can improve the development of perceptual motor
functions in pupils with mild intellectual disabilities. We can also deduce
from these studies that one of the main reasons for deficits in these areas
is a deficit in the field of psychomotor development.

The findings of this literature review are very important, especially
in relation to the development of individual areas in pupils with mild in-
tellectual disabilities and the relationship between them. It is important
to focus on the comprehensive development of all functions, i.e., psy-
chomotor, cognitive, executive, and perceptual motor, in the education
of pupils with mild intellectual disabilities. The individual functions in-
fluence each other, and if the development of one of the areas is neg-
lected, deficits can also occur in another area. The literature review
therefore points out the importance of the complexity of educating
pupils with mild intellectual disabilities, which could be the basis for cre-
ating framework educational programs for their education. It can also

serve professionals to better understand the characteristics of pupils with mild intellectual disabilities and the importance of the development of psychomotor development and cognitive functions, which is crucial to their overall development and which directly affects the possibilities of their education.

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Teachers' Awareness of the Development of Perceptual Motor Functions in Pupils with Mild Intellectual Disabilities at a Primary School in the Czech Republic

Abstract

The main aim of the study was to determine teachers' awareness of the development of visual and auditory perception in pupils with mild intellectual disabilities at a mainstream school in the Czech Republic. Based on this main aim, additional goals were set: to determine to what extent teachers are aware of the importance of developing visual and auditory perception in pupils with mild intellectual disabilities, by what means teachers develop visual and auditory perception in pupils with mild intellectual disabilities, and how teachers use pupils' homework to develop visual and auditory perception. To achieve the aims of the study, the qualitative method was used with the technique of a semi-structured interview. The results show that teachers are aware of the importance of developing perceptual motor functions

in pupils with mild intellectual disabilities, but the level of training in working with pupils with mild intellectual disabilities in mainstream primary schools is low. Teachers should receive more expert advice on the development of perceptual motor functions, especially from the staff of school counseling services.

Keywords: mild intellectual disability, pupils, development, perceptual motor functions, teachers, primary school

Introduction

Pupils with mild intellectual disabilities cannot be effectively educated without respecting and observing framework conditions and supportive measures and implementing effective teaching strategies. Within inclusive education of such pupils it is expedient to use common teaching methods, forms, and means, but they must be adapted to the pupils' personalities and educational needs. Pupils with mild intellectual disabilities participate in all school activities as full-fledged members of the team (Loosová, 2020). Pupils with mild intellectual disabilities may experience poorly developed visual and auditory perception. The difficulties lie in the lack of ability to analyze, synthesize, differentiate, and determine the figure and the background. Another specific difficulty may be a lack of awareness of the constancy of perceived phenomena, although some of their characteristics may vary slightly. If there is a weakness in the perception of the pupil, the teacher can help the pupil individually with adequate information processing in all situations that require visual and auditory perception. It is necessary to emphasize important information when speaking and to repeat it several times; visual information should be presented at a sufficient resolution and in a way that highlights the essential passages (Algozzine & Ysseldyke, 2006; Switzky, 2004).

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Theoretical basis

Individuals with intellectual disabilities form a heterogeneous group that differs from intact populations in several areas. Neuropsychological development is delayed in these individuals at different points in their lives and is determined by the degree of intellectual disability. Damage or delay of neuropsychological development brings with it several changes, in both the field of cognitive processes and the emotional and voluntary spheres; it also affects adaptability and behavior. The development of motor skills is also limited (Ainsworth & Baker, 2004). We may also encounter the term "learning difficulties," which can be described as a term that does not emphasize the primary problem – a diagnosis of an individual – but focuses on the consequence: the learning difficulties and the acquisition of a new one (Zelke, 2004). One of the most common problems of pupils with mild intellectual disabilities is coping with the demands of school, especially theoretical work at school (Matson, 2007). We also often observe specific problems in the field of reading and writing, so it is necessary to focus education primarily on the development of their skills (i.e., activities and actions that these pupils manage) and on compensating for deficiencies (Reddy et al., 2004). The education of pupils with mild intellectual disabilities is influenced by many factors; it is especially necessary to consider their specific personality, bearing in mind that the education of these pupils requires both theoretical knowledge and practical experience. Currently, schools develop school curricula on the basis of framework educational programs, allowing them to adjust the content of education and to use methods and forms of education that are appropriate for pupils with mild intellectual disabilities (Henley et al., 2002).

Individuals with mild intellectual disabilities exhibit certain peculiarities in different areas. The field of perception is characterized by a delayed, limited ability to perceive, which affects the entire further course of their psychological development. These pupils have a very narrow range of perception that makes it difficult for them to navigate a new place or unusual situation. Due to the slowed development of perception, the ability to

properly capture the context and relationships between objects is greatly reduced. One of the basic features of perception in pupils with mild intellectual disabilities is the inactivity of this process (Reiss, 2000). The development of auditory perception plays a very important role in the psychological development of an individual and it is closely related to the proper development of speech. The delay in the development of auditory perception is caused by the slow formation of differentiated conditional connections in the area of the auditory analyzer, which in turn leads to a delayed development of speech, which further results in a slowing of psychological development. The development of auditory perception also affects the perception of time and space (Tallal, 1980).

When re-educating auditory perception, we focus on practicing different areas. These areas overlap differently during re-education. We practice listening, auditory memory, auditory differentiation, and auditory analysis and synthesis. During this practice, we must make sure that the exercises are focused on both right-hemisphere and left-hemisphere functions (Mody et al., 1997). For pupils with mild intellectual disabilities in primary school, we focus on training to determine the intensity of sound and the color and height of the sound stimulus, as well as to differentiate human voices, the direction of the source, and the distance of the sound stimulus. It is necessary to develop phonematic hearing in particular, which is essential for practicing voice differentiation. The best method for re-education is the rhythm method – spoken speech is supported by clapping or typing specific syllables. We can also use different rhymes and songs (Dessemontet & Bless, 2013).

Some deviations also occur in the development of visual perception. Pupils with mild intellectual disabilities have difficulty distinguishing the figure from the background. Visual perceptions are very imprecise. The overall inactivity of visual perception is obvious, and pupils also have a problem with the perception of space and time (Shinkfield et al., 1997). Properly developed visual perception is central to practicing reading and writing. The most common difficulty of pupils with mild intellectual disabilities is distinguishing details in which letters differ (e.g. in the Czech language "sz" when reading, "rz" when writing). Pupils with mild

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intellectual disabilities even at preschool age have problems differentiating shapes which differ vertically or horizontally along an axis (Burack et al., 1998). In pupils with mild intellectual disabilities, visual impairment is considered a sensorimotor impairment in the field of mere cognition. In most cases, however, these pupils experience more complex impairment of visual–motor abilities, which are measured by various drawing tests, e.g., a drawing of a human figure. (Beirne-Smith et al., 2005). Sencibaugh (2007) mentions slowness and a narrowed range of visual perception in pupils with mild intellectual disabilities. Pupils with impaired nervous systems have a slower rate of visual perception, which is mainly due to the reduced extent of perceived material. For example, a pupil with mild intellectual disability can observe far fewer stimuli when observing the landscape than their intact classmate. Imperfectly developed visual perception is the basis for a specific learning difficulty, dyslexia, but it is also related to dysorthographia and dyscalculia. This is due to a distorted perception of shapes, letters, and numbers, especially for shapes that are very similar or differ only in minor details. The right–left and space orientation also plays a role here. The pupil has difficulty estimating distances and is therefore less able to determine direction (Baroff & Olley, 1999; Zigler & Bennett-Gates, 1999).

In the re-education of visual perception, we should proceed from the perception of specific objects to representations of them, followed by the perception of shapes and symbols of abstract and more complex schemes. In the development process, we focus on practicing individual areas of visual perception: color and shape differentiation, visual differentiation (visualization), visual analysis and synthesis, visual memory, figure–background differentiation, reverse figure differentiation, eye movement exercises, and perception (Jucovičová & Žáčková, 2014). When practicing visual perception in pupils with mild intellectual disabilities, we focus on identifying perceived phenomena oriented in space, developing visual memory, estimating dimensions, and recognizing light sources. Furthermore, the pupil recognizes colors, differentiates basic shapes, and learns to become oriented in space according to visual stimuli (Kraus et al., 1996).

Research questions

The main research question was to determine teachers' awareness of the development of visual and auditory perception in pupils with mild intellectual disabilities in a mainstream school. Based on the partial aims, three partial research questions were identified:

- To what extent are teachers familiar with the importance of developing visual and auditory perception in pupils with mild intellectual disabilities?
- By what means do teachers develop visual and auditory perception in pupils with mild intellectual disabilities?
- How do teachers use pupils' homework to develop visual and auditory perception?

Research methodology

Qualitative research was used for the research, which can be characterized as a process of researching problems and phenomena in an authentic environment in order to obtain a comprehensive picture of them based on a relationship between the research participant and the researcher and on deep data (Flick, 2018). The main technique of the research was semi-structured interviews. Interviewing is the most often used method of data collection in qualitative research. The aim of a semi-structured interview is to obtain comprehensive and detailed information about the phenomenon under study (Charmaz, 2014). During the interviews, questions were expanded with additional information and follow-up questions to better and more accurately express and clarify the answers of the interviewee. If a question seemed unclear, it was reworded so that it could better be understood and answered. Each participant agreed to audio recording of the entire interview and was informed about the anonymization of her data and the destruction of the recording.

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The data from the interview was followed by a transcription, which is an essential, yet time-consuming part of qualitative research. This research used literal transcription, which involves the conversion of spoken speech from the interview to written form (Silverman, 2013). After transcription, the data were analyzed. Open coding was chosen for the research, which is the first step in the process of grounded theory. Due to its simplicity it is very popular in the methodology of qualitative research (Miles et al., 2014). With open coding, the text is broken up into fragments, which are then assigned a code as a category property. Most of the properties could be read from the data, while others had to be derived. It was possible to reveal certain topics in open data. The data analysis itself is followed by interpretation, which can be supplemented by notes from field notes or direct quotations of parts of the interviews (Corbin & Strauss, 2015).

Characteristics of the research sample

The research had the character of purposeful (deliberate) selection, more precisely, the selection of critical cases (Patton, 2015). A significant criterion was the participants' personal experience in the education of pupils with mild intellectual disabilities. The sample consisted of five women who were interested in participating in the research. All of the subjects are teachers of the first level of a mainstream primary school in the Ústí nad Labem region, and all have experience teaching integrated classes including pupils with mild intellectual disability. Due to the small research sample, the findings of the study cannot be generalized. The interviews were always held in person. For reasons of anonymity, the participants are marked with a letter and a number (I1, I2, I3, I4, and I5).

The average age of the women was 55 years. These findings correspond to the information concerning the aging population of teachers and reflect the predominant female nature of the school environment, which has negatively affected several generations of Czech pupils. The average pedagogical experience of the teachers was 30 years. The length

of teaching practice is one of the essential indicators that influence the educational process of pupils with mild intellectual disabilities. The teachers in our research have enough pedagogical experience and can therefore accept pupils with mild intellectual disabilities into their classes. Teachers with extensive teaching experience can respond to the changes taking place in the area of inclusive education in our schools.

Analysis and interpretation of the results

The following section includes analysis and interpretation of the data. First, the categories that were identified during coding are presented and the partial research questions are addressed. Then the interpretation of the given categories is elaborated on and supplemented by actual quotations from the subjects.

Category 1: Attitudes of teachers to the development of perceptions

Evaluating the importance of developing visual and auditory perception

All five participants considered the development of visual and auditory perception to be crucial to the further development of a child, not only in pupils with mild intellectual disabilities. They try to include exercises to develop these perceptions as often as possible because they are aware of the influence of the development of partial functions on the pupil's development in other school skills.

I1: "I rate this as a very important teaching activity. I now have a pupil in the class who they rated as mentally retarded. In the first grade he could hardly speak, but later turned out to be quite intelligent. I focused on developing visual and auditory perception, and now he speaks much better. In my opinion, the child's family should also be involved. Because parents often think that as a teacher, I must teach their child everything myself. So, the child doesn't go to any experts and the parents don't work

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properly with him. So, I take on more than one function at the same time and it's very challenging."

Sharing good practices among the teaching staff

In view of ensuring the permeability of approaches to individual pupils with mild intellectual disabilities in mainstream primary schools, cooperation among teachers at school is considered fundamental. The participants agreed that sharing best practices among members of the teaching staff is one of the best sources of methods for developing visual and auditory perception. All of them, however, stated that this topic is usually not discussed in group meetings, but instead mainly in smaller groups among themselves.

I3: "Probably yes, we certainly do not all discuss it together in meetings, but the teachers advise each other. Mostly, teachers with the same qualifications share procedures that are effective, etc."

Completing courses or seminars

It is essential that each teacher is continuously educated, learning new information and expanding his or her knowledge. The teacher should always be aware to the progress and shifts of society in order to meet pupils' expectations. The interviews showed that only three out of the five women had completed an official course focused on teaching pupils with mild intellectual disabilities in mainstream primary schools, which also mentioned the topic of developing visual and auditory perception.

I5: "I took such a course once. A lady from a special education center came to the school and told us about the types of disabilities we can encounter at school and how to deal with them. In any case, I think every child is different and, in some cases, would really need special care that I am not able to provide."

I1 and I2 did not attend any such courses because none had been organized by the school administration. Therefore, they seek out different training courses themselves, but none of them has focused on teaching pupils with mild intellectual disabilities in mainstream primary schools.

Moreover, these training courses often must be financed by the teachers themselves. All of the interviewees stated that they do not feel ready to work with pupils with mild intellectual disabilities in mainstream primary schools, even after many years of practice.

I2: "I have not taken any of these courses. In my opinion, not many are offered so there is nothing to choose from. Once upon a time, I received training on mild intellectual disability. But it was only about how to recognize a pupil with this kind of disability."

Cooperating with school counseling services

The successful course of inclusive education of pupils with mild intellectual disabilities is supported by cooperation with experts from school counseling services. They help in their education, consultancy and counseling support for pedagogical staff and parents. They offer methodological support to schools, preparing documentation for pupil inclusion and controlling its course. I1 and I2 mainly talked about poor communication with the school counseling services in the Ústí nad Labem region. These two participants addressed school counseling services directly, filled out a questionnaire, and waited for the facility to comment. They also stated that they did not receive enough professional assistance from the school counseling facility.

I1: "Communication with the educational and psychological counseling center is not always good. The recommendations that the consulting staff write to us usually only repeat the activities we already do with the pupils and what we wrote in the counseling document. I expect professional help from them, but in my opinion it is insufficient. The reports and recommendations we receive from them are often written too professionally. I have become accustomed to it after years and I have been looking for key words but parents, for example, cannot understand it at all."

I3 also serves as a guidance counselor at a primary school, so she cooperates with the school counseling services very often. It is addressed to them mainly based on suggestions from colleagues from the teaching staff. Like I1 and I2, she argues that communication with the school counseling services is not good, mainly because of the long waiting times.

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I3: "When it comes to communicating with a special education center, it is certainly better than communicating with an educational and psychological counseling center, which is extremely lengthy, and it often takes up to three quarters of a year to examine a pupil. These waiting times are perceived as one of the biggest problems of the whole system."

I4 and I5 deal with school counseling services only minimally, because their suggestions are directed to the guidance counselor, who mediates this cooperation.

Acquisition of materials

The sources of data for the development of visual and auditory perception were indicated by almost all interviewees. The most common sources of data are the Internet, professional journals or books, and advice from colleagues.

I4: "Practical experience, either my own or my colleagues', was the best. I also draw from the Internet, professional journals, and books. Specifically, in mathematics, I use the tables that I create for the pupils with mild intellectual disability."

Category 2: Means of developing perceptions

Methods of visual perception development

The participants mainly use classical methods of visual perception development. During the interview, I1 stated that she focused primarily on the development of visual differentiation and memory, preferring to use methods that use material aids. I2 focuses primarily on the development of visual analysis and synthesis, differentiation and memory.

I2: "Especially matches and differences; I also used wooden cubes, which had a different part of the picture on each side. The child was then tasked with assembling them in order to form a single picture."

Likewise, I3 focuses on visual memory, analysis, and synthesis. Train teachers the visual memory of pupils with mild intellectual disabilities by displaying various numbers, pictures, objects, and letters which the pupils

should subsequently describe. They also often use Kim's games: teachers present a group of different subjects to the pupils, which they then cover, and the pupils are asked to name which subjects they have seen.

Methods of auditory perception development

In the interviews, I1 and I2 stated that they focused primarily on the development of auditory differentiation of sounds. As an exercise, they mainly use the length of syllables, the position of a certain sound in the word, clapping syllables, and determine the soft and hard consonants. Both also train auditory memory with pupils using different stories to be remembered. I3 and I5 focus mainly on hearing memory training; for other categories they did not mention any methods. For pupils with mild intellectual disabilities, the teachers use simple exercises focused on non-speech sounds when they tap the board with a marker and the pupils determine how many taps they have heard. Then they move on to speech stimuli and include the game "packing suitcases," which adds more and more words to a sentence. She also develops auditory memory by means of rhymes, where the rhythm supports the memorization of short poems.

I4: "In mathematics I hardly use any methods for training auditory perception. Most of the time, we focus on these difficulties in so-called interventions, when we have time directly for a pupil, or a teacher assistant works with the pupil."

Use of special aids

In the educational process of pupils with mild intellectual disabilities, a combination of textual aids, which are among the basic teaching aids, and other types of teaching aids (displaying and representing objects and facts, audio-visual equipment, etc.) is appropriate. In the case of sufficient color expressiveness, systematic content, and separation of essential and non-essential phenomena, the use of textual aids at primary schools is important. All interviewees use special aids in the classroom that help to develop visual and auditory perception. They include images, cubes, puzzles, dominoes, worksheets, a buzzer, balls, and an interactive whiteboard.

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Involvement of pupils in the production of aids

At this point, the teacher assistant plays an important role. All participants stated that their pupils lead to the production of their own aids, primarily with the help of the teacher assistant.

 I3: "Most of the time it happens that I sit with them, tell them what the aid should look like, and they will make it either with my help or the teacher assistant's. It's still better if the pupil creates it himself so that he can use it."

Use of games

I1, I2, and I5 often use games to develop visual and auditory perception. For example, pupils should recognize voices of their classmates or look for hidden things after class.

I1: "We try to do almost everything in the form of a game. I try to include as many senses as possible in the development, so for example I connect the development of auditory perception with movement games, etc."

By contrast, I3 and I4 do not use games to develop visual and auditory perception.

I3: "I do not use games as such in developing auditory and visual perception, or at least not in a targeted way. I believe that some games may develop these perceptions, but now I am not aware of any."

Category 3: Home preparation

Familiarization of parents with the issue

As teachers, I1 and I2 deal very often with parents on this topic. They say that they must be uncompromising in such interviews, to deal with them directly and not to allow discussion.

I2: "Parents often do not like hearing that they have to do something extra with their child. I'll tell them straight. I have more experience with non-cooperating parents who have transferred all responsibility for developing their children's perception to me or to a teacher assistant. At home, therefore, they don't try very much. In fact, they only pick up the child from school and that's the end of their work."

I4 and I5 rarely discuss this topic with parents.

I4: "These issues are usually dealt with by a guidance counselor, but sometimes I meet my parents personally and tell them what else they should focus on. I explain to them that much of the responsibility lies with them, and how important homework is for development."

As a guidance counselor, I3 has to inform parents about the report and recommendations from the school counseling service, to explain to them what to develop with the pupils and how to do it.

Development of visual perception in home preparation

All participants stated that they did not knowingly include any exercises for developing visual perception in their homework. They assign these exercises only to parents.

I2: "I don't include any visual perception exercises in homework. I use homework primarily to repeat the curriculum we are currently discussing. Parents are given exercises that are to be practiced with the child in the long term."

Teachers limit the homework for a maximum of two hours to avoid overloading a pupil with mild intellectual disability, with the associated risk of potential psychosomatic complaints and a significant negative impact on the pupil's behavior.

Development of auditory perception in home work

As with visual perception exercises, none of the participants included auditory perception development exercises in the homework. Again, they assign such exercises to their parents. As another reason why they do not include these exercises as homework, they state that they are not able to check whether the pupil has completed the task.

I4: "I don't include such exercises. First, I couldn't check in any way that the pupil had accomplished the task, and then the exercises with parents with the pupil with mild intellectual disabilities were commissioned by the guidance counselor."

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Modification of homework

In pupils with mild intellectual disabilities, repetition and practice of homework assignments have a reasonable role to play, especially because of changes in memory functions. This helps them to consolidate and memorize at least a minimum amount of important information. For teachers, this form is challenging because it must modify the scope of tasks with regard to the use of specific methods of work and aids. Almost none of the interviewees assign homework for the development of visual or auditory perception to pupils with mild intellectual disabilities.

I1: "I shorten the tasks for these children as much as possible or adapt them to their abilities."

Only I4 stated that she seeks to adapt homework primarily to the pupils with mild intellectual disabilities and to target them to develop visual perception.

Use of feedback

The educational process of pupils with mild intellectual disabilities requires not only direct and regular verification of the effectiveness of teaching, but also immediate and systematic feedback. All participants use feedback from homework almost identically. If the pupil does not manage to work out the given homework assignment due to his/her abilities, the teachers will ask him/her to do a similar assignment again, or ask the teacher assistant to practice the problem with the pupil until he/she has mastered it.

I2: "If I see that a child is still not successful in a certain activity, I do the same task until the child is fully adopted."

Conclusions of the research

The main research aim and three partial aims were fulfilled by answering the main research question, for which three partial research questions were set. The interviews which were conducted and analysed provided answers to these research questions and fulfilled the set aims.

The first partial goal was to find out to what extent teachers are aware of the importance of developing visual and auditory perception in pupils with mild intellectual disabilities, which we achieved through the research question, "To what extent are teachers familiar with the importance of developing visual and auditory perception in pupils with mild intellectual disabilities?" All informants stated in their responses that they perceive the development of visual and auditory perception as being very important in further development, not only in a pupil with mild intellectual disability. Unfortunately, due to the lack of seminars and courses on this issue, they did not feel fully prepared to provide such pupils with the support they need in this area. A great help in their search for the right methods for developing visual and auditory perception was their colleagues on the teaching staff, who share best practices with each other. The participants perceived a major problem in cooperation with school counseling services, which provide them with an insufficient volume of materials that focus on the development of visual and auditory perception. In any case, despite these difficulties, they reported trying to develop the perception of these pupils on multiple levels and looked for materials themselves from various sources, such as professional journals, books, or the Internet. Pipeková et al. (2014) focused on evaluating the cooperation of teachers with an educational and psychological counseling center or a special education center in support of pupils with mild intellectual disabilities. Most interviewees considered cooperation with school counseling services to be very beneficial. However, some of them considered school counseling services to be unnecessary institutions communicating very little with schools, or even not at all.

The second aim was to find out by what means teachers develop visual and auditory perception of pupils with mild intellectual disabilities. The next research question led to its fulfilment: "By what means do teachers develop visual and auditory perception in pupils with mild intellectual disabilities?" The interviewees used various means to develop visual and auditory perception. These include training visual and auditory memory using various stories, pictures, and special aids, such as a buzzer. Furthermore, they focus on visual distinction, which develops using special

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tools, such as pictures, cubes, memory games, and puzzles. Anwer et al. (2015) focused on the degree of visual perception ability of pupils with mild intellectual disabilities at the first stage of primary school. The results of the study showed that visual perception plays an important role in pupil's school performance. They also perceive the development of auditory speech differentiation to be an important area, focusing primarily on determining the length of sounds, distinguishing between soft and hard consonants using balls, etc. Viktorin (2018) focused on pupils with mild intellectual disabilities and the development of their perceptual motor functions, deficiencies in which are reflected in the pupils' graphic expressions. In the conclusions of the study it is mentioned that in the field of visual perception the teachers practice mainly distinguishing the figure from the background and distinguishing inverse patterns; in the field of auditory perception, it is an exercise of auditory analysis and synthesis, distinguishing between soft and hard syllables and auditory differentiation of syllable length. The participants also stated that they try to lead pupils to produce their own aids, thus helping to develop fine motor skills. Three participants also reported using games as a tool for developing visual and auditory perception.

The last partial aim was to find out how teachers use homework to develop visual and auditory perception. The research question asked was, "How do teachers use pupils' homework for the development of visual and auditory perception?" It is clear from the results that homework is not very popular as a tool for developing visual and auditory perception. The interviewees agreed that they would assign exercises for the development of visual and auditory perception mainly to parents and expect them to cooperate fully in their implementation. According to them, the pupil should develop visual and auditory perception mainly on their own and in the long term with the help of a parent. The inclusion of exercises for the development of visual and auditory perception in homework therefore seems pointless to them. They also stated that it is impossible to check whether a pupil has performed such an exercise.

The research study on "Pupils with mild intellectual disabilities in an inclusive school environment" analysed the role of parents as an important

factor for inclusive education. Parents observe the educational needs, abilities, and development of their children from a different perspective than teachers. However, parents were often exposed to a great deal of stress in a situation of home education. Empathy, listening, an understanding attitude, mutual information on assessment, acceptance of boundaries, a realistic view of what is being done, and justified criticism are competencies that are invaluable in the cooperation between parents and teachers (Bartoňová, 2013). Regarding the feedback from homework, the participants stated that they mainly use negative feedback, when a pupil fails to complete task due to his/her abilities. If this happens, he/she will assign the homework again or assign it directly to the parent or teacher assistant for repeated exercise. Positive feedback, that is, if the pupil is able to do the task, for the participants meant that the pupil has already fully mastered the given skill.

Recommendations for special educational practice

A major problem is the recommended practices by school counseling services, which are often inadequate and do not correspond to individual pupils with mild intellectual disability. Above all, these are practices that have been used for a very long time and have been practiced by all pupils. The staff of school counseling services should focus more on the individual requirements of each pupil. It is also important to focus on the diagnosis of the pupil, which should be performed over a much longer time period. Updating procedures for developing visual and auditory perception is essential. One of the other problems is the insufficient training of teachers at mainstream primary schools in working with pupils with mild intellectual disabilities. These training programs should be attended by every teacher who works with or will work with pupils with mild intellectual disabilities. The possibilities for further education of teachers in working with pupils with mild intellectual disabilities should be much more diverse. Teachers should receive more expert advice from school counseling services, especially regarding the development of perceptual

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motor functions, which is central to the further development of a pupil with mild intellectual disabilities. In this case, the school management should also take the initiative to provide its teachers with enough courses, training programs, or seminars to make teachers feel ready to work with pupils with mild intellectual disabilities. In fact, teachers often feel insecure about working with these pupils, and this is reflected in the pupils' performance. School counseling services should show teachers how to use the benefits of homework to develop perceptual motor functions and should recommend the most appropriate exercises and procedures. Cooperation with parents is also very important in this respect, which is often complex. If parents and pupils do not develop perceptual motor functions regularly, the pupil's development is delayed even more. The solution could be a more communication between parents and school counseling services or a school that aims to familiarize parents with the importance of developing perceptual motor functions.

Conclusion

Muñoz-Ruata et al. (2010), while studying perceptual motor skills in people with intellectual disabilities, found significant deficits in perceptual motor skills, although the nature and extent of these skills in this population remained unclear. Molloy and Witt (1971) stated that the development of cognitive processes is an integral part of speech development and the subsequent stimulation of reading competence in pupils with mild intellectual disabilities. This has been confirmed by other experts on cognitive stimulation of pupils' reading skills; for example, Hlebová et al. (2015) came to the conclusion that partial cognitive functions (visual division, the respective differentiation of figure and background, the visual differentiation of shapes, visual memory, auditory division, auditory differentiation of speech, auditory memory, intermodal relationship, time series perception, tactile/kinesthetic perception, and spatial orientation) may be one of the prerequisites influencing the reading competence of pupils with mild intellectual disabilities, despite the

deficiencies in pupils' cognitive functions due to their primary diagnosis (intellectual disability).

Based on an analysis of the data obtained from the research, it was found that primary school teachers are to some extent familiar with the importance of developing visual and auditory perception, but the further education of teachers towards the development of these perceptions in pupils with mild intellectual disabilities is insufficient. Teachers use proven methods and special aids to develop visual perception. Teachers also do not use homework to develop perceptual motor functions in pupils with mild intellectual disabilities.

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Coronavirus as an (Anti)Hero of Fairy Tales and Guides for Children

Abstract

Nowadays, preschool and school children develop, are raised, and learn in a new reality for them, caused by the coronavirus pandemic. Including the assumptions of the connectivist paradigm as a novelty in the didactic activities of teachers, remote e-learning, computer games, board games, e-books, audiobooks, and multimedia programs fill free time and are becoming a way of learning and teaching in the digital age. The literary genre introducing children to the world of the contemporary threat of COVID 19 is the new fairy tale and therapeutic children's story, thanks to which events and characters struggling with the prevailing pandemic around the world are presented. The purpose of the article is to analyze and interpret innovative proposals for e-books of fairy tales which explain to young children what the coronavirus pandemic is, how to guard against it, what is happening in Poland and around the world, how to behave, and what actions to take to prevent the

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spread of viruses. In their discussion, the authors emphasize the psychological, sociological, and therapeutic aspects of the presented content of fairy tales, which are most often related to experiences, emotional sensitivity, anxiety, a fear of something bad, an identification with the characters, and overcoming any difficulties in this situation which is trying for all.

Keywords: coronavirus, children, parents, fairy tale, learning and distance learning, connectivism

Introduction

In March 2020, due to the unprecedented situation of declaring a state of pandemic caused by the coronavirus referred to as COVID-19, a period of home isolation was ordered in Poland. The world was stopped as a result of simply applying a hand brake, which abruptly reversed the current order of things. Most institutions and workplaces were closed, including educational establishments like preschools and schools. The global scope of the epidemic has become difficult to understand for adults, and even more for children, whose lifestyles also changed overnight. In addition, the need to stay at home, the inability to meet friends and teachers, and various restrictions, such as the obligation to disinfect hands or wear masks, all had the potential to create a sense of danger among young children. To make matters worse, the same feelings also accompanied parents. In the absence of comprehensive emotional support for children from official state bodies and institutions – not only in Poland, but also in most European countries – this form of assistance was offered by children's book publishers, publishing the first guides, stories, or fairy tales about the coronavirus as an antihero or villain, against which the whole world began to fight. In addition to these activities, there were also grassroots initiatives, where ordinary citizens, parents, and teachers, together with writers and psychologists, created various stories addressed to the youngest generation, with the same goal: to provide help and support in the difficult time of home isolation. This is an example of social concern for the wellbeing of children during a pandemic, but also proof that humanity, in times

of danger, can act for the common good by taking up completely unexpected initiatives. The authors' intention is to present selected books for children on the subject of the coronavirus in the style of either a guidebook or fairy tale. In addition to works by famous writers, there will also be amateur ones written by psychologists and educators.

A child in a remote and connectivist sphere during the pandemic

During the threat of the coronavirus pandemic, all schools and preschools have closed their buildings. Education has moved online and both teachers and students – and often their accompanying parents, as well – participate in classes via computer. In the period of introducing remote teaching and learning, it was difficult for children to find themselves in this technological system and with this multi-directional technological information. Parents felt the same way. Each family is different; children of different ages and levels of education exist within them, have diverse temperaments, preferences, and interests, and present unique feelings and reactions to real-life, preschool, school, and peer-like situations, etc. Functioning in this model over the last few months, social media, parents, and literature have introduced the subject of the coronavirus to the world in a variety of ways, justifying the role of the existing threat to health and life, precluding a harmonious rhythm or a designed daily schedule and separating people from their environment, and thus from direct contact with their peers. At some point, children were confined to the space imposed by their parents, which they should actually develop themselves according to their particular childlike ideas. They entered a period rife with difficult relationships, stormy emotions, misunderstandings, and conflicts and poorly organized home educational environments to discover a new reality for themselves. The interesting and creative initiatives from some parents for their children has become a salve and a chance for families to find each other, and above all to understand this unique period. Others, on the other hand, nervous and

irritated by the growing problems, have tried to find effective methods of coping with this diverse and quite complicated e-science. Access to education, including high-quality education, is a right under the Convention on the Rights of the Child. A preschool, school, or other educational institution attended by a young person is a space where they feel at ease and know that they will receive proper care and support. Today, when these institutions are closed and education has moved online, it is extremely important that all the elements that guaranteed a child's sense of security and support are introduced into this new educational system.

The situation of remote learning has introduced children, teachers, and parents to the assumptions of the collectivist paradigm, which is not yet well-known in Poland. In our view, connectivism is the concept of "learning in the network" or "building a learning community," which not only uses modern, digital resources of knowledge collected on the Internet, but also offers a "community of learning minds" as a forum for knowledge exchange, discussion, and critical evaluation of existing educational resources/ideas. The connectivist thesis therefore assumes that human knowledge does not have to be all in the head, but that the necessary and current knowledge for the performance of a specific task is available in devices and information resources. Information should be searched for, obtained, collected, and then processed, used, and applied (Gregorczyk, 2012, p. 8). In light of this paradigm, knowledge is perceived as sub-symbolic, its meaning resulting from interactions and a set of connections. Its essence is to constantly create and maintain connections with new information sources. The use of the Internet (network) is the central idea of the learning process here. A network is understood as creating and continuously developing new connections between various nodes; modern learning from an early age consists of creating discussion groups, exchanging views and experiences, having contact with experts, participating in online courses, or creating social groups. This type of experience exchange forum is a response not only to the new needs of contemporary entities – students, teachers, and parents – but also to the changing conditions of their operation. In the era of the "information age" and building the "knowledge society," teachers are required to prepare

students to cope with a world that opens up to new areas, is more and more mobile, and in which reality becomes as important to them as virtual reality.

Connectivism as a theory of learning is open to these types of challenges; it is a response to cultural realities that provides full individualization and the possibility of making unlimited choices, introduces the student and educator to the digital world, creates an environment for the competent and active analysis and processing of specific information, and teaches participation and fosters emancipation. Family, preschool and school as social institutions should ensure the creation of an inspiring virtual territory which will become a field for training skills, creativity, learning, and getting to know oneself. With regard to fairy tales about the coronavirus, connectivism as a paradigm – in our opinion – is based on the conviction that the purpose of children obtaining information and reading and interpreting e-books is to learn critical thinking and to develop inquisitiveness and cognitive curiosity which can introduce them to dialogue, discussion, and multidirectional communication. The learning environment is primarily about building a kind of support for learners, giving them opportunities to develop rapidly and seek answers to the changing reality. It is a synergistic learning platform that consists of three components: physical, which includes the preschool and school space with its material equipment and infrastructure; social, which takes into account the relationships between participants of the educational process, being a source of inspiration and mutual motivation; and virtual.

Our deliberations on the social dimension of connectivism and the teaching community in the COVID-19 era will apply to children, teachers, and parents for whom learning through connection and connection through learning to create a new space of social interaction in which digital wisdom, innovation, and progress is still relatively unknown. We assume that the connecting element is the social nature and use of the community tool – the Internet.

In its assumptions, collectivism as a model of learning takes into account the mutual relationships of people connecting and cooperating within a network. Its semantic determinants are considered to be social

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networks and communities (they lead to a portable, changing identity); a network of interactions (creating target groups); an autonomous learning center; the diversity of networks (multiple perspectives and technologies); and the network as an open phenomenon of interconnection and interactivity (Downes & Siemens, 2006). The diversity of the participants in this network, and its openness and ability to ensure interactions between them, allow them to realize their potential. The learning process stands for a network node – interactions with other teachers, ideas, resources, and events. The operation of the network consists in connecting groups, systems, and nodes into an integral whole. They create a variety of interaction relationships. The community of learners, the community of activities, is a group learning process of individuals cooperating virtually with each other – exchanging views and ideas, looking for solutions, creating knowledge, and establishing interpersonal contacts.

By transforming "I" into "we," we build a social network, develop space and an active field of cooperation, using tools to jointly create and edit association networks, project notes, and final works and allowing for a nonlinear presentation. Children develop online through interactions. They join a community of communicating minds. Their active minds seek dialogue and discourse with other minds. Every day new resources appear on the Internet. Knowledge is available outside of us in nodes and connections in the network; all one needs to do is use it competently. Children and adults, being active participants of several networks, immerse themselves in the sea of information and relationships, broaden their knowledge, improve their work methods, build their own connections to various relationship resources, and travel through the existing networks, analyzing, selecting, evaluating, processing, and searching for information with their partners. Connectivism in the meaning of connecting within the network allows for community-based, cooperative conversations between peers on the subject of "Covidian" fairy tales and the pandemic that changed their existence over the last year. Through systematic remote meetings analyzing the issues of available e-fairy tales, children help each other to understand this surrounding "closed" world, which is far from playing together, spending time outside the home, having close

relationships, and playing backyard games. Living in such a difficult time, they become closer to each other through network "nodes"; they learn what a virus is, why they cannot meet friends or their grandparents. Thanks to e-fairy tales, they learn to persevere in a pandemic, to expand information, and overcome problems and difficulties. The magic of learning with peers online through contact with fairy tales allows them to have specific reflections, distinguish good from bad, feel emotions, question the existing reality, consider various ways of acting, and get to know their causes.

The positive layer of the connectivist paradigm and distance learning is presented above. There are also negative aspects. It should be emphasized that neither is a panacea for the ills of modern child education. The world of adults, stopped violently, turned out to be extremely egocentric in a pandemic situation. Statistics about cases or predictions of the economic and social consequences of quarantine have dominated media reports. It was wondered how the necessity of isolation would affect the psyche, primarily of the adults forced to work remotely or to use up their leave. In this context, it was recommended how to work, how to stay fit, and how to deal with children who – after all – have had their freedom restricted. It was advised on how to protect children, but not how to inform them, with the assumption that they do not need the information. Governmental institutions and organizations in Europe have not made children an equal recipient of the aid programs being offered. It is significant that most of the guides from the early period of the pandemic – which were available on the official websites of state institutions in Poland and elsewhere – concerned organizational matters of social life related to the need to change everyday behavior and adapt to the requirements of the pandemic. The approach was completely different in New Zealand, where, apart from guidelines regarding hygiene and social isolation, care was taken for the mentality and emotions of their citizens, while the youngest residents were given separate support.

By the order of Jacinda Ardern, the Prime Minister of New Zealand, a conference was held in early March, addressed to children and young people and made widely available in various media; the goal was to provide comprehensive information about what is happening as a result of

COVID-19 and to ensure that the New Zealand government does everything to make their family or school situation as little worrisome as possible. The aspect that made this initiative special was that it did not fail to refer to the linguistic image of the child's world, adapting its message to different age groups of young citizens. Not infantilizing the content, but assuring the children about her care and professionalism, Jacinda Ardern herself said that she cooperated with the tooth fairy and the Easter bunny so that nothing would disturb Easter. This is hard to imagine for representatives of the governments of the European Union. Another important initiative was the recommendations directed towards educational institutions, whose main task was to support the student community, which is why most of the remote classes were of an educational and therapeutic nature, where conversations with students and shared games on the Internet prevailed over educational content. The New Zealand government also made available on its websites various types of tools and teaching aids, including informative books and guidebooks for children.

Coronabook as the first guidebook for children during the pandemic

The first guide for children, entitled *Coronabook*, was published on the English-language market. Its authors, Elizabeth Jenner, Kate Wilson, and Nia Roberts, together with the well-known illustrator Axel Scheffler, prepared a book for children which on the one hand provides necessary and professional information, consulted with Professor Graham Medley of the London School of Tropical Hygiene and Tropical Medicine, and on the other hand provides emotional support. In a short time, the book was translated into 47 languages. In Poland, it was published by Poradnia K and made available in the form of an electronic e-book. The Polish version appeared with additional scientific commentary by Polish virologists Wojciech Feleszko and Paweł Grzesiowski.

The authors explain in an accessible way what the coronavirus and COVID-19 is. Without demonizing the virus, but also not downplaying the

pandemic, the authors explain why it is important to adhere to the rec-ommendations and what might be the risk of not doing so. The narrator addresses the child reader directly, creating a situation of dialogue in an atmosphere of trust. In addition to the narrative, illustrations are an im-portant part of the content, which is often of an anecdotal nature. The language of the narrative is simple and understandable, with numerous phrases and colloquial terms (e.g., a virus can be "caught" or "missed"). The strategy of fighting the virus is shown in relation to the potential of the human body and its guards, which are useful bacteria or antibodies. The authors also do not avoid difficult topics, such as the threat to the patient's life and the need to stay in the hospital or to connect to a respi-rator. The aspect of difficult emotions that people feel in this situation is also continually raised. The narrator points out that such feelings are typ-ical and common to all people in isolation. "The adult or adults who look after you may also be worried. Sometimes they may be worried about work. Sometimes it can be difficult for them to buy the things they need, and they can worry about it" (Jenner et al., 2020, pp. 9–10), explains the narrator, referring to the economic consequences of the pandemic and at the same time encouraging openness, and sharing insights with loved ones. "If you are worried, talk about your worries with the adults caring for you" (Jenner et al., 2020, pp. 9–10). The persuasive strategy in *Corona-book*'s narrative relates primarily to building a child's awareness of being part of a community: family and friends, colleagues, teachers, or neigh-bors. Thus, it still indicates that the coronavirus is a common enemy, but in the fight against it people are stronger through joint action. Children are also assured that, despite their age, they are not defenseless or left to rely on others to fight the coronavirus. Moreover, the narrator also points to the agency of the child reader, explaining that he is already helping greatly by staying at home. The narrator continues:

> But you can also help by being extra careful and making sure you don't catch the coronavirus or pass it on to anyone. Another important thing you can do is be kind to the people you live with. Everything will change and it will probably be difficult for

you. … If you live with adults, you can help them by doing what they ask of you or by hugging them. (Jenner et al., 2020, p. 12)

The authors of the book, show this new and difficult situation of restrictions during a pandemic as temporary, and at the end they show the world after the epidemic, although without simple optimism.

One day, soon, although no one knows exactly when it will happen, you will visit loved ones who do not live with you, you will go back to school and do a lot of things that you love to do, although now you are not able to do them. (Jenner et al., 2020, p. 15)

These assurances are accompanied by illustrations in which a child hugs his grandmother, a group of children are playing together, and the inscription above them says that "one day this strange time will end."

Children's storylines with coronavirus as the "villain"

Fairy tales seem to dominate among the books written by Polish authors for children during a pandemic, understanding their genealogy as any book directed towards the youngest readers. In the Polish language, we use the concept of a fairy tale as a text which is addressed to a child up to 6 years of age, because later – as a pupil – he/she has the opportunity to gradually learn new literary genres, and by the fourth grade of primary school he/she can understand the genealogical differences between a fairy tale and a fable. For the purposes of this article, however, we will abandon semantic considerations, adopting the fairy tale as a common concept for the texts in question. Another reason is that, apart from the recognized writers, these stories were created by people without literary experience, using a fairy-tale plot and the language characteristic of one as the starting point in the description of the worlds they present.

The most popular fairy tale during the epidemic in Poland has been a picture book for children entitled *You have this power!* and made available in the open domain section of the website of Olesiejuk Publishing House. Another of the pro bono authors was the well-known children's book writer, Agnieszka Frączek. The others are Ewa Podleś, Alicja Bender, Baltazar Fajto, Patrycja Herbut, Monika Kalinowska, Joanna Wasilewska, and Natalia Zalewska-Domitrz. The consultants include psychologists – Ewelina Krupniewska, Ewelina Opałko, and Agnieszka Wilaniemc-Hermas – and doctors, Beata Kupak, Justyna Laskowska, and Wiktoria Mełges.

You have this power! was appreciated by journalists and readers in a short time, as evidenced by the positive comments on the forum and on readers' blogs. The fairy tale has also been translated into several European languages. The unseen enemy, as depicted in the narrator in the book, was captured by scientists under a microscope and shown to children under magnification as a yellow and spiky antihero. The narrator explains eagerly that

> it looks like it is wearing a crown, and who knows, maybe even the coronavirus feels like a king? Because it is so brazen about the world. In addition, it multiplies very quickly, so there are more and more of these little villains. (Frączek, 2020)

Coronavirus is referred to here as a "rogue," "a villain" who "rules," is "fast and mobile," and "wanders briskly around the world" (Frączek, 2020).

However, he is not invincible, although he is trying to secretly enter the human body, and his enemy is soap and thorough hand-washing. The narrator encourages the reader to fight the coronavirus the only known way so far: "to chase them away, you should soap your hands and scrub them for no less than 20 seconds – that's more or less how long it would take you to sing the song 'Soft kitty' (Frączek, 2020). As the title suggests, the narrator assures the little reader that he has the power to defeat coronaviruses and encourages him each time he is washing his hands to imagine what the face of the coronavirus will look like, "how the virus flies away, where the pepper grows" (Frączek, 2020). Let the child

follow a similar attitude, according to the narrator, when applying other rules, such as sneezing into the crook of their elbow, avoiding touching their eyes and mouth, wearing a mask and maintaining the necessary distance from strangers. All this power in the fight against coronavirus, and each subsequent day can bring the final end to a pandemic. The child is assured that by doing all of this he is fighting the virus and protecting his loved ones, especially his grandmother and grandfather or the gray-haired neighbor. The child becomes a positive hero and a guardian who cares about the welfare of others like a fairy-tale character, "because the coronavirus is particularly dangerous for the elderly!" (Frączek, 2020).

The authors of the book also deal with various false information that has appeared in the media, such as news about the threat of coronavirus from pets. "Remember about your pet and take care of it as usual. Someone said that you can get a coronavirus from a dog or cat?" the narrator asks, urging the reader to crack down on these accusations. "Don't worry, it's just a rumor!" (Frączek, 2020). The therapeutic aspect of this fairy tale is the authors' concern for the emotions of the children readers, which is why the narrative emphasizes that they are not alone and can always count on other people who love them. "Knowing that you can always count on the support of parents and other adults will surely help," the narrator emphasizes. This message was also strengthened in the final part, where next to the child as a superhero with the crossed-out image of the coronavirus on his chest, there is an inscription in large font: "You too can become a coronavirus conqueror! You have this power!" (Frączek, 2020).

Zofia Stanecka and Maria Oklejak, the authors of the popular series of stories for children about the adventures of Basia, devoted one book in the series, entitled *Misiek Zdzisiek and the Stupid Virus* (2020), to the subject of pandemic. Balancing between joking, seriousness, and anger at the virus, the authors explain to their young readers about this "very strange time now" (Stanecka, 2020) that has touched everyone, even the book's heroes. Basia does not go to preschool and Janek does not go to school as before; they cannot visit their grandmother and grandfather living in the countryside. Everything has changed. Basia's teddy bear, as the narrator, tries to understand what has happened. "Now the teachers come to

[Janek]. Or rather to my parents' computer. And not entirely them, but only talking heads" (Stanecka, 2020). The toy notices the boy's rebellion, the mother's dissatisfaction, and Basia's sadness, who has to play in a makeshift sandbox on the balcony. The girl washes her hands obediently (more often than usual) and makes sure that her toys also have clean hands.

The teddy bear-narrator, as a confidant of Basia's secrets, helps child readers to accept their difficult emotions and questions like those appearing in the head of the book's hero. Teddy bear does not give advice, but you can hug him and hug other household members with him. This is a tip for the audience – we should look for support, be nice, and give support to others. The need to isolate is difficult, but just like Basia you can write or call your beloved grandparents or other loved ones whom you cannot visit. You can also paint a picture or sing a cheerful song, because all this gives respite, according to the authors. It is important that we are not alone, and all we have to do is wait. In the cycle *Tales of Aunt Doroci*, the song "A Fairy Tale About the Evil King Virus and Good Quarantine" has appeared for the duration of the pandemic on the website of its author, Dorota Bródka, a psychotherapist and mediator. Unlike the texts discussed so far, this one was intended for preschool-aged and younger children, taming foreign-sounding words circulating in the media and in the public opinion. Built on the antinomy of the good Quarantine and the evil King of the Virus, the world presented in the fairy tale also tames the child to a new reality, in which it is not the need to isolate that becomes an object of blame, but the usurper Coronavirus.

The fairy-tale presentation presents to the child the world of four kingdoms: Fragrant Apples, Lavender, Red Tomato, and Forest Mushrooms, where everyone – including kids, who do Children's Things, and adults who do Adult Things – live happily and peacefully. The plot is triggered by the arrival of the Virus that wants to rule over the four kingdoms. The author describes it as "monstrously large" with "a whole lot of soldiers" who introduce the color gray wherever they go, bringing disease instead of joy. The kings, surprised by the attack, did not find a solution themselves, but took a joint conference, as a result of which they began to fight the invader.

The book skillfully addresses many difficult issues, not only for children, such as the ongoing media debates, the initially predominant pessimistic tone of reports on the incidence rates, and statements of scientists and doctors about the lack of effective measures to combat the virus. In the fairy tale, all these gentlemen and ladies from television debate with other characters. The narrator, on the other hand, assures the reader that such cooperation between all kingdoms is the best way to build, as he says, a "wall of resilience," and for this you need a "good Quarantine." Everyone, even a small reader, can help now, explains one of the heroes of the fairy tale:

> The Wall of Resilience is being built one brick at a time in own home, and as we all do, it will become strong and stop the King Virus. Everyone adds a brick. And Quarantine is a time which supports the wall in becoming strong. (Bródka, 2020)

Home fairy-tale therapy and fairy-tale creativity of parents in the era of coronavirus

A similar initiative as Dorota Bródka was later taken by others, often writing for their own children and publishing their texts online. Most of these amateur stories were aimed not so much at getting used to the subject, but at shaping the attitude of acceptance towards a new situation for children, which limited many of their previous activities. Fairy tales appeared in various forms as forum posts on social media, as e-books or animations posted on YouTube, usually enjoying great interest, which shows the great demand for this type of content. Mostly, they were songs for young children with attached proposals for play, drawings, and topics for conversation with adults. Their anonymity and altruism in making it available for free download are also characteristic. Sometimes we can guess that the authors are pedagogues, as in the fairy tale entitled *A Story About Maks and His Aunt Quarantine from the Country of Polland*, which was made available by the Pedagogical Library in Skawina, or the collection of games

entitled *Staś and Jadzia Pętelka Stay at Home*, posted on the website of the Zielona Sowa Publishing House. Fairy tales for the time of the pandemic have also been written by bloggers, for example, *About the Coronavirus that Wore the Crown*, published as a post on the popular website www.dzieckiembadz.pl. Rarely do the authors of these fairy tales appear under their own name, as with the psychologist and Polish teacher Marta Mytko, providing her fairy tale entitled *Jeżyk Bartek Stays at Home* with a letter to parents in which she indicates how they can use the fairy tale to talk to their children and try to explain the unusual situation of home isolation. A valuable addition here is the proposals for games prepared by psychotherapist Aleksandra Salwa, and the possibility of answering children's possible questions about the future and the expected end of the epidemic. The fairy tale, together with the therapeutic commentary, enjoyed great interest among teachers – not only early school teachers – and was published on many official school websites.

It is worth mentioning here the joint initiative of experts and parents from 104 countries as part of the Interagency Reference Group project of the Standing Committee for Mental Health and Psychosocial Support in Crisis Situations, who studied the needs of children and their parents in a pandemic by means of a survey diagnostic tool. The study covered 1,700 children and their parents. As a result of this research, a book in the form of fairy tales was created. *You Are My hero! How Children Can Fight Covid-19*, by Helen Patuck, is available with a free license from Creative Commons. The book has been translated into over a dozen languages, including Polish. In the introduction, the author recommends the mediation of adults when reading it, also pointing to potential difficulties in conversations with the child.

The book by H. Patuck uses a different narrative strategy than those discussed so far. Here we are dealing with a classic omniscient third-person narrator, who does not belong to the world depicted but accompanies the adventures of the children-heroes. The main character in the story is Sarah, who does not feel like a hero, despite her mother's assurances that she can be because her actions matter. The girl asks the mysterious figure of a dragon Ario and flies to other children around the

world to help her fight the virus. In turn, they visit children in various places, testified to only by their names, such as Salem, Sasha, Leila, and Kim. Sara and Aria talk to them about what the new situation is about and why staying at home is necessary and they ask the children how they deal with these special circumstances. Some of them were sick, like Kim, whose family had to be hospitalized.

The fairy tale constantly emphasizes the community of experiences regardless of one's latitude as well as emphasizing the unity of human efforts during a pandemic, giving new meaning to the title phrase "You are my hero!" Children share their experiences and insights that seem exceptionally mature but are invariably accompanied by the hope that the entire quarantine and pandemic situation is temporary. At the end of the story, a specific mission was emphasized: being a hero for other people, because "we can all be heroes every day" (Patuck, 2020).

Books as a support in the time of the "new normal"

Most of the above-mentioned books for children emphasized the temporary nature of the difficult situation of quarantine or home isolation and the need to actively fight the coronavirus, assuming that this fight will not be long if we act together. At the same time, another need arose, namely, to reassure children when returning to preschool after such a long period of staying at home. Currently, among Polish-language children's books, there is only one fairy tale on this topic – a book by Joanna Kochańska entitled *Return to Kindergarten: A Therapeutic Fairy Tale*.

In the introduction, the author makes parents aware of the emotional situation, even if they did not observe any disturbing signals. She explains why a fairy tale should be accompanied by a conversation with parents. The author refers to the process of fairy-tale therapy, i.e., from the situation of identifying with a fairy-tale hero, through the universalization of the situation (which will help to understand that the quarantine was a shared difficulty), to *catharsis*, i.e., ridding oneself of these difficult emotions. Although she avoids the use of bibliotherapy terms, she refers

to these stages when discussing the need to face the child's emotions. As a model for parental behavior, she indicates the character of Tom's mother, who listens rather than advises and who does not try to name or suggest her son's emotions. In this context, this work can be considered a fairy tale/instruction for parents, where a model conversation based on the fairy tale being read is shown. Joanna Kochańska, as a child psychologist, showed not only sensitivity to the potential difficulties of a child in these new circumstances, but also coaching skills, accurately pointing to the potential practical application of her fairy tale by parents who usually do not have pedagogical training. Its protagonist, Tomek, longed for preschool, but he had already gotten used to being with his parents all the time. He supposedly missed his teacher and the other children and he had even cried about it, but now he was afraid of going back and what it would be like. In any case, Tomek has been often sad lately. It was only when he said all this aloud with the loving attention of his mother listening to him that he felt as if his worries were leaving him, and in their place appeared a desire to return to preschool again. The role of the parent, in this case the mother, was to lead the boy through all these emotions, even the most hidden ones, all in order to get them out. In fairy-tale therapy, such a conversation may even be accompanied by a tangible collection of thoughts on papers, then crumpling them up and throwing them into the trash. The author rightly noted that after a period of social readiness in the collision with the threat of coronavirus, a new period came – perhaps more difficult than the previous one – because it forced them to live in other circumstances than before.

Conclusion

The coronavirus pandemic has radically changed the lives of all of society in the world. Let us hope that we do not have to experience the same events again, but let us also remember them and draw conclusions from them. Following good hygiene rules, such as hand disinfection, is a good habit for the future. It is important that during this time we learn

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to live according to a new pattern of everyday life. Let the skills we have acquired and our personal insights help us in the future. It is important that we continue to spend as much time as possible with our loved ones and remember to help children, people with disabilities, and the elderly. The educational process, although different, does not mean that it is bad. Thanks to this mode of work, we also learned to be responsible for our education and realized that we should expand our knowledge, acquire skills, and look for hidden talents and interests. Although at the beginning many of us had various fears and felt uncertain, at some point there was a full mobilization of strength and positive energy. A time like this has triggered many different emotions in children and adults, which have changed as the pandemic has progressed, because it is actually a process that is still going on. However, the most important thing in this difficult situation is to preserve "humanity," to be able to notice the other person, support them and help them not to lose the sense of life and be able to function at every minute and hour. This time could not be wasted by just sitting and waiting, doing nothing useful for yourself and others. Most of the people did it very well, and in a way, it was a crucial test for all of us. However, it is very important not to forget too quickly how difficult the time was, how we helped each other then, what we promised ourselves, and how we appreciated everything bad or good that happened to us every day. May we not lose this joy and great attachment to life, love for people and the world, and constant appetite for life regardless of the circumstances, and may we benefit from all the advantages that resulted from the pandemic for a long time.

From the analysis and interpretation of the innovative e-fairy tales on the subject of the coronavirus presented herein, it should be stated that both children and their parents "get lost" in this existing and long-term threat. Through conversations, networking (connectivism) with colleagues, and literary texts, the youngest ones understand what COVID-19 is, where it comes from, why it is dangerous, and how to follow the rules of preventative health care. Coronavirus as an antihero in children's minds is perceived as a villain, that is, negative, evil, wickedly acting, dark, harmful, a symbol of destruction, mourning, or death, with which there is still

a long global struggle and no one knows when it will end. At the time of writing this article, little is still known about returning to the time before the coronavirus, nor is it certain that Polish children will return to preschools and schools. The experts still do not have unequivocal answers as to whether we can count on the end of the pandemic or whether the coronavirus will return with renewed force this fall. All of these questions preoccupy adults, as do the negative consequences of isolation. This, in turn, has had an impact on children, who always receive some form of these messages and who sense their parents' anxieties. Most of the restrictions in Poland have been lifted and some children have returned to preschools, although it is not as it was before. Now the groups are smaller, and the teachers wear masks or visors. Children also spend their free time differently; they still have to remember many different rules resulting from the safety rules during the epidemic. They may feel tired or discouraged that nothing is changing and they are still not allowed to do something. They may also feel anxiety or fear, they may be worried that not all their friends have returned to school. Adults use the term "the new normal" and for them it is probably somehow unclear, maybe even disturbing, because it suggests that they need to get used to these new rules for longer, if they are to be part of the "normal" functioning at work, at home, or in a public space.

How can we reassure children in such circumstances and prepare them for a different functioning than before? Fairy tales about fighting the bad coronavirus may turn out to be insufficient, and the need for further efforts may be difficult, all the more so because it cannot be concealed from the child that the epidemic is still ongoing, since they cannot go on a previously planned holiday or visit their relatives. In the era of common media and their tendency to scandalize and dazzle with catchy slogans, it is also difficult to avoid the penetration of certain information into children's consciousness.

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Miscellaneous Articles

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Most Frequent Lexical Units in Mother–Infant Communication in Slovak Language

Abstract

The basis for the research was transcripts of 24 hours of monthly video recordings of three mothers speaking to their infants (for a period of eight months in each mother–infant dyad). In the frequency lexicon compiled from the mothers' speech, the 20 most frequently used words were "be," "right," "well," "self," "yes," "go," "you," "this," "and," "what," "give," "still," "here," "well," "have," "already," "on," "there," "want," and "where," which underline the situational nature of mothers' topics ("this," "here," "still," "already," "what," and "where") and their positive attitude towards the child ("right," "yes," "you," and "well"). Moreover, the most often used nouns were the proper names of the infants in the diminutive form and an appellative "mom"; the most frequent adjectives were "little," "good," "big," "pretty," "beautiful," and "clever," while the most frequent adverbs were "nicely," "beautifully," and "well done." Many of these words show a supportive and encouraging manner of infant-directed speech from mothers in infants' preverbal stage of development.

Keywords: frequency lexicon, mother–infant communication, Slovak language, motherese

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Introduction

When mothers and other adults interact with children, they adapt to the behavior and a degree of cognitive development of their recipients. They evaluate the situation as one in which the. specificity of children's perceptions should be taken into account. They interact with children verbally and non-verbally within a specific register called child-directed speech. In the context of Anglo-American linguistics, the terms babytalk, parentese, motherese, fatherese, caregiver talk, and nursery language are also used more or less systemically. There is extensive literature in world linguistics that essentially addresses the language qualities which are characteristic of this type of communication: starting with the papers by C. Ferguson and C. Snow (1977), R. Wodak and M. Schultz (1986), there are at present hundreds of studies. The issue of child-directed speech is addressed in Slovakia especially by D. Slančová (1999), S. Zajacová (2012), and the author of this paper (Brestovičová, 2018).

We will focus in this paper on mother–infant communication, while studying the infant-directed speech of Slovak mothers, so-called motherese. Motherese seems to reflect the faith and values of a particular culture. What is chosen and what is emphasized in the speech is likely specific to each culture. Through this speech, mothers integrate the child into a certain culture, at an early age and in situations that are stereotyped. Mothers teach children what to say in each situation, and by example they give them an adequate model of communication skills. Mothers interact within the communication register, which is characterized as the specific open register with internal dynamics and variability (Slančová, 1999), the form of which may vary with respect to individual languages or intra-linguistic regional variants of a particular language due to the social affiliation and intellectual aspirations of parents and depending on the intellectual development of the child. According to M. Ološtiak (2011, p. 268), the communication register can be characterized as a "set of means of expression, whose existential motivation is the connection with certain more or less repetitive, unified, ritualized communication situations, in which the means are used preferentially."

Motherese is a characteristic microsocial communication register which, according to D. Slančová and S. Zajacová (2007, p. 154) represents the "conventionalized linguistic and non-linguistic behavior of people linked to social status, social role, and social distance." Fulfilling the social role of a mother requires language modification and code switching within the mother's child-directed speech register. Motherese is understood as a specific type of simplified register with a high level of redundancy and an enhanced expressive component (Slančová, 1999, pp. 29–30). It is determined by pragmatic factors of the given communication situation, namely, the mutual intimacy of mother and child, the privacy of the family environment, spoken speeches, the mother's communication intentions and strategies, and in particular the degree of common knowledge of both communication partners on the external subject.

According to R. Wodak and M. Schultz (1986), child-directed speech may also represent the combination of various registers as 1) an expressive register that is used, e.g., between lovers or when communicating with pets or babies; 2) a clarifying register used in contact with people who have problems with language perception; 3) an educational register; 4) a social register, which is used when we want to encourage others to speak; and 5) an authoritative register adopted by people who hold a superior position in relation to communication partners, in which they may exercise various factors of power. According to D. Slančová (1999) the nature of the child-directed speech register is determined by the biological, cognitive, psychological, and social status of the child as the central participant in adult–child communication.

We will focus in this paper on lexical level in our linguistic characteristics of this special register, namely, on the most frequent lexical units in mother–infant interaction.

Materials and methods

The starting material for our research was video recordings[1] (also stored on DVDs) of spontaneous communication of mothers with their children in the preverbal stage of development in the home environment in standard situations (feeding, changing diapers, bathing, playing, and sleeping). In a longitudinal study, we analyzed the language of three mothers directed towards their own infants, two girls and one boy. All three families were of higher socioeconomic status and the university-educated mothers used only Slovak in the household. Two of them are speech therapists and one of them is a Slovak language teacher.

Qualitatively, the decisive factor for us was the appearance of the child's first words, around the age of one year, which set the final limit of our material. The transcription was done using the CHAT transcription system (CHILDES), where the descriptions of situations and activities are also recorded, i.e., it is not deprived of the situational context.

Quantitatively, this is a set of nearly 66,000 actually used words. The research material captures 24 hours of mother-to-child communication once a month for eight months. The sample is equally distributed; i.e., for each of the three mothers we worked with eight hours of recording. From the transcripts, we compiled a frequency vocabulary of the speech of individual mothers; in the final phase, we combined the three frequency vocabularies into the final frequency lexicon, which contains 3,300 lexical units. The final frequency lexicon is sorted by relative frequency (f), which we counted according to the formula published by J. Mistrík (1969) by multiplying the absolute frequency (F), obtained by mechanically counting the words from the three frequency vocabularies, by the coefficient of A. Juilland, called dispersion (D): $f = F \times D$. Sorting by relative frequency helped us to select a lexis unique to only one mother and to objectify data lexicographically processed into the final frequency lexicon.

Most frequent lexemes in the lexicon

The encouraging and supportive attitude of mother–infant communication is also shown in the 20 most frequently used words by mothers. These words, based on relative frequency (given in parentheses), are as follows: "be" ["*byť*"] (2,145), "right" ["*tak*"] (2,133), "well" ["*no*"] (1,782), self-reflexive particle ["*sa/si*"] (1,622), "yes" ["*áno*"] (1,406), "go" ["*ísť*"] (1,339), "you" ["*ty*"] (1,322), "this' ["*to*"] (1,228), "and" ["*a*"] (906), "what" ["*čo*"] (834), "give" ["*dať*"] (751), "still" ["*ešte*"] (699), "here" ["*tu*"] (653), "have" ["*mať*"] (616), "well" ["*dobre*"] (613), "already" ["*už*"] (510), "on" ["*na*"] (493), "there" ["*tam*"] (385), "want" ["*chcieť*"] (345), and "where" ["*kde*"] (324). Those are not only constructive, grammatical words, as stated in J. Mistrík's (1969, p. 50) frequency lexicon of Slovak language, but representatives of the most often used parts of speech in the whole corpus material, where in the speech of mothers the number of words represented the individual parts of speech as follows: verbs (14,500), pronouns (12,200), nouns (11,100), particles (11,100), interjections (7,900), adverbs (4,000), prepositions (2,000), adjectives (1,600), numerals (700), and conjunctions (650). Verbs, pronouns, nouns, particles, interjections, and adverbs were predominantly used in infant-directed speech. The high degree of predictability within this register is evidenced by the fact that the above-mentioned 20 most frequently used lexemes make up 42% of all words actually spoken by the mothers in the research material, while in M. Šimkova's research the 20 most frequent words in the spoken version of the Slovak national corpus (prim-5.0 SNK) represent only 19% of all used words (Šimková, 2011, p. 326).

In the following sections we will focus on these most frequent words according to their ranking among individual parts of speech within the Slovak morphological system.

Verbs

Verbs accounted for 22% of all words spoken within 24 hours in child-directed speech, confirming their dominant position in relation to other parts of speech. If we rank them by relative frequency, the 10 most

prevalent verbs ("be," "go," "give," "have," "want," "feed," "look," "know," "show," and "like") represented up to 70% of all verbs uttered by mothers. They represent a "steep distribution" in language (Sandhofer et al., 2000, p. 578). Mothers interact with their children preferentially with basic universal concepts or elementary semantic units described by A. Wierzbicka (as cited in Vaňková, 2005, p. 40) as a set of "semantic primes." The author of the term further stated that "there is a link between these basic atoms of meaning and the first concepts adopted by children" (Vaňková, 2005, p. 40).

The verb "to be" (2,145) has a central function in mothers' communication, with a communication use of 18% of all spoken verbs within our corpus. It was used in the third-person singular present tense 70% of the time. If we look at the speech of mothers in depth, we notice that it is quite limited. Most often it describes what the child does, feels, and wants and what is going on around him/her. Child-directed speech is almost always tied to a particular situation. Frequently asked questions include "Where are you?," "What is this?," "What color is it?," "What sound is it?," and others. R. Wodak and M. Schultz (1986) wrote that speech addressed to young children is in a way simplified (e.g., due to the child's limited perceptual capacity, the adult language message must be reasonably short), but it is also more complicated, as adults have to add to their verbal contact with a child certain contextual information or they have to use transparent language structures. This clarification and simplification of the communication of mothers is ensured by short sentences with the verb "to be," by which the mother describes objects, the properties of the objects, and the circumstances, for example, "Where is your teddy bear?" or "Where is the duck?"

The second-most frequently used verb is "to come" (1,336), which was used as an action verb in 4/5 of its occurrences. It was in the second-person singular imperative in 46% of cases, e.g., "come to mom," "come here," or "come give me your hand!" The verb "to go" was used in 15% of its occurrences in the form of a symbiotic plural. Symbiotic plurals are one of the main features of this register which express the closeness and mutual emotional commitment of communication partners. It is characterized by the use of the first-person plural in ritualized situations, such

as changing, feeding, or bathing. Plurals are used in situations where the speaker comments on an activity performed only by their communication partner or where the speaker is the only active person, but also grammatically includes their partner (Zajacová, 2012): "we're going in a stroller," "we're going nicely in the tub," or "we're going to change the diaper." One-fifth of the occurrences grammatically indicated the near future as in the last example.

The third most often used verb is "to give" (751). It was used in the symbiotic plural form in 36% of its occurrences, e.g., "we'll give you a clean diaper." The second-person imperative accounted for 27% of its use, e.g., "give it to mommy!"

The verb "to have" (616) also occurs within the top 20 verbs in the frequency lexicon, mostly used in the second-person singular in the present tense (41% of cases). Mothers comment on the child's body parts and possessions using this verb: "you have such chubby cheeks," "How many teeth do you have?," and "you have a nice box here."

Verbal lexemes in the diminutive form represented 10% of all verbal lexemes in the frequency lexicon. Only 6% of all verbs were in the negative mode; the most often used were "don't cry," "don't be afraid," and "it doesn't matter," which are positive from a pragmatic point of view.

Pronouns

The personal pronoun "you" (1,322) is the seventh-most often used word according to relative frequency in the lexicon. It strongly points out that the direction and theme of the proto-dialogue (the child cannot communicate verbally yet) is child-centered. The pronoun "you" can be evaluated as a means of universal contact by which we turn to the individual partner of the dialogue (Kesselová, 2003, p. 26). The hypertrophy of the personal pronoun "you" emphasizes the operational nature of motherese and the focus on the child.

From demonstrative deictic pronouns, the most frequent were "this/that" (a single word in Slovak), "here" (653), and "there" (385). All are prototypical units of spatial deixis. "This" and "that" (1,228) are moreover means of object deixis, e.g., "What is this?" or "Will you take that?" The topic

of mothers' speech is explicitly expressed by the deixis, whose meaning is derived only from the current situation: "you" – "that" – "here" – ("now") – "there." It confirms the focus of communication on the child and on current events, objects, and people in his/her nearby environment (here), or on more distant, yet visible surroundings (there). "Here" and "there" are the most general expressions of the space in which communication takes place. They focus the topic of the proto-dialogue on subjects and events immediately present in the visual field of the child and his/her mother, thus strengthening its situational nature, e.g., "look what ladybug is here" or "Are there some little boys?"

The interrogative pronouns "what" and "where" are used in a large number of questions in mother–infant communication. Their function is to attract the infant's attention and to involve him/her in a dialogue even though the infant is unable to do it verbally: "What are you doing now?," "What is the matter with you?," "What are you looking for?," "What are we going to do then?," and "Where is your tongue hidden?" or "Where is the footie hidden?"

Nouns

The children's proper names are the most frequently used nouns in individual frequency vocabularies of mothers. They represent from 12% to 24% of all noun occurrences in an individual mother's speech. They are in diminutive forms. The second-most frequent noun is the naming of the mother in a notional or diminutive form. The naming of the mother within motherese represents approximately 9% of all nouns used. Mothers use words to create a positive and safe atmosphere in contact with a small baby. As the frequency analysis showed, the two most frequently used nouns in motherese named the participants of the existentially most important relationship: it was the child's proper name (in a diminutive form) and the appellative name of the mother – "mommy" or "mom."

In further analysis we found that half of the mothers' noun input included the proper name of her child, a denomination of the mother, and names for the child's body parts. Moreover, 70% of all uttered nouns were in diminutive and euphemistic forms. A high proportion of those

words showed an emotionally positive attitude of the mothers towards their infants.

Particles

The most frequently used words were particles, which are connective means without informative value. However, in motherese they are used as "register markers of authority" and they fulfill a contact or expressive function in an initial position. Prototypical particles in motherese are the discourse markers "right" (2,133) and "well" (1,782), used with a positive, pragmatic function as shown in intonation and with the affirmative "yes" (1,406) to praise as well as to join the children in the proto-dialogue. Their frequent use indicates an emotional-affective dimension of motherese.

The particles "right" ["*tak*"] and "well" ["*no*"] were especially used by the mothers during routine events, such as bathing and dressing the child, and were more frequent in the first recordings. When the child was already feeding with a spoon, mothers used "right" ["*tak*"] in this communicative situation as an expression of completion, when responding positively to the activities of the children as if to encourage them using special intonation, pause, and emphasis.

The affirmative "yes" was the fifth-most often used word. In addition to the pragmatic function of giving consent to a situation or activity, it also fulfills a regulative-pragmatic function of contacting and appealing to the child when mothers structure the replicas as if they expect an answer, e.g., "So, would you like to drink by yourself? Yes?" or "Then we'll go outside, yes?" In doing so, they teach infants the structure of a dialogue months before the children can make meaningful verbal responses (Slančová, 1999). The particle used in this way has an appeal/challenge function, since mothers call on the child to adopt a mutually consistent attitude. The fact that "yes" is the fifth-most frequently used word in motherese is testimony to the fact that for this kind of talk to express positive emotions an accepting attitude is essential. Mothers often agree with their child's activities, with his/her attempts to make contact. They also affirm the fact that the child is in their presence and confirm that he/she has the right to be there. "Yes" in the challenge position also gives

the child some space to express himself/herself in the mother–child dia-
logue, first non-verbally, then verbally.

The overall positive orientation of this communication and the pos-
itive emotional verbal effect on the child is reflected in the use of domi-
nant particles – "right," "well," "yes," – which are pronounced with special
intonation to show a positive affect. At the same time, these particles
function as register markers of authority, thus pointing to an instrumen-
tal function of motherese.

Adverbs

The adverbs of time "still" (699) and "already" (613) emphasize the sit-
uational character of motherese. They name different chronological
phases of activities. In the motherese examined in our study, the adverb
"still" predominantly occurred in the sense of duration of an event or con-
dition, e.g., "Are you still looking at the flowers?" or "Are you still hungry?"
and in the sense of repeating an activity. Repetition can be seen in ex-
amples such as "drink again," "try to open your mouth once more," or
"again, ham." Very frequently, the adverb "still/again" is associated with
the importance of multiplying the number of things or increasing the ac-
tivity: "we still have something here," "straighten up again," "call me mama
again." The Slovak word "*ešte*" is used in all of these examples.

The adverb "already" appears with the meaning of completion, the
end of an activity, as in "he's already come," "our socks have already fallen,"
or "so everything's already fine." However, in motherese there is an addi-
tional meaning of completion that has not yet been expected. In these ut-
terances, mothers express positive surprise and appreciation of the child's
accomplishments: "you're already a big girl," "you're already banging on it,"
or "you've already undressed yourself."

By the frequent adverbs "well" (615), "nicely" (101), and "beautifully"
(92), mothers positively evaluate their child by ascribing a positive value
to the activities that are directed to him/her, e.g., "so we'll comb your hair
nicely, yes?" or "let's sit down nicely" or to the activities of the child, e.g.,
"grab a cup nicely," "so you can eat so beautifully?," "how beautifully you
drink!" or "well we've finished sewing nicely."

Adjectives

The most commonly used adjective was "little" (109), followed by the positive evaluative adjectives "good" (101), "big" (71), "pretty" (48), "beautiful" (31), and "clever" (25).

The adjective "little" is used in both quantitative and qualitative terms. Quantitatively, the word means comparatively small, e.g., "beautiful for that little mouth," "we shall moisturize this little body," or "well you have little hands." It was used in the sense of denoting someone juvenile or young, e.g., "you're a grumpy little baby" or "this is how a little girl dances." However, the adjective "little" was mostly used qualitatively in an emotional sense, when the mother expressed tenderness towards the child. Thus, the quantitative function of this adjective was limited because it not only expressed smallness, but also a positive quality, such as tenderness, popularity, or subtlety. It means that in motherese qualitative evaluations clearly outweigh quantitative ones. Especially if the child is named expressively and not by his/her proper name, mothers express their positive feelings in connection with this adjective, e.g., "our little froggie," "you're such a little punk singer," and "Who is this little naked baby?"

The adjective "good" was used to describe expected positive sensory experiences, especially in connection with the taste of food – "good milkie," "good soup," or "good porridge," – or with the taste of an object in the child's mouth: "good thumb," "good footie," "good pacifier," or "good spoon." The mothers also described the expected pleasant haptic experience of the child during bathing, e.g., "good water," "good cream," "good olive oil."

The adjective "big" could be also used as a means of appreciation, e.g., "Ninka is already a big girl" or "she's already bathing in the big tub." The mothers evaluated the appearance of the children explicitly: "Who's going to be so pretty?," "you're pretty in the mirror," or "well look what beautiful little boy you are." The positive impressive adjective "clever" was used especially for praising and encouraging the child, e.g., "you're a very clever little girl" and "but you're a clever boy since you can get up by yourself."

Conclusion

This article presented the outcome of a quantitative and qualitative longitudinal study of the infant-directed speech of three Slovak mothers and focused on the 20 most frequently used words in the frequency lexicon compiled from their speech. The situational character of the motherese was indicated by the most frequent verbs, pronouns, and adverbs, which focused on the child and the present situation: "be," "go," "give," and "have"; "you," "this," "here," "there," "what," and "where"; "still" and "already." The emotional aspect of infant-directed speech was shown in the most frequent nouns, which were the proper names of the children in a diminutive form and the appellative "mom" also in the diminutive form, by which the emotional and existential connection of a mother with her infant was emphasized. The positive character of motherese was pointed out by the fact that affirmative "yes" and the particles "well" and "right," with the positive pragmatic function shown in intonation, were among the five most frequently used lexemes of the frequency lexicon. The most frequently used adjectives and adverbs in the mothers' speech – "little," "good," "clever," "pretty," "nice," "well," and "beautifully" – also created a positive language picture of the child himself/herself. Further analysis of lexical units showed that motherese is positive, encouraging, supportive, and affectionate. We found that 70% of all the nouns used were in a diminutive or euphemistic form. Moreover, only 6% of the verbs uttered were used in a negative form, and these were in fact positive from a pragmatic point of view: "don't cry," "don't be afraid," and "it doesn't matter." We can conclude that mothers create a safe and positive social environment for their infant by using these words in their speech, or as Kaye (1980) wrote, "what each mother does in different ways is make the baby into a person and herself into his best friend".

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The Educational Functions of the First Woman's Almanac in Britain: Media Literacy and *The Ladies' Diary*, 1704–1713

Abstract

While 18th-century almanacs transmitted usable information that was meant to be relevant to daily life, at the beginning of the century they also began to function as an educational tool that enabled readers to act as producers of media content, and, as a result, to develop media literacy via the practice of writing and responding to amateur poetry. In this article, I define media literacy as a cultural category shaped by specific media-related skills: the creation, interpretation, evaluation, and negotiation of media content. I examine John Tipper's *The Ladies' Diary* (1704–1713), one of the best-selling almanacs of the era, as an educational tool that, through the strategy of inviting and publishing amateur poetry, promoted and taught media competencies. Tipper's almanac, I argue, should thus be acknowledged as an influential document in the history of media education.

Keywords: history of media education, media literacy, 18th-century British almanacs, 18th-century British literature and mathematics, The Ladies' Diary, John Tipper

Introduction: The originality and achievements of *The Ladies' Diary*

The year is 1703 and John Tipper, a mathematician and master of Bablake School for boys in Coventry, is planning to launch the first almanac addressed explicitly to a female audience – *The Ladies' Diary; or, The Woman's Almanack* – despite his doubt that the Stationers' Company, the London guild that has the exclusive right to publish almanacs, will be interested. Tipper does not even keep a manuscript copy, since he "was told the Company would hardly meddle with a New Almanack" (Tipper, 1703/2011, p. 308). However, surprisingly, they do accept *The Ladies' Diary* "at first sight" (Tipper, 1703/2011, p. 308). Thus began the long saga of an almanac that turned out to be a phenomenal success, evolving into one of the best-selling publications of the 18th century (Miegon, 2008, pp. 93, 187–204).

The traditional features of English 18th-century almanacs consisted of such key elements as a calendar with weather forecasts, astrological observations and prognostications, common-knowledge tables, information on annual eclipses, and weather forecasts for the four seasons. Sold widely and cheaply on an annual basis, the Stationers' Company's almanacs were a print medium transmitting current, everyday information. While the almanac genre remained largely conventional throughout the century, under Tipper's aegis, *The Ladies' Diary*, still relying on its informational appeal, diverged from traditional almanac content. The core features that set *The Ladies' Diary* apart from other almanacs at the turn of the century included original enigma puzzles and mathematical problems along with answers, most often presented in verse and submitted by both female and male contributors whose names or pseudonyms were acknowledged alongside their submissions and listed at the end of each almanac.

However, although *The Ladies' Diary* was a unique almanac, the literary and mathematical content supported by contributor activity was deeply ingrained in the popular cultural practices of the day. As Kathryn James has observed,

like many of the early eighteenth-century botanical or historical works, *The Ladies' Diary* took on the air of a public salon, in which readers were included in the theatre of the publication, the performance of the reader-participants, however fictitious, pseudonymous, or real. (2011, p. 14)

As to the mathematical content, Benjamin Wardhaugh, in his account of one of the bestselling almanacs of the time, *Poor Robin*, explores how mathematical learning was facilitated in the 18th century, from charity schools founded at parish churches, to private tutors and mathematical schools, arithmetic primers, and manuals of basic accounting. Wardhaugh points markedly to clubs: "Clubs of all kinds were an extremely popular type of activity, and one contemporary estimated that they involved up to 20,000 men every night in London alone" (2012, p. 82). He also explains that mathematical learning offered by mathematical societies combined "lectures, problem solving, and mutual instruction" (2012, pp. 81–82). Further, Jacqueline Wernimont, in her recent chapter on "esthetic rationalism" as reflected in *The Ladies' Diary*'s poetry and mathematics, shows that it is crucial to understand "the last three decades of the 17th century as a time flush with the idea and the practical realities of women engaging in the literary and scientific cultures of England and France" (2017, p. 341). Indeed, mutual instruction via problem-solving among eager male and female reader-participants was a popular activity within the pages of *The Ladies' Diary*. A range of familiar cultural practices of the day, such as an participation in the intellectual club on which Tipper's almanac drew, helped the publication sell well during and beyond the inaugural period of its establishment.

The formation of media literacy through John Tipper's *The Ladies' Diary*

History

My earlier work on *The Ladies' Diary* revealed that the contributors to Tipper's almanac came from diverse localities in England and Wales, and that the *Diary*'s club of correspondents was characterized by interactions among the editor and readers based on the conventions of epistolary and conversational modes of communication (Miegon, 2008, pp. 126, 242, 234). Because *The Ladies' Diary*'s community of correspondents was not imagined, but real, the interactive character of the publication enables us to examine how instruction took place through the almanac and how *The Ladies' Diary* offered its readers opportunities to engage in media literacy.

Often classified by critics as a periodical or miscellany, *The Ladies' Diary* has been analyzed by scholars interested in the history of the women's periodical, including a focus on how, over the 18th century, women benefitted from their engagement with the periodical press in such roles as editors, authors, and readers (Batchelor & Powell, 2018). By studying the insights that 18th-century women's periodicals offer into women's learning processes, James Wood has established that those publications aimed to "engage their audiences in the wider cultural conversation around women's learning and its place within women's lives" (2018, p. 27). Tipper's almanac, with its enigma puzzles, mathematical questions, and corresponding answers – as Wood further discusses – created "an effect of revelation: a sense, however fleeting, of actually participating in the creation of knowledge as opposed to passively imbibing it" (2018, p. 30). Readers of *The Ladies' Diary*, both men and women, not only contributed to knowledge creation via the submission and solution of enigma poems and mathematical questions, but also responded to the vibrant learning environment of the almanac. In particular, the birth of Tipper's *The Ladies' Diary* at the turn of the century, predating the later multitude of periodicals and magazines that followed similar practices, is a significant moment in media history, when the function of the almanac

genre as a repository of information was transformed to embrace an educational model encouraging media literacy.

It was in the first decade of *The Ladies' Diary* in print, from its inaugural issue in 1704 until Tipper's death in 1713, when the educational functions of the *Diary* were established. The almanac thus cannot be neglected in the history of media education that allows us to determine how media literacy was being taught and promoted. In 18th-century studies, researchers have begun to examine how individuals, including editors and readers, learned to understand and negotiate the conventions and society-level influences of media. My argument is informed by a study of media "letteracy" undertaken by Eve Bannet in her book entitled *Empire of Letters: Letter Manuals and Transatlantic Correspondence, 1688–1820*. Focusing on popular 18th-century publications – letter manuals – Bannet demonstrated that they not only taught readers about letter-writing and letter-reading, but also engaged them in how to use the medium. In Bannet's words, letter manuals contributed to "letteracy": "the collection of different skills, values, and kinds of knowledge beyond mere literacy that were involved in achieving competency in the writing, reading, and interpreting of letters" (2005, p. xvii). Bannet further explains that the term encompasses

> associated cultural information, such as common conceptions
> of letter-writing, awareness of current epistolary practices, basic
> knowledge about where letter-writing was taught and about
> how it was taught or to be learned, even how to 'read' and use
> a letter manual. (2005)

As with letter manuals and Tipper's almanac, we need to investigate a range of literacies to understand how popular texts instructed their readers to read, use, and – even further – negotiate their content and recognize the skills and knowledge that were needed to interpret and respond to such instruction. Drawing on Susan Whyman's study of the 18th-century novel in the context of "epistolary literacy" that she defines as a "cultural category" and describes as "a dynamic set of practices that

involves letter writing, reading, interpretation, and response by networks of individuals with shared conventions and norms" (2007, p. 578), I position media literacy as a sibling cultural category that relies on a series of similar competencies: writing, reading, the interpretation and evaluation of media content, and response to media delivery.

The analysis of various types of popular media, including the almanac, in the context of media literacy, opens new avenues for research about the skills, experiences, and knowledge of media users and the benefits of media education. Media literacy is developed when readers are offered the opportunity to become producers of interactive media. As I will argue, Tipper relied on his printed medium – his new almanac – as a tool through which he trained his readers in writing poems in the form of word and mathematical puzzles as well as poetic solutions. He advocated hands-on experience – learning by reading, analysis, and poetic composition – while revealing how readers influence media through active engagement in intellectual exercises.

Enigma Praxis

In the 18th century, informal education was common and widespread. Such sources as "almanacs, parental tutelage, shop signs, nursery rhymes, church sermons, and decorations, instruction by trade masters or journeymen, and advice from neighbors and relatives" (Olsen, 1999, p. 222), might have served as the only available means of learning. Tipper made *The Ladies' Diary* an important source for encouraging informal learning by offering practice in the writing and solving of the enigma poem, a popular element of the almanac, typically written in verse at the time of his editorship, and the only distinct feature that appeared in all issues of *The Ladies' Diary* throughout Tipper's editorship.

A typical enigma was a puzzle written in verse, most often in rhyming couplets of iambic pentameter with various poetic devices, such as metaphor and paradox, which allowed for the gradual development of an argument (Hunter, 2001, p. 22). The practice of enigma sleuthing involved a write-and-response progression in which the publication of an original enigma elicited an answer, the latter feature appearing in the subsequent

issue of the almanac. Similar to enigmas, answers were usually written in the era's popular verse patterns. The common solution that such answers presented was in the form of a single noun, for example, "rose" or "almanac," though longer answers, such as the Copernican system, also appeared.

Tipper's intention to establish his almanac as a source of education was indicated in his 1710 issue where he explains that a set of his diaries designated for winners in his annual contest is meant "both to encourage, and promote, useful Learning and Ingenuity" (*Ladies' Diary*, p. B8v). The definition of an enigma that Tipper chose to include in his 1704 inaugural issue was a "dark description of things clear and well-known, to be explained for the diversion and exercise of the mind" (as cited in Hutton, 1775, p. 12), also highlights his educational intention. Tipper here distinguishes enigmas from "trifling and foolish *riddle-my-riddle, one two three*," the outcome of which is to amuse the ear. In contrast, he describes the aim of the enigmas as a form of intellectual entertainment for readers keen on undertaking exercises that edify the mind.

In this educational setting, Tipper's inclusion of reader correspondence and names, as well as his awarding of prizes, laid a foundation for a publication that encouraged trajectories of response: from verse reading to verse composing. In the 1710 edition of *The Ladies' Diary*, Tipper began to offer a set of his diaries for correct answers to a Prize Enigma. The prizes turned out to be stimulating incentives for reader engagement: Tipper assured his readers in the almanac for 1711 that he had received an "abundance of thanks and complements, and a multitude of letters from all parts of the kingdom" (as cited in Hutton, 1775, p. 87). To "gratify the curiosity of the inquisitive fair ones," Tipper commented on the responses he received, including for example, an amusing story about a correspondent who pompously asserted his wife's correctness, insisting that she "was positive [the answer] was the *Moon*, and therefore he as positively demanded, and would not be bubbled of the promised reward".

In this almanac number, Tipper also provided the real and fictional names of the contributors. Further, after a lengthy narration about and exemplification of several answers in verse, Tipper concluded the account,

admitting that to "set down all the answers I have received to this enigma, I should fill a volume twice as big as my diary," and emphasizing that "it would be almost endless to insert" other answers (as cited in Hutton, 1775, p. 90). These strategies invited responses with the assumption of real or playful identities, and turned out to be effective for obtaining original material for *The Ladies' Diary*. They also highlighted a praxis of verse-study and verse-making for readers eager to see their names and verses in print on a regular basis. While being involved in such a praxis, readers could become, and – as reflected in Tipper's responses and in the content of *The Ladies' Diary* – could remain skilled media producers. A number of contributors were doubly awarded: they benefitted by receiving a set of diaries for correct answers and, at the same time, they acquired social cachet as distinguished media users.

Once the contributors started to submit poems, Tipper withdrew various elements from his almanac, such as entertaining stories, so the enigma and answer poems became the most popular features. *The Ladies' Diary* thus shows that its readers had actual agency over the construction and reception of their almanac. Over time, they displayed proficiency in media literacy to such an extent that their own contributions dominated the pages of the publication. Such proficiency involved a range of skills, from a conversational sociability to the ability to compose poetry or, in other words, to write media content.

Being competent as an effective verse contributor in the vibrant cultural hub of *The Ladies' Diary*, meant, among other capabilities, being skilled at sociable conversation. Along with John Dunton's *Athenian Mercury* (1691–1697), a miscellany relying on readers' questions and editors' answers, Tipper's almanac laid the foundation for an emerging trend that periodical publications eagerly embraced by the middle of the 18th century – to promote sociable conversation where a question could not be left without an answer. One historian of domestic pedagogy, Michèle Cohen, has shown that children's active involvement in learning conversation at home meant "asking as well as answering questions," and was inherent in the "practices of sociability and politeness aimed at individual improvement and self fashioning" (2015, pp. 448–449). Tipper arranged

The Ladies' Diary in a way that welcomed rhetorically-based sociable conversation and the practice of self-fashioning, with the use of real or imagined identities, via an enigma poem, and, of course, its subsequent answer. Both forms often displayed polite language and offered addresses to other correspondents or to the editor, following the mode of sociable conversation. As one example, in 1712, Mrs. Sarah Newbold's Enigma 43 salutes the "sweet English Ladies," whom she encourages to solve her enigma by inviting those who guess the answer to "drink a Dish of Tea" with her (*Ladies' Diary*, p. 11). Polite, conversational tone was modelled by Tipper within the enigmas that appeared in the almanac in 1704–1710, and, that with time became commonly mimicked by correspondents. The pages of the almanac can therefore be read as recording a process of transition where exemplification was followed by a display of conversational accomplishment, revealing how readers learned to become adept producers of media content and respondents to media delivery.

Conversational accomplishment was equivalent to poetic achievement for Tipper. He taught his readers how they could influence *The Ladies' Diary* by exemplifying model enigma poems. In addition to this modelling, Tipper explained the standards of quality that he expected from the poems, emphasizing that readers need a sufficient period to "put their Answers in good Verse" (*Ladies' Diary*, 1712, p. C3v). He also showed which verses he favored, as in the 1713 number where he highlighted all enigmas that were "incomparably answered by Mrs. Sidway" (*Ladies' Diary*, p. B8r). Kate Loveman (2019), in her analysis of the 18th-century epigrammatic satire, has concluded that "verse games taught participants and their audiences to recognize the skill in rapidly producing a well-turned rhyme and must have tended to increase their awareness of how rhyme words in poetry were used to set up and surprise expectations" (p. 507). Writing word puzzles in good quality verse required skills, such as the use of compressed language and the ability to read, plan, and compose verses in which meaning is encoded imaginatively and can be decoded through the successive unfolding of diction and imagery. These skills were essential for engaging in the word play presented in *The Ladies' Diary*, and, further, laid the foundation for media literacy – poetry writers

were, at the same time, producers of media who reacted to Tipper's instruction and to the contributions of other readers in a way that showed their skills in reading, interpreting, evaluating, responding to, and writing media content.

Conclusion: The practitioners of an early media literacy

A number of research questions related to the topic of the educational function of *The Ladies' Diary* and almanacs remain unaddressed: What are the multiple literacies, beside the epistolary and media forms of literacy, that 18th-century media – manuscript and print – engaged? How are these sibling cultural categories dependent on the co-existence of or interaction among oral, manuscript, and print media? How did readers learn and practice media literacy skills while exploring other forms of writing than amateur poetry?

Instead of reading *The Ladies' Diary* as a text written *for* and *with* women (Miegon, 2008), my attention has shifted to studying the interpretations of media as presented and experienced by audiences. In this study, I highlight the educational functions of *The Ladies' Diary* in the first decade of its publication, gesturing towards modes of almanac readers' acquisition of media literacy. The consideration of media literacy leads to a conclusion that *The Ladies' Diary*'s readers were no strangers to an awareness of media use, since they actually served as producers of media content. Traditional literacy, as reflected in the basic ability to read and write, was insufficient in this age for people who wished to contribute to media culture. My case study reveals that the early media literacy integrated in Tipper's almanac meant a range of competencies, including the understanding, evaluation, creation, and negotiation of media content, and thus the ability to address media conventions and society-level media effects. *The Ladies' Diary* was a pioneering site in which readers could both teach and practice such instantiations of early media literacy.

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Color Symbolism in the Castilian Atlantic Bibles: Initials and Scenes from the *Bible of Avila* (BNM, Vit. 15-1)

Abstract

The Atlantic Bibles of the Umbro-Roman school are associated with the needs of the Gregorian Reform, which began at the end of the 11th century. Their first impression is one of great ornamental sobriety, in accordance with the early stages of what Garrison and Berg have labelled the "geometric style." This was first manifested in the decoration we find concentrated in the initials heading the individual books of the Bible. In Castile, one outstanding example is the *Bible of Avila*, begun by the Umbro-Roman school and finished in a Castilian *scriptorium*. This double perspective can be observed in a similarly double palette of color: Italian and Spanish.

It is especially in this second phase when a reduction to the minimum of polychromy leads us to think that color has here a symbolic use. Red and blue, having had symbolic connotations since the birth of Christian iconography, are the principal colors of the scenes illustrated in the *Bible of Avila*, with the addition of green and yellow, which are also rich with symbolism. This possible symbolism of color may work to reinforce the conceptual nature of these miniatures, in direct relation to the text they decorate and to the liturgy they accompany. The Bible in the Middle Ages, in the context

of monastic schools, was the most important manuscript for teaching and learning. Its miniatures and the symbolism of its colors contribute to the transmission of meanings.

Keywords: color, Romanesque miniature, image and didactics, *Bible of Avila*, Christian iconography

Introduction

Studies of Biblical miniatures from the 10th to 12th centuries have for the most part addressed codicological and iconographic aspects, but have paid little attention to color beyond questions of technique and material. The research presented herein aims to take this a step further, by proposing a consideration of color in relation to the meaning of the initials and scenes that appear in the Atlantic Bibles, within the conceptual and symbolic context of Romanesque art. The insistence on materiality is consonant with what has been found in the technical treatises of the period, most notably the three volumes that the monk Theophilus dedicated to the art of painting (ca. 1120) and which would greatly determine the later activities of Western workshops and their assimilation of the Eastern tradition (Theophilus, ca. 1120/1979). The recognition of these writings would still be evident in the Late Middle Ages, as witnessed by a manuscript conserved in Montpellier and dated 1300, which clearly echoes the ideas of Theophilus (Clarke, 1901).

The recommendations given to miniaturists in that text reveal that, from a technical point of view, there had until then been little variation in the treatment of colors, with innovations centered primarily on the selection of materials. Undertaking a conceptual analysis of color in this period therefore presents considerable difficulties, as, from the beginnings of the Romanesque period in the 10th century, we are faced with a great eclecticism in the merging of the Eastern and Western traditions, which did not always coincide in their interpretations of colors. Indeed, as Di Napoli (2006) pointed out, each culture generates its own preferences and hierarchy in terms of color, and so in the Romanesque period it is no

simple task to determine where the Eastern influence ends and the Western begins, with chromatic approaches being divergent on occasion. Moreover, the study of the chromatic palette of each codex must be viewed in the light of its original function (liturgy, individual devotion, diplomatic gift, etc.) as well as the social status of the individual who commissioned it, as both factors were determinants in the choice of the materials they employed.

Our study aims to identify the general purposes of the *Bible of Avila* (BNM, Vit. 15-1), within the context of the Italian Atlantic Bibles, in particular those of the Umbro-Roman school, the copying of which began in the second quarter of the 12th century. Its chromatic variants and an anti-naturalistic use of color in some details of New Testament scenes suggest, *a priori*, a possibly symbolic use of color, following the intuition that colors have a power to transmit ideas which is equal to that of words (Sanz, 1985).

The Atlantic Bibles in the context of the Gregorian Reform

The Gregorian Reform, instituted by Gregory VII at the end of the 11th century, sought to renew the spiritual life of the clergy and to inspire the faithful to live like the early Christian communities (Berg, 1968; Dalli, 1978; Capitani, 2000). The Pope, seeking greater unity, would impose the Roman Rite over local liturgies such as the Ambrosian and the Mozarabic. This would lead to the copying and illuminating of new manuscripts to meet these liturgical needs, characterized by a great sobriety in their decoration, adapting to the austerity advocated by the pontiff and in accordance with the new Gregorian liturgy (Supino, 1987). The ornamental sparseness of these codices to some extent recalls the sign-images of paleo-Christian art, which was similarly lacking in ostentation but remarkably rich in meaning.

Chief among the codices copied and illuminated in monastic scriptoria were the bibles created for reading in community, generally in the choir or the refectory. This would determine their size, some 50 to 60 cm in height, leading historians to define them as "monumental" (Salmi, 1962;

Pächt, 1987) or "gigantic" (Kitzinger, 1982), although the name they would come to be known by was given to them in 1912 by Pietro Toesca, who grouped them under the denomination of "Atlantic Bibles" (Toesca, 1912). Apart from their proportions, the common aspects of these manuscripts include their script, a Carolingian minuscule derived from the recension done by Alcuin of York in the ninth century; their decoration, centered primarily in the initials; and the use of vivid, contrasting colors. We find all of these in the *Bible of Avila*, which exemplifies the Italian influence in 12th-century Castilian *scriptoria*.

Pinpointing the geographical origin of the Atlantic Bibles is no simple task, however, due to the lack of colophones or inscriptions which would indicate their chronology and origin, and this is also the case of the *Bible of Avila*, in which the only inscription that links it to the cathedral of Avila – *Istos liber este santi Salbatoris Abulensis*, on fol. CCXCVIII v – is only able to take us back as far as the 14th century, long after its initial creation (Rodríguez, 1999). Rome and Milan are considered to be the inarguable centers of diffusion for the Atlantic Bibles, with the former having more significance in relation to the Gregorian Reform and the monastic *scriptoria* of Umbria, such as Grottaferrata, Subiaco, Farfa, and Montecassino. In this sense, H. Toubert (2001), in his study on the close links between the Gregorian Reform and art, points to the cultural rebirth that would take place in Montecassino under the Abbot Desiderio (1058–1087). The hypothesis that Rome was the main center of production and dissemination of the Atlantic Bibles is also supported by G. Lobrichon (2000), who reminds us that, in the context of the Gregorian Reform, these codices would come to represent the authority of the Roman seat, apostolic legitimacy, and the primacy of Peter.

Color in geometric-style initials

When examining the Italian Atlantic Bibles – and in particular those from workshops associated with the *Bible of Avila* – one of their identifying characteristics, as noted in the first studies of medieval Italian miniatures

by K. Berg (1968) and E. B. Garrison (1953–61), is the repetition of a deco-
rative language known as the "geometric style."[1] Originating in the late 11th
century, it would reach its full expression in the second quarter of the 12th
with the illumination of the *Bible of Avila*, and was focused essentially on
the decoration of the initials found at the headings of the various books of
the Bible. It should be noted that, although today these letters are valued
from an ornamental perspective, they were originally designed to support
the codex's internal structure and guide the attention of the monks in their
community readings. Furthermore, in the monastic and cathedral schools,
where the Bible was the principal book used, it was a tool for teaching
reading and memory skills, especially through the recitation of the psalms
(Rodríguez, 2013). For all of these reasons, these large, illuminated initials
would become "decorative alphabets" that possessed a great expository
power. Indeed, we might add to the denomination geometric style the ap-
pellative "epigraphic," as in no case was the clarity of the letters themselves
eclipsed by their decoration (Rodríguez, 2012).

Text and image, word and color were thus placed at the service of
the liturgy and monastic reading, as in such compilations as that of the
Cluniac abbot Uldaric, who, following the guidelines of the abbot William
of Hirsau (1130–1191), ordered that the annual reading of the Bible in the
chorus or refectory should conform to the *ordo romano* (Cahn, 1982). This
showed a continuity with the Benedictine practice documented in
eighth-century Rome of reading the books of the Bible in night prayers
throughout the liturgical year (Boynton, 2011; Ayres, 2000), which ex-
plains in great part the proliferation of biblical manuscripts in medieval
scriptoria (Cochelin, 2011). The liturgical use of these codices can also be
deduced by certain marginal annotations and by the presence of canon
tables, a system that synthesizes concordances among the four Gospels.
This system of correspondences, which divides each book into 1,162 sec-
tions, was established in the fourth century by Eusebius, the Bishop of

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[1]   E. B. Garrison (1953–61) and K. Berg (1968) distinguish several phases in the evo-
lution of the geometric style: the *early style*, practiced primarily in Rome in the second
half of the 11th century; the *transitional style*, in the second quarter of the 12th century,
when it expanded into Tuscany; and the *late style*, from the middle of the 12th century.

Caesarea, to facilitate the relation and comparison of parallel passages in the Gospels. It would at the same time concentrate a striking decorativism in the Atlantic Bibles. Silva y Verástegui (1999) traces the first graphic examples of canon tables to Syrian codices of the sixth century.

Figure 1. *Bible of Avila*, **fol. CCCXXVIIIr**

In the repertory of motifs which make up these geometric-style initials in their various phases, one can note a pronounced eclecticism in the reinterpretation of models developed earlier in Carolingian, Ottonian, and Merovingian codices, rich with contrasting polychromy and forging a unique visual language that would become a sign of identity for the Atlantic Bibles (Klange, 1979). The most notable feature was the generalized use of yellow to define the initials. The repetition of this color, applied brightly, denotes a desire to imitate valuable materials, as had been done in the mural paintings of Ancient Rome. Yellow, of ambiguous meaning in the Middle Ages, is used here as an analogy to gold, which is found in the initials of the *Tours Bibles*, often commissioned to monastic *scriptoria* under royal protection (Ayres, 1994). The Carolingian influence was the legacy of the monastery of Bobbio, and is reflected in other ornamental aspects as well, such as the repeated use of "corner interlacing" (Guilmain, 1960).

The ornamental riches of the geometric style in its later development extended to the filling in of the initials with decorative, geometrical patterns of four-leaved vanes, colored primarily with red, blue, and green to accentuate their contrast to yellow. This desire to highlight colors can also be observed in the fact that certain initials of the Italian section of the *Bible of Avila* were not set against the parchment itself, but superimposed over a monochromatic background of ultramarine blue and outlined in red ink, or over a polychrome background to which red and green were added.[2] The precision of these motifs and their meticulous detail enable us to draw certain analogies to the goldsmithing of the period. Thus, the use of red, green, and blue would seem to be a replication of the insertion of precious stones into the gold filigree suggested by the yellow.[3]

Figure 2. *Bible of Avila*, fol. CCXXIIr

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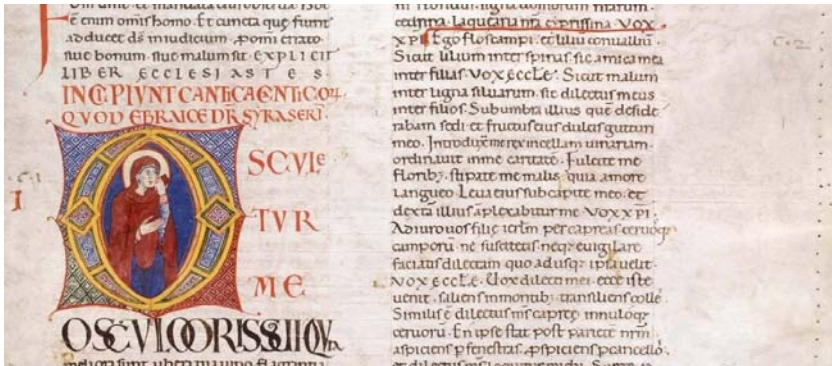
[2]   This may be observed, for example, in Book 2 of the Paralipomenon, the Book of Judith, the Song of Songs, the Book of Wisdom, the Book of Ecclesiastes, the Book of Obadiah, and the Gospel of St. Luke. These polychrome and essentially decorative backgrounds form a criteria of unity with other codices attributed to the same workshop as the *Bible of Avila*.

[3]   The Italian section of the *Bible of Avila* and works associated with the same workshop presented bright and consistent colors, perhaps because of the use of honey, rubber, or egg as binding media to produce a work that was more durable and precious, as well as open to later rectification.

The fact that the initials of the Atlantic Bibles of the 12th century, and in particular the *Bible of Avila*, are often used as decorative frames for author portraits that show the writer and main characters of each biblical book reveals similarities to the jeweled mosaic clipei, which in the Byzantine tradition exalted the dignity of certain personages. But unlike those mosaics, whose inscriptions and iconographic attributes serve to identify their subjects, in the Atlantic Bibles it is rather the text–image relationship that is highlighted by this type of individualization, which generally consists of repetitive figures. The clearest exception to this is in the Pauline epistles, where the apostle is shown with the features that have characterized him since the paleo-Christian tradition of the fourth century.

With the use of such "author portraits," the miniaturists who illuminated the Atlantic Bibles were also returning to an earlier tradition, as, at least from the 10th century in the Byzantine tradition, codices of the prophetic books were headed by images of their authors, depicted in parallel to the block of text (Lowden, 1988). This model would be repeated in the 12th century, with the insertion of such portraits within the initials, one of the iconographic constants of the Atlantic Bibles, above all in the prophetic books and in the Pauline epistles (Ayres, 1993–94; Cahn, 1982). These portraits share some common chromatic features, with the hair of the younger subjects done in orange hues, while a greyish blue was used to give a more elderly appearance. Beyond formal considerations, such colors provide a clear parallel to the painted murals of the Umbro-Roman school, as Toesca (1929) observed. The chromatic palette of these miniatures, then, became a source of inspiration for more monumental painting, just as certain decorative motifs used to adorn illuminated initials – palmettes, mascarons, etc. – would be reiterated in various ensembles of Roman monumental sculpture.

The chromatic palette employed in making these initials is yet another criterion for the approximate dating of medieval Italian biblical manuscripts, and serves even to define as closely as possible the circle of a given master or workshop, as in the case of those codices attributed to the so-called Master of the *Bible of Avila*. A comparative study of different

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Figure 3. *Bible of Avila*, fol. LVv
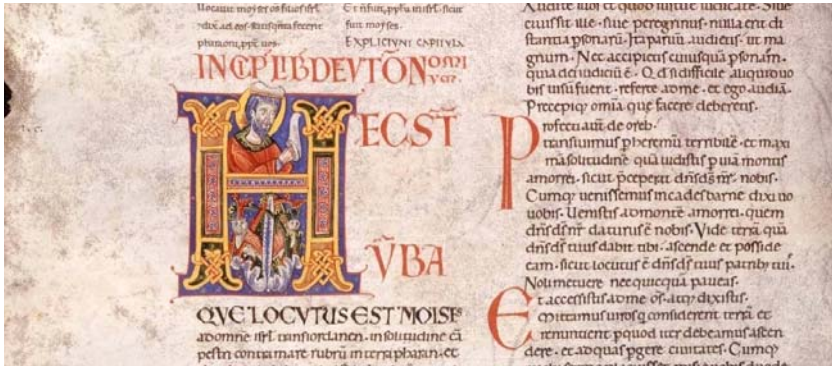
Italian codices has led Garrison to suggest a possible trajectory for this master, beginning with a bible preserved in the Diocesan Museum of Trento (cod. 326), continuing to another kept in the Vatican's Apostolic Library (Barb. Lat. 589/590), and culminating with both the *Bible of Avila* and another which is preserved in the Capitular Archive of Turin (cod. 332). In all of these codices, a common chromatic palette becomes central to their unity. To these biblical manuscripts may be added a collection of passion narratives, now in Milan's Ambrosian Library (B. 49 Inf; B. 55 Inf; B 53 Inf), in which we find a repetition of the same repertory of motifs, the same type of features for the figures depicted, and the same palette of colors.

The double chromatic palette of the *Bible of Avila* and its possible symbolism: Initials and scenes

Paradoxically, in the case of the *Bible of Avila*, the chromatic homogeneity of codices originating from the same workshop was broken with its arrival in Spain. Color, then, also becomes a criterion for determining the point at which the Italian influence in the manuscript ends and the Spanish style begins. This occurred in the late 12th century, possibly in the context of the donations made by Alfonso VIII to the cathedral of Avila. An analysis of the text shows that the addition began after Books

2 and 3 of Ezra and the Psalms. With regard to the initials, it marks a departure from the geometric style in terms of their structure, their polychromy – which is less vibrant and contrastive – and their execution, which is rougher and less precise in its definition of forms. It is apparent that the new polychromy does not reveal the same intention to imitate precious materials, being closer to the representations we find in fanciful sculptural reliefs, to the point that zoomorphic forms determine the structure of the initials themselves and substitute them in a way which recalls the Merovingian tradition (Guilmain, 1960).

The chromatic change in the initials is most notable in the New Testament scenes that extend from folios CCCXXIII to CCCXXV (the Baptism of Christ, the Wedding Feast at Cana, the Presentation of Christ at the Temple, the Temptations of Christ, the Entry of Christ into Jerusalem, the Last Supper, the Washing of the Feet of the Disciples, the Arrest of Christ, the Crucifixion, the Descent from the Cross, the Resurrection of Christ, the Anastasis, the Meeting with Pilgrims of Emmaus, the *Noli me Tangere*, the Supper at Emmaus, the Doubting Thomas, the Ascension, and the Pentecost), to which could be added the illuminated folio dedicated to Noah that opens the Old Testament (Rodríguez, 1999). An examination of the New Testament episodes reveals a certain debt to the compositional schemes of the *Tours Bibles*, in the narrative arrangement of episodes in superimposed registers.[4] However, the absence of color in the backgrounds of these scenes is a significant variant which implies a quicker, more economical execution. The arrangement of motifs and characters directly upon the parchment itself highlights a limited, austere chromatic palette not found in other contemporary manuscripts. The predominance of red and blue applied unnaturally to some details – such as the cross, the tree from which Judas hangs himself, and the colt upon which Christ enters Jerusalem – suggests that the approach followed here is a symbolic one.

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[4] Nevertheless, as precedents of the *Bible of Avila*, we find closer examples among the Atlantic Bibles themselves, such as the *Pantheon Bible* (Vatican Apostolic Library, Vat. Lat. 12958), dated 1125–1130. Pirani (1966) considered this bible to be from the mid-12th century. Berg (1968) has tried to date it more exactly, at around 1125, a view accepted by Cahn (1982), who places it definitely between 1125 and 1130.

To these basic colors are added green, used essentially in the representation of clothing, and yellow, to accentuate ornamental details. These colors are applied with great purity, without the range of tones and hues that we find in the biblical texts themselves.

The red, blue, and green which characterize the scenes of the *Bible of Avila* are colors that in the West would acquire a certain liturgical prominence over the course of the 12th century. Their application in the clothing of these figures therefore points to another significant aspect: the close connection between art and liturgy in the Middle Ages. As for the use of yellow, in both the Italian and Spanish parts of the manuscript, this is done with a positive connotation – as a symbol of divine light – and not in the negative sense of envy or betrayal (Napoli, 2006), as evidenced by the fact that it is not used for the garments of Judas when his betrayal of Christ is announced, an image which is especially common in the art of the Late Middle Ages. In the *Bible of Avila* (fol. CCCXXIIIv), Judas is dressed in clothing which combines red, blue, and green, like the other figures, and this in our judgment is a determining factor for dismissing a strictly symbolic use of color in these scenes; rather, we feel that the coloring is employed towards the function of the compositional balance of these images.

Figure 4. *Bible de Avila*, fols. CCCXXIIIr–CCCXXIIIv

Colors, according to the studies done by Pastoureau, accumulate so-
cial and identifying value for different societies and cultures, and in the
Bible of Avila we witness a consolidation of the meanings which blue, red,
and green had acquired for Christianity over the centuries, with some new
interpretations as well. Blue, for example, was associated with royalty in
Ancient Egypt, for the preciousness of lapis lazuli, which was even used
to denominate the color itself, as at that time the use of such precious ma-
terials was of greater significance than the descriptive values associated
with such colors. The connotations of privilege characteristic of blue would
continue for the Babylonians and Hebrews, who considered it a sacred
color pertaining to the divine, even if they would introduce less costly vari-
ations of the color in their painted works. In Ancient Greece, it was also es-
teemed as a primary color, but this view would change for the Romans,
when it began to be associated with barbarian tribes and thus acquired
a negative connotation. Imperial Rome would roundly reject it, connect-
ing it practically with the color black and with death (Frosinini, 2015).

In the Middle Ages, however, blue would be given a renewed value,
becoming a prized color for liturgical vestments. In the Late Middle Ages,
it was also associated with the figure of the Virgin (Frosinini, 2015) and was
a standard color for her robe or cloak, as can already be appreciated in the
depiction of her at the foot of the cross in fol. CCCXXIVr of the *Bible of Avila*.
In Christian iconography, blue was often used to express the divine na-
ture of Christ, an interpretation that could also be drawn from the New
Testament episodes of the *Bible of Avila*. Its central role in this codex pro-
vides another reason for considering the Spanish contribution to be later
than the Italian, situating it approximately in the decade of the 1170s. Blue,
the color of the celestial vault, is present in the details of the Ascension,
with the *dextra Dei* framed in a blue *clipeus* in the Byzantine style and the
lower part of the figure of Christ eclipsed by a chromatic patch of blue
that alludes conceptually to the *celum* cited in the inscription parallel to
the image (fol. CCCXXVr). A correspondence to nature can likewise be seen
in the Baptism scene, in which the Jordan River also appears as a patch of
blue. Two centuries later, the painter and treatise-writer Cennino Cennini
(2009) would give this exaltation of blue in his *Book of Art*: "Ultramarine

blue is a noble, beautiful color; more perfect than any other; words fail to describe it". The preponderance of blue in the medieval era would in turn be manifested, as di Napoli (2006) reminds us, in the creation of workshops that specialized in its various shades and hues.

Together with blue, red has also had a special relevance throughout history, being linked in Antiquity to power, an idea reflected in the *Bible of Avila* in the depiction of the devil wearing a red cape as he offers to Christ dominion over the kingdoms of the earth, described in the *titulus* that heads the second of the Temptations (fol. CCCXXIIIr) and taken from the narration of St. Matthew in folio CCCXXX of the manuscript itself ("*filius dei es mitte te deorsum*"). This connotation of power and royalty may also be signaled by the perizoma worn by Christ, in both the Crucifixion and the Descent from the Cross, which has a tonality somewhat closer to the color purple, the most important color in Ancient Rome, reserved for the Caesars (Frosinini, 2015).

Figure 5. *Bible de Avila*, fols. CCCXXIIIIr and CCCXXIIIIv

In assimilating colors into its various artistic manifestations, Christianity would over time transform the color red into a symbol of the Passion of Christ and of his human nature. For this reason, it is also frequently

associated with blue, which, as we have already noted, represents Christ's divinity. In the *Bible of Avila*, this combination is given visual form in those scenes which depict the Crucifixion and the Descent from the Cross (fol. CCCXXIVv) (Rodríguez, 2010). However, the fact that this bichromy is extrapolated to other episodes of Christ's childhood and public life raises doubt as to its possible symbolism. In this respect, J. Gage (2001) points out that, despite the medieval taste for chromatic diagrams, or for relating colors to specific ideas, in practice artists were relatively free in the selection of colors. It has been established that medieval model books primarily transmitted iconographic formulas rather than arrangements of color.

The most naturalistic treatment of red is found in the scene of the *Anastasis* (the Harrowing of Hell), where it is used to recreate the image of fire as the most feared punishment of Hell, in accordance with other medieval texts. Portal (1996) offers a positive interpretation of fire as a symbol of the regeneration and purification of souls (Goff, 1985).

Red and blue, which predominate in the New Testament scenes of the *Bible of Avila*, are supplemented with green, a color that would acquire a greater importance in the Late Middle Ages when it characterized the more everyday liturgical vestments. Aristotle had already presented it as a positive color, falling between light and darkness, while in medieval lapidaries emeralds and other green stones were thought to possess magical properties (Gage, 2001). The absence of landscapes in the *Bible of Avila* reduces the application of this color to isolated references, more decorative than realistic, as can be seen in the treatment of the *orto* in the *Noli me tangere* episode, or the central iconographic element of the palm branches in the Entry into Jerusalem scene.

The colors which do not present doubts as to their symbolic uses are grey and black, which have different meanings with respect to earlier monastic tradition. Since the ninth century, black had been considered a color of humility and penitence (Pastoreau, 2012). Its use in this manuscript for the depictions of hell and the devil point to a different reading focused on the idea of evil and sin, consonant with the esthetic of ugliness. The devil, then, would be depicted as a strange hybrid of human forms and animal claws in the miniatures of the Temptations (Flores, 1985). The figure

of the malignant one is also defined by his greyish-blue col-oring, and his crest of fire, which denotes his destructive power, and a face whose features are indiscernible. In the *Anastasis*, we find a similar image of the Leviathan, symbol of the "*portas inferni*" referred to in the accompanying inscription for this scene in the intermediate register of folio CCCXXIVv.

Figure 6. *Bible of Avila*, fols. CCCXXVr and CCCXXVv

Black as a symbol of death can be found in the tree from which hangs the inert body of Judas (fol. CCCXXIVv), whose anatomy is left uncolored to accentuate its lifelessness. In an earlier study, we conjectured that the body of Judas might have been left unfinished (Rodríguez, 2010), so that a poly-chrome coloring could be added later, but the fact that the parchment has not been prepared for this leads us to suspect a symbolic purpose.

White, on the other hand, may be linked to purity in the only page dedicated to the Old Testament scene of the flood. The decorative color-ing of the ark, in the style of the ornamented reliquaries of the time, is com-plemented by the scene of the patriarch's sacrifice of thanksgiving, with the animals arranged upon the altar. The miniaturist seems to be illustrat-ing the verse in which Noah "took of every clean beast" (Gen 8.20), using in this case white as a symbol of purity. This parallelism of text and color

does not seem to occur in the *tituli* that accompany the various scenes of the *Bible of Avila*, as these do not include adjectives or nouns of color. Indeed, these inscriptions give absolute priority to the illustrated narratives, rather than to any practical considerations of the artists.

As has been suggested before for the color green, the close relationship between art and liturgy in the Middle Ages also extended to the use of colors. Although white had been a color associated with catechumens, it is not until the 11th century that we find texts that refer to a common criteria of color as an element of Christian ritual, first in the dispositions of Pope Innocent III (1161–1216), and later popularized by the liturgist Guillaume Durand in his *Rationale divinorum officiorum* (1285–1286). In Chapter XVIII of Book III, Durand makes reference to the colors of liturgical garments, principally white, blue, red, green, and black (Pastoreau, 2012). We feel that it is no coincidence that these are the same colors with which the miniatures of the Atlantic Bibles, and the *Bible of Avila* in particular, are illuminated. Although they are chronologically from a later period, they carry on an early tradition, with practices that date back to the sixth century and were consolidated in the Carolingian period. The relevance of colors in the liturgy is obvious, as, beyond their mere materiality, they express the passage of time in terms of liturgical rhythms, as well as underscoring the essential meaning of these rituals.

Conclusions

In much of the Atlantic Bibles, and in particular the *Bible of Avila*, the application of color corresponds to a basic conception of the manuscript itself as a liturgical ornament, within the context of the Gregorian reform. The codex is therefore ennobled with polychromy, as in the Middle Ages material beauty was seen as ultimately a reflection of spiritual, transcendent beauty. Indeed, medieval theologians would debate openly about the consideration of color as only a material reality, or as a reality comparable to the light which emanates from God, the idea put forth by Abbot Suger in the third decade of the 12th century.

Aside from their liturgical use, these biblical manuscripts were often used for community readings, for which their vivid, contrasting colors became indicative of the manuscript's internal structure as well as of devices to call the attention of the monks. The importance of monastic *scriptoria*, and the diffusion and exchange of codices among the various monasteries, explains the uniformity of patterns and colors found in biblical miniatures. In the case of the *Bible of Avila*, it is precisely the break with this homogeneity of repertory and color that allows us to observe the two successive phases of their elaboration: the original Italian period, from the second quarter of the 12th century, and the Spanish addition, from around the 1170s and 1180s. We can see from this that color can be yet another factor for placing a given codex within a specific spatial and chronological framework.

These iconographic formulas, and the colors employed for vestments and figures, also allow us to compare the miniatures to other artistic media, such as mural painting and sculpture. While the Italian section of the *Bible of Avila* shows similarities to Roman frescoes, like those of San Giovanni a Porta Latina or San Clemente, the only clearly visible analogies in Spain are the scenes of Christ's Arrest and the Last Supper painted on the apse of the church of San Justo in Segovia (Ainaud, 1966; Yarza, 1990; Morena, 1995; Fernández, 1999; Rodríguez, 1999; Azcárate, 2002). In any case, the parallels between both sets of works are more iconographic than chromatic, although the poor conservation of these paintings, exposed to constant humidity throughout the centuries, prevents a solid conclusion regarding their original aspect.

The use of color in the Atlantic Bibles can, however, be associated with the link between medieval art and liturgy, a relationship intrinsic to the codex itself in that it only achieves its fullness and its true meaning in the celebration of ritual – hence the use of yellow to imitate the gold brocade of liturgical vestments, as well as the colors white, blue, red, and green, which were associated with the liturgy from at least the ninth century. This symbolic connotation leads us away from the symbolism that we perceive *a priori* in the *Bible of Avila*, especially in the New Testament scenes, in which the predominance of red and blue suggest the dual,

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human/divine nature of Christ. A closer examination of these colors, arranged arbitrarily, provides a more nuanced view of this idea and leads to the conclusion that it is the liturgy which imposes the selection of colors, inasmuch as the manuscript is simply one more liturgical element (Castiñeiras & Verdaguer, 2014). In the *Bible of Avila*, this connection to the liturgical can be observed from an iconographic perspective as well, in the selection and ordering of scenes.

All of this makes stronger the recommendations given to the illuminators of manuscripts by the monk Theophilus, who reminded them that they were not aiming for the senses, but for the soul, for which purpose their pigments must be an instrument for inspiring prayer and reflecting the beauty of Paradise.

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