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## E-LEARNING AND COMMUNICATION BETWEEN TEACHERS AND THE STUDENT WITH ASPERGER SYNDROME IN THE TIME OF THE COVID-19 PANDEMIC. A RESEARCH REPORT\*

**Introduction:** This study deals with the importance of e-learning for working with a student with special educational needs. As such, it shows the importance of the media for the important element of social life, namely education.

**Research Aim:** The subject of the research were teachers' opinions on remote education of children with Asperger syndrome.

**Method:** The research method was an interview for which a list of instructions was prepared.

**Results:** The use of e-learning in the COVID-19 pandemic took the form of an extensive didactic and social experiment, not previously implemented in a crisis situation. It took place in a special way – quickly, without prior recognition – which brings to mind the strategy used in the military operations, called “recognition”. A lot has changed in the work of teachers and their communication with students and their parents. E-learning of students with Asperger syndrome has brought a number of benefits – developing skills that were overlooked in the regular course of teaching with its emphasis on the rapid pace of the curriculum implementation.

**Conclusions:** Education has offered opportunities to minimize the educational effects of school closures during the epidemic. It was a kind of success in the implementation of a wide-ranging didactic experiment, the introduction of which bore the hallmarks of “combat recognition”.

**Keywords:** teacher, e-learning, change, barriers, opportunities, Asperger syndrome.

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## INTRODUCTION

Ontologically speaking, this study deals with the importance of e-learning for working with a student with special educational needs. At the same time, it defines the role of the media in the teaching process and its importance in therapy.

The research results presented here show how teachers coped in the conditions of a radical change in the way of teaching and, at the same time, a change in the style of communication with students with Asperger syndrome (hereinafter referred to as “AS”) and their parents from March 2020 to May 2021 – during the schools being closed due to the COVID pandemic. The teachers’ opinions were referred to as they constitute an important element of education. They were asked to indicate the consequences – both positive and negative, benefits and costs – of e-learning for all school subjects, especially for students with AS. They are a borderline category between neurotypical children and children with full-blown autism. At the same time, it is said that a school with a large number of disruptors is particularly disturbing for them (Cybulska et al., 2016). Therefore, the question arose – What were the effects of e-learning in working with the featured group of students? The basic theses of this study are:

- the use of e-learning in the COVID-19 pandemic took the form of an extensive didactic and social experiment, not previously implemented in a crisis situation. It took place in a special way – quickly, without prior recognition – which brings to mind the strategy used in the military operations, i.e. the fight and unavoidable losses related to it, called “recognition”;
- a lot has changed in the work of teachers and their communication with students and their parents. E-learning of students with AS has brought a number of benefits – developing skills that were overlooked in the regular course of teaching with its emphasis on the rapid pace of the curriculum implementation (Plebańska et al., 2020; Pyżalski, 2020; Patel, 2020; Dickinson and Yates, 2020; UNICEF, 2020a, 2020b). At the same time, the general benefit, the detailed connotations of which are manifold, was the diagnosis of society in the face of contact with the Fourth Industrial Revolution. Therefore, knowledge was gained about the resources and possibilities of the broadly understood society in the field of functioning in the cyberspace.

## RESEARCH AIM AND QUESTIONS

The basic question was: What has happened in remote education from the perspective of the student, parent and teacher – what has changed in the organization of learning, in everyday relationships, in the approach to oneself and remote education? These are important issues because of the uniqueness of the situation.

## RESEARCH METHOD AND SAMPLE CHARACTERISTICS

The research method was a survey carried out with the help of a questionnaire consisting of open questions. The assumption was made that we do not know what is going on in the teacher–student relationship with AS. It was not certain if disruptive learning (noise, large numbers of students) really helped. It was kind of a SWOT (strengths, weaknesses, opportunities, threats) test – in real life. The research was carried out on a group of 50 teachers with at least 5 years of work experience as a support teacher, which some of the respondents, included in their statements. The added value of the research was the information on e-education of neurotypical children as well as the experiences of teachers in the triple roles of a mother, a teacher of a child with AS, and a postgraduate student. All teachers worked with children from 8 to 11 years of age, i.e. at the level of primary education. Teachers belonged to two groups. The first one were students of postgraduate studies in rehabilitation of the persons with intellectual disability. The second group were sensory integration students. Postgraduate studies were on two Polish universities. It can be assumed that both work experience and the level of education made the respondents a special group – aware of the duty of educators in working with children with special educational needs.

## ANALYSIS PROCEDURE

Due to the exploratory nature of the research, a qualitative content analysis was performed. The situation was unique and unprecedented in the past – this is a qualitative rationale for the study. It was a constructivist variant reaching for the qualitative analysis of the text. The method of analyzing the responses to the survey questions was important. Based on the teachers' statements, there was compiled a list of issues that appeared in the their statements during the COVID-19 pandemic period.

## RESULTS

### **The specificity of teachers' reaction to change**

Change is a key concept describing the specificity of the work of education entities during the lockdown period. Due to the specificity of the situation that has not been encountered so far in the education system, I have adopted an innovative approach to change, which refers to the occurrence of something different, new, some form of dissimilarity. The ontological option in defining change means making transformations that change the essence of things (ontological approach). Selected definitions of the term “change” have been provided, which,

at least to a certain extent, reflect the essence of this concept. First, a change can be characterized as any significant modification of a part within a distinguished whole (Griffin, 2005), or as an event, as a result of which, the end state is different from the initial state (Kosińska, 1999). If it is a planned and controlled modification of the organization's functioning, which is a reaction to the anticipated or ongoing changes in the environment, it is supposed to increase the level of competitiveness and effectiveness of this organization, institution or system (Majewska-Opiełka, 1998). Change is also a function of the system, relating to the fight against entropy and the desire to improve oneself and improve one's position in the environment, i.e. it is also a deliberate and conscious action aimed at moving from the current state to a different one. The scope and structure of the changes are determined by trends in the environment (Penc, 1998). Each of the above-presented definitions is different, each represents a different approach, but in fact, each of them is designed to convey the same idea, which is most precisely expressed in words that it is "a transition from the present state to another" (Bruch and Sumatra, 2006). Change is easier to introduce if its participants and implementers have a deep conviction about the rightness of its introduction, once they have undergone training, they know the techniques of influencing the change process when they feel safe: they are supported and receive the necessary facilities when they are ready to change – a set of conditions, which should be met for the change process to be successfully implemented. In a situation of change, a person can act in two ways: he can be the creator of innovation, an active recipient of it, or an enemy who resists and tries to restore the disturbed situational balance. All possibilities are normal, but most often initiating change that requires significant changes in behavior patterns is met with more or less opposition. People in a situation of change reveal their emotional reactions (Bruch and Sumatra, 2006).

### **Teachers' reactions to change: Confusion, feeling of incompetence, and perceptions of threats**

Researchers of the phenomenon of education during the pandemic have indicated that there was no training, methodological or technical background (Koceljko, 2021). Initially, teachers reacted with a sense of incompetence while realizing the need for change. Then they made attempts to modify professional activities, expressing acceptance of the need for change and achieving the integration of new behaviors into forms of work. They reacted typically in a situation of change. The obstacles in remote education were especially visible at the beginning of e-learning. They have been observed in all educational entities as well as in the family and home environment as places of learning.

## Barriers

Over time, teachers recovered from the shock and overload of responsibilities and acquired a number of skills. After one year of e-learning, they still noticed barriers in the implementation of tasks related to the mental well-being of students. According to some teachers, threats occurred in all areas of the school work and in its entities. However, teachers indicated that difficulties and barriers were apparent in the early days of remote work. For example, lack of computers, unpreparedness for working with computers, the need to share a computer with siblings at home.

As Joanna says, “many students in our school had to share access to a computer with their parents or siblings working remotely. There were not enough computers for everyone to borrow from the school, which received 6 computers as part of the support at the end of May”. A group of female teachers indicated that children with AS had problems in their relationships with subject teachers who did not understand the essence of the problems of people with this disorder, pointing to gaps in knowledge about this form of dissimilarity. Karolina claims that “teachers did not understand the problem of children with AS at all. They only gave them tasks. This is the case of English, which Leoś does not want to learn, because the teacher did not understand his problem and often mocked him in class, saying that Asperger is a whim and the boy was simply badly brought up. At such moments, she tried to calm Leoś down and give him time to calm down. However, the student does not like online English classes – he is afraid of being laughed at”.

In the described case, we can see an interactive approach to the problem – the teacher sees the reluctance of the English teacher towards the child and the pedagogical effects for the child who is not motivated to learn this particular subject.

## Novelty and change

While at the beginning of remote education, the opinions about children with neurotypical ability contained information about their enthusiasm for using the computer and the Internet (Plebańska et al., 2020), in relation to children with AS problems resulting from the specificity of the disorder itself were visible – difficulties in children’s reaction to an incomprehensible change. The barriers in the education of children with AS resulted from several reasons. One of them was the specificity of this type of disorder, i.e. attachment to rituals, constancy and direct contacts with the therapist. Children were reluctant to communicate with teachers over the Internet. The second reason was the lack of equipment and poor quality of Internet connections.

Elżbieta recalls: “The epidemic and its consequences of distance learning is a new situation, unknown to children so far. It brought with it anxiety and fear. It was a particularly difficult situation for a child with AS, who does not like change, lives according to a fixed plan, a repetitive pattern that gives him a sense of securi-

ty. Remote learning and, above all, the lack of preparation for it, disturbed the entire order of the day, the way of functioning, as a result of which students with AS did not want to contact teachers through educational platforms. There was a great reluctance of students to make any effort to fulfill their school duties. It required a huge motivation of the child on the part of parents and teachers, where in the case of the latter, it was significantly more difficult – the child answered the phone when he wanted to, did not reply to messages, etc. There was a visible withdrawal in the relationship with the teacher, less openness to sharing your experiences and activities of everyday life. The problem was definitely the lack of fully functional equipment, a good Internet connection and the lack of support in this matter on the part of institutions. The most troublesome was the lack of direct contact, a developed relationship with the student, where at any time it was possible to support, help, indicate a solution when practicing various skills or performing tasks. Implementing support for a student in the process of distance learning was a big challenge and it will never replace school support”.

The teachers were aware of the difficulties in adapting to the change and responded to what is evidenced by the following statement by Joanna: “The student still needed to have a steady, unchanging schedule of the day. Every change made him anxious and nervous. I warned about any changes, e.g. tests, reading for a grade, etc. In case of students with AS, there was no direct relationship with peers. They miss their colleagues, friends, teachers. The work was too long and caused discomfort to the students and too long work at the computer is tiring for them and causes discomfort (e.g. headache, irritability)”.

The barriers in implementing remote education were related to the parents’ reluctance to cooperate. As Zuzanna said: “Several parents from one of the classes were reluctant to cooperate. As a result, little or no materials were sent back to the school as tasks completed, for this part of the students the time spent at home brought little or no progress in learning. This underlines the importance of a parent’s role in teaching, especially remote learning”.

There have been children who experienced several disruptions while learning, including those related to AS and due to prior and external factors such as a difficult family situation. The case studies presented below show that remote education was one of the main problems of students and their families. The problems did not arise during the epidemic – they existed earlier and in the time of COVID-19 they only got worse. This is shown by the teacher’s statements.

Katarzyna mentions the case of Janusz: “His main problem was the lack of independent work at home – he did his homework only during individual classes with subject teachers or with support teachers. Attention was quickly distracted, many times when asked about something during the lesson, he did not know what was going on. He skipped some lessons because they were not important (technique, art, PE). There were times when people were completely unprepared for

lessons, there was no webcam, microphone, pen or textbook. In many cases, there was deliberate lack of preparation to participate in the lesson. Often the only form of communication was chat. He did not come to the tests or he did not give them back. The boy had a big problem with finding himself in the schedule. It functioned better when the hours were constant. He made frequent appointments and did not show up. It was very difficult to contact the parents who are constantly arguing. The older brother has a probation officer”.

The case of Jerzy is similar. “A 10-year-old boy had trouble focusing his attention – he seemed bored. He sang and turned. He was blowing on the microphone. He often asked the teacher when the lesson would end. He showed great impatience when solving tasks by others. He wrote to colleagues on the chat. He asked for a minus – if only he didn’t have to study. He did not understand others. In many random statements, there were references to problems in the family – about fights at home. He said, screaming again, »I’m alone«”.

To sum up, remote education has become the focus of problems for all educational entities. It revealed the reluctance of teachers to work with a student with AS, the specificity of which the teachers did not understand before. Remote education revealed previously known problems (reluctance of a large group of educators to educate students with special educational needs, deficiencies in equipping schools with computer technologies and rejecting the fact of the fourth technical revolution, as shown in the works by Hermann et al. [2015], Kagermann et al. [2013] or Schwab [2016]), i.e. before the COVID-19 pandemic.

### **Benefits of remote work for the functioning of the education system**

It turned out that in the conditions of remote work it is possible to carry out many school tasks in case of a student with AS. Teachers emphasized the implementation of didactic and non-didactic tasks – which was an expression of a holistic approach to the child as a complex socio-psycho-biological entity with cognitive, emotional and biological needs. They promoted and discovered the strengths of the student. They supported parents in the development of their educational competences. They taught them and their children to talk about emotions, rediscover the joy of being with a child, and finally helped his loved ones and those who were distant to get to know the child every day. Therefore, they conducted broadly understood pedagogy of parents, for which there is no time at school. They also revealed the knowledge about the child’s needs and the specific ones arising from AS.

In order to reflect the multitude of school tasks that can be carried out in remote work conditions, the statement of Anna is worth paying attention to. She mentioned such activities as:

- motivating the student by: daily contact by phone and using Google classroom (webcam) with the student, discussing the tasks proposed by the tutor, encouraging the student to perform them, encouraging the student to work

systematically and to look for solutions together if there are problems, emphasizing their strengths in conversations with other students to strengthen self-esteem, giving verbal praise, sending materials that are attractive to the student and in some way related to his/her hobbies (coloring/drawing trains, ships, airplanes, tanks), origami, logic games,

- supporting the student in the implementation of the core curriculum by sending to the parents the examples of games, exercises, worksheets consolidating the material being processed and developing school skills, presenting new issues or abstract material in the most concrete way possible, supporting them with written text, pictures, illustrations, photos and films, telephone and video calls with the student, aimed at eliminating a faulty grammatical structure in free oral statements,
- helping in organizing the child's proper working conditions in the home conditions by helping parents to establish a daily schedule, maintaining the daily routine, helping the child focus on the assigned tasks – learning English together and solving worksheets,
- supporting parents in working with their children. This was done by reminding parents about order in the workplace-desk, to reduce distractions as much as possible. The necessity to take 10-minute breaks between the performance of individual tasks by the child was indicated. Various types of online educational performances, films, fairy tales, radio plays and interesting websites for children were searched and proposed. Parents were assisted in selecting appropriate methods, forms and techniques for working with the student at home, adjusted to the thematic scope and needs of the student. There was daily e-mail/phone/SMS contact with the parent about the functioning of the student in a difficult situation. Suggestions of games and activities were sent to the parents, which were an idea for constructive spending of the student's free time with parents or siblings, e.g. at weekends. It was recommended that together with the child they read therapeutic fairy tales and then discuss their content together,
- developing the interests of the child by talking to the him/her about his/her interests and including them in the activities and exercises. Educational platforms that develop the student's interests and skills were offered to parents,
- providing emotional support to the student, talking about his/her emotions/feelings. Reassuring in this difficult time.

### **Benefits for students**

Teachers observed beneficial changes in the functioning of the child with AS, including improved attention, increased self-confidence, willingness to communicate, and increased motivation to learn.



Ada draws attention to the relationship between the specificity of remote work and the improvement of the student's attention span: "The specificity of remote education work – working in silence without disruptors allowed the child with AS to focus their attention. It increased his confidence and willingness to communicate".

Karolina is of a similar opinion: "The student focused his attention on the worksheets, probably thanks to the silence and the lack of distracting stimuli that are in the classroom". In addition, Karolina points to the increase in motivation to learn and the increase in competences in the field of writing activities as well as school and social skills of the student: "Remote work with Józef was very good. The student was eager to complete worksheets sent to him. During remote learning, he mastered the correct writing gimmick. Thanks to frequent phone calls, he stopped getting confused and losing the thread. He has become generally more talkative".

Adela talks about similar effects: "Virtual learning also has advantages. This way of teaching encourages students who are usually silent in school. During the virtual method – brainstorming, the student has the opportunity to write a few sentences, so he has more freedom. This was the case with a student with intellectual disability and with AS whom I assisted in online lessons. E-learning has the potential to become a serious alternative method of imparting knowledge and shaping skills".

The positive effects of remote education were associated with increased independence, motivation to learn, improved learning outcomes and communication skills between students and teachers. Complementarity of e-learning with the needs of a child with AS was seen. A typical statement by Joanna is as follows: "The student participated in the classes on a regular basis. Remote work, after it was normalized, corresponded to the need for schematization of activities – so it was adequate to the needs of the child. In the case of assisted learners, I rate remote education very well. This model of work had a positive effect and confirmed that individual work brings educational benefits (in the case of this student). He was more willing to work independently and was able to ask for help if he needed it. In school, during lessons, he showed variable motivation. He often became distracted, tired and discouraged. He worked willingly during our online meetings. Together, we solved tasks in exercises or in the house. However, he missed school and his friends. Communication is a big problem for the student. He rarely initiated conversations alone at school, and he was eager to do so during our online meetings. [...] The statements were quiet and uncertain, and that changed as well".

Maria speaks in a similar vein: "The student coped very well with the assessment of the new form of learning. He was active in class, working at a good pace, just like the rest of the class. Marcel likes online lessons very much, he is very independent and diligent. Mom does not observe fatigue, on the contrary, the boy does not want a vacation because she says it will be boring without lessons".

Julia also mentions many changes in children's behavior: "The boys were very eager to join both individual and class lessons. They took an active part in the lessons,

performed the assigned exercises, filled out additional worksheets aimed at improving disturbed spheres (extending concentration of attention, improving speech, improving spelling) and developing the skills of independent work. Moreover, during the classroom activities, the boys learned how to cooperate in a group, pay attention to the needs of others, and follow established rules. A huge surprise for everyone was the great willingness to contact the colleagues of the autistic Konrad”.

### **Benefits of e-learning for the teacher**

After shaking off the shock and focusing on the barriers, teachers began to see the positives of the new form of teaching. From the economic point of view, remote education provided savings opportunities. The state did not bear the costs because the teachers used their own equipment, electricity, premises and acquired computer skills.

It was based on the personal resources of teachers accumulated before the pandemic. The teachers used their own computers, network connections, and the skills acquired through self-education. They worked in their own apartments, paid for electricity and network subscriptions, reorganized family life in accordance with their own work at home. They had to adapt to the new situation and implemented a relatively new form of education. At the same time, they introduced the principle of innovation and creativity all the more valuable as it was implemented under the conditions of epidemic threat and time pressure.

As for the benefits for the teacher, they were manifold. As reported by Agata, “e-learning allows for greater freedom, greater autonomy and flexibility in the organization of work. I am convinced that when this difficult time passes, the Polish school will become more creative”.

The use of technology has enabled the teacher to keep the student with AS informed about the changes – these disorganize his/her learning and cause anxiety. Meanwhile, remote work made it possible to inform the child about it. This is what Krystyna claims: “Janek still needed to have a fixed, unchanging plan of the day. Every change made him anxious and nervous. I warned about any changes, e.g. tests, reading for a grade, etc.”. According to Margaret, “technologies allowed the teacher to have regular contact with the tutors [...]. Every day I kept in touch with the assisted student, his mother, the tutor and teachers through the Librus e-journal, phone calls (SMS), Messenger and the Teams application”.

The use of technology made it possible to monitor the student’s behavior. According to Joanna: “Observation of the student during each distance learning lesson throughout the third year. The ongoing monitoring of the student’s progress made it possible to observe that the boy made progress and with regular work and the support of teacher, he would be able to cope with the next stage of education – grades 4–8”.

Another form of benefit was the improvement of the teacher's relationship with parents. The teachers mentioned the commitment to work with the parent. This is Joanna's opinion: "I supported the parent in motivating the student to regular work and the hardships of educational communication (as above). There was full synchronization and cooperation between the supporting teacher and the parent. Mom regularly sent back homework done by the student. She inquired how to carry out tasks recommended by teachers at home".

The above-mentioned advantages of remote education are repeated in a number of statements. As an example I will quote the statement of Maria who said: "Piotr's mother is in constant contact with me by phone".

### School renaissance and gratitude

Undoubtedly, it was a benefit to experience gratitude both from parents and students. This is what Anna says: "Parents of students with special needs expressed their thanks, the children missed school, and this is the best testimony and thanks for us". The teachers saw the possibility of using their experiences in the future – they entered the integration stage. This is what Anna points out: "If we do not return to school from September, we decided as a team that rehabilitation, SI or speech therapy classes will take place after online classes with the class at the school, directly with the teacher".

## DISCUSSION

From March 20, 2020, in connection with SARS-CoV-2 virus infections, Poland is in a state of the epidemic announced by the Regulation of the Minister of Health of March 20, 2020 on the announcement of the state of epidemic in the territory of the Republic of Poland (Journal of Laws of 2020, item 491 as amended). The threats related to the spread of COVID-19 have affected virtually every sphere of life. New challenges appeared for teachers as well as students and their families. They were all forced to take measures to minimize the transmission of the virus. One of such measures was to change the system of education. It consisted, in particular, of working online from home (Matusiak, 2011).

In recent years, remote working has grown in popularity, before the outbreak of the pandemic, it remained a rarity for most educational entities. Only 1.9% of the respondents performed remote work 5 days a week, while 4% of the respondents worked in that system 3–4 days a week. 16.8% of the respondents performed remote work 1–2 days a week, 43.4% occasionally, i.e. several days a month, and as many as 33.9% did not work from home at all (Dolot, 2020). The reaction of the education authorities has thus resulted in the widespread implementation of e-learning, with its positive and negative outcomes. Much has been written about

the negative effects of this change in the context of children with special educational needs, as evidenced by the meta-analysis of reports conducted by Kocejko (2021). However, there is a group of students for whom presumably staying at home, typical of the epidemic, is beneficial because the school environment creates many difficulties for them. Students with AS are such a group it was observed that after the first phase of distance education, it was necessary to introduce extraordinary solutions. A radical change in the way you think about all elements of the learning process was absolutely needed.

Remote education was introduced quickly, without any diagnosis of the situation. The accessibility of students and teachers to computer technologies was not recognized. The specificity of contacts with a child suffering from AS and the need for therapy were not taken into account. A lot has changed in the work of teachers and their communication with students and their parents. In case of students with AS e-learning has brought a number of benefits – developing skills that were overlooked in the regular course of teaching with its emphasis on the rapid pace of the curriculum implementation (Dickinson and Yates, 2020; Patel, 2020; Plebańska et al., 2020; Pyżalski, 2020; Toseeb et al., 2020; UNICEF, 2020a, 2020b). At the same time, the general benefit was the diagnosis of society in the face of contact with the Fourth Industrial Revolution. Therefore, knowledge was gained about the resources and possibilities of the broadly understood society in the field of functioning in the cyberspace. In the conditions of the lack of experience and ignorance of what may happen in the practice of education and the assessment of research material, the applied research procedure and method turned out to be correct. The method of qualitative analysis of the content of the teachers' statements was accurate. It showed new perspectives for discussion about education.

## CONCLUSIONS

A great deal of criticism has been voiced against the school, including the questioning of its existence. However, it seems reasonable to quote the words of Winston Churchill: “Democracy is the worst form of government, except for all the other forms that have been tried from time to time”. He said that in a speech in the House of Commons on November 11, 1947. He also claimed that “politics is not a game, it is quite a profitable business”.

It seems that the same can be said about school – it has a number of disadvantages mentioned by representatives of the naturalistic trend in education, critical pedagogy or anti-pedagogy, but nothing better has been invented as a form of general education. And it is also worth paying attention to the second quotation and accepting that education and school are not fun, but it is an important instrument for shaping people and equipping them with knowledge – as indicated

by the concept of upbringing education (Kupisiewicz, 1985). These issues were demonstrated by the situation of distance learning in the pandemic era, which was reflected in the reports on the implementation of teaching during the pandemic. This emergency situation required from all educational entities full mobilization and cooperation, openness to change, self-education and critical reflection on the improvement and development of pedagogical and therapeutic work. In their assessment of remote education with the student with AS, teachers saw numerous barriers, felt overwhelming and confusion and, finally, acquired new competences.

Much has been written about the negative aspects of remote education, especially from the perspective of lowering children's social competences (Kocejko, 2021; Patel, 2020; Pyżalski, 2020; Plebańska et al., 2020; UNICEF, 2020a, 2020b; Toseeb et al., 2020). It seems, however, that remote education has offered opportunities to minimize the educational effects of school closures during the epidemic. It was a kind of success in the implementation of a wide-ranging didactic experiment, the introduction of which bore the hallmarks of "combat recognition". To sum up, the actions of teachers, parents and students with AS are in many respects marked by success and benefits. Although the question is always open – could it be otherwise?

## STUDY LIMITATIONS

As a limitation, I consider narrowing the research to one group of students with special educational needs and a small group of teachers. However, these final results can be considered an impulse for further research on:

- remote education of students with special educational needs,
- the role of the school and the teacher in the world of technological development,
- educational needs of teachers, students and their parents,
- the importance of the school and the teacher in times of change and crisis.

The presented analyses are important both for the theoretical and practical aspects of education. They should become an inspiration for educational authorities, teachers and parents themselves. It is important to eliminate prejudices and stereotypes about distance education itself and the needs of children with AS.

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## E-LEARNING I KOMUNIKACJA NAUCZYCIELA Z UCZNIAMI Z ZESPOŁEM ASPERGERA W DOBIE PANDEMII COVID-19 W POLSCE. RAPORT Z BADAŃ

**Wprowadzenie:** Ontologicznie ujmując, niniejsze opracowanie dotyczy znaczenia *e-learningu* dla pracy z uczniem o specjalnych potrzebach edukacyjnych. Ukazuje znaczenie mediów dla istotnego elementu życia społecznego, jakim jest edukacja.

**Cel badań:** Celem badań było poznanie zmiany w poglądach nauczycieli dotyczących użyteczności edukacji zdalnej w pracy z uczniem z zespołem Aspergera.

**Metoda badań:** Metodą badawczą był wywiad częściowo kierowany. Przygotowano listę dyspozycji, co pozwalało na późniejsze dokonanie porównań treści wypowiedzi.

**Wyniki:** Nauczyciele na początku pracy w nowych, narzuconych im warunkach obawiali się tego, że edukacja będzie niemożliwa, a sami uczniowie nic nie zyskają. Jednak ich mobilizacja dała pozytywne efekty. Okazało się, że przy zintegrowaniu działań wszystkich podmiotów edukacji – ich samych, rodziców i uczniów – stało się możliwe nie tylko realizowanie programu nauczania, ale i rozwijanie szeregu kompetencji w warunkach szeroko zakrojonego, wymuszonego życiem eksperymentu pedagogicznego.

**Wnioski:** Nauczanie zdalne dało możliwość zminimalizowania edukacyjnych skutków zamykania szkół podczas epidemii. Było swego rodzaju sukcesem w realizacji szeroko zakrojonego eksperymentu dydaktycznego, którego wprowadzenie nosiło znamiona „rozpoznania bojem”. Przeprowadzone badania wykazały zmiany ustosunkowań samych nauczycieli wobec edukacji zdalnej uczniów z zespołem Aspergera, jak też wobec nich samych. Nauczyciele zweryfikowali własne poglądy – Przeszli od uprzedzeń do rozwijania kompetencji. Uzyskane wyniki wskazują na potencjał kreatywności nauczyciela, rozwijany w trudnych warunkach edukacji w dobie COVID-19.

**Słowa kluczowe:** nauczyciel, *e-learning*, zmiana, bariery, szanse, zespół Aspergera.