

Psychosomatic disorders of students as a consequence of didactogeny in the educational process

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Abstract. The article examines the problem of didactogeny among students as a consequence of destructive mental states provoked or initiated by a violation of pedagogical etiquette or legal norms, lack of pedagogical tact on the part of the teacher. The research aims to study the influence of didactogeny on the development of psychosomatic disorders in students and identify ways to prevent them in pedagogical practice. The researchers conducted a theoretical analysis of the concept of "didactogeny" and its impact on students, identifying the main causes of its effects, including authoritarian teaching methods, excessive academic workload, and lack of emotional support from teachers. To ensure a comprehensive understanding of the problem and increase the reliability of the results, the authors relied on an integrated (interdisciplinary) approach, combining elements of psychological, pedagogical, sociological, and statistical analysis. The novelty of this research is the result of a pedagogical experiment described by the authors, which contributes to the formation of constructive interaction skills, reducing anxiety and increasing the psychological stability of students. Based on empirical data, a correlation was confirmed between the effects of didactogenic factors and manifestations of anxiety, sleep disorders, headaches, and other psychosomatic symptoms in children. To minimize the didactogenic impact, the authors proposed a set of recommendations including the creation of a supportive educational environment, the development of teachers' emotional intelligence, optimization of learning load, and introduction of interactive methods such as Forum Theater. Authors propose promising areas for further research, such as the study of individual differences in susceptibility to didactogenic factors, the impact of digital technologies on pedagogical stress, the development and testing of preventive programs, and a comparative analysis of didactogeny in various educational systems. The results can be used in pedagogical practice to reduce didactogenic effects and create favorable learning environment that contribute to maintaining mental and physical health among students.



Keywords: psychosomatic disorder, didactogeny, school educational process, psychosomatic symptom, didactogenic neurosis, health-saving technologies, emotional type of cooperation, forum theater method.

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Introduction

The characteristics of an individual, the potential of his psyche, and the structure of his brain have long been of significant interest to scholars from various fields. With the rapid advancement of science, numerous remarkable and significant discoveries are occurring in the world, including the identification of new effective diagnostic, therapeutic, and rehabilitation tools. Research into the prevention of various disorders and diseases through a healthy lifestyle is also gaining increasing attention. When discussing a healthy lifestyle, it is important to consider not only aspects such as proper nutrition, quitting harmful habits, and engaging in moderate physical activity, but also self-regulation skills and the ability to manage stress. However, it should be noted that the group most in need of information about health-promoting technologies is the younger population, the future of the nation. Of course, such technologies must be based on data from contemporary biological and medical research. However, representatives from the field of pedagogy (including pedagogy, developmental and educational psychology, and specific methods) are key allies in addressing the challenges of promoting and maintaining mental and physical well-being. They have a vested interest in becoming familiar with these technologies for use in their educational work with students and families, as well as developing and testing their own approaches [1;42].

According to the World Health Organization, over the course of several decades, there has been a persistent and alarming increase in the number of children suffering from various forms of psychosomatic disorders, which are caused by a combination of

unfavorable biological and social factors. Psychosomatic disorders are classified as chronic non-communicable conditions. The initial pathological changes occur in the nervous system, leading a subsequent disruption in the adaptive and compensatory mechanisms of the autonomic nervous system and humoral systems. This, in turn, results in dysfunction of various organs [2].

Given the vulnerability to a variety of adverse factors, the school-age period is particularly susceptible to the manifestation of psychosomatic symptoms related to school stress. These symptoms can be triggered by conflictual situations in the student's social environment, excessive academic pressure, or the authoritarian approach of teachers [3].

According to the data from employees who conducted medical examinations on school-age children, the number of manifestations of psychosomatic symptoms among high school students is 60-80%, while among primary school children this indicator is 20%. This suggests that the stress levels of children are constantly increasing as they progress through school. Experts maintain that these pathologies, if left unaddressed, can become the root causes of numerous adult illnesses in the future. The number of children with cardiovascular problems increases from the first to fourth grade. One third of elementary school graduates have food or drug allergies, and one in every two students suffers from functional gastrointestinal disorders [3]. These alarming statistics underscore the critical importance of implementing and promoting technologies aimed at enhancing the mental and physical health of students. Investing in the health of the younger generation is not only crucial for their own well-being but also for the future health and prosperity of the nation.

The aforementioned evidence underscores the significance of this issue and the necessity for its investigation, which in turn dictates the purpose of this research. Thus, the purpose of the study is to delineate the impact of didactogeny (psychotraumatic elements of the educational process) on the development of psychosomatic disorders in schoolchildren and to identify ways to prevent them in pedagogical practice.

In order to accomplish this purpose, the following objectives were formulated:

- provide a theoretical foundation for the concept of “didactogeny” in the context of educational process;
- analyze the primary causes of didactogeny in the modern educational system;
- examine the influence of didactogenic factors on the psycho-emotional state and health status of students;
- identify the relationship between pedagogical stressors and the development of psychosomatic disorder among schoolchildren;
- develop recommendations for educators to minimize the didactogenic effects and prevent psychosomatic disorders among students.

The concept “didactogeny” was introduced by K.I. Platonov. Put simply, didactogeny refers to the fear associated with teachers, schools, or the entire educational process. According to Platonov’s theory, owing to the inherent characteristics of school-aged individuals, such as their susceptibility to suggestion and emotional sensitivity, didactogenic manifestations are most observed in the realm of school pedagogy [4; 256]. Therefore, experts note that children with didactogeny have specific social fears, such as painful shyness, obsessive fear of failure, and violent emotional and vegetative reactions in inappropriate situations, which are triggered by behavior of teachers. Didactogeny, as a type of mental trauma caused by teachers, is dangerous because it can lead to: distorted self-esteem, difficulty interacting with peers and adults, communication problems,

loss of interest in learning, susceptibility to influence, submissiveness (development of dependence), dogmatic thinking (inhibition of creative thinking), aggression, and self-harm (possible deviant behavior and suicide attempts).

In her research, M. R. Arpentieva defines the term “didactogenic neurosis”. This is an incorrect reaction to certain difficulties in school life. It is a group of negative mental states that students experience when pedagogical etiquette or legal norms are violated, and when teachers lack pedagogical tact. It can manifest as increased neuropsychological tension, anxiety, depression and other negative emotions [5]. Naturally, such neurotic disorders have a negative and destructive impact of both students and educators, making communication, relationships, and educational process difficult. Moreover, since parents also assume the role of educators within the family, the notion of didactogenic neurosis can be expanded to encompass family relationships, education, and upbringing.

In situations where anxiety related to school or teachers manifests itself through physical symptoms such as nausea, headache, palpitations, fever, and so forth, the term “school neurosis” is employed. As noted by M. I. Buyanov: “... almost all neuroses among schoolchildren are accompanied by a reluctance to attend school... The concept of “school (didactogenic) neurosis” is insufficiently differentiated: all kinds of neuroses and pathocharacterological disorders and much more are included here...” [6; 377].

According to current research, scientists have identified several major risk factors that contribute to diseases caused by didactogeny. These include

1. Distortion of the teacher’s personality due to the use of stressful pedagogical approaches and learning models;
2. Failure to consider physiological and psychological developmental stages when selecting techniques and

technologies;

3. Insufficient attention to basic hygiene requirements in educational settings, as well as the shortcomings in existing physical education systems;
4. Teachers' functional illiteracy regarding health protection and promotion;
5. Parental lack of awareness and communication regarding children's health matters;
6. Increasing academic workload resulting from educational reforms;
7. Lack of systematic work between educational and medical organizations.

The Institute of Age Physiology has conducted a research that has revealed that in a school where an authoritative is employed, students become ill three times more frequently, and psychological disorders are even more prevalent [7;56].

V. M. Ganuzin, in his study, identifies four common manifestations of didactogeny in schoolchildren: anxiety, social isolation, emotional distress, and psychosocial maladjustment [8;55].

Below, in Figure 1, we have tried to reproduce the algorithm for transforming didactogenic situations into disorder, due to psychological mechanisms of defense and adaptation.

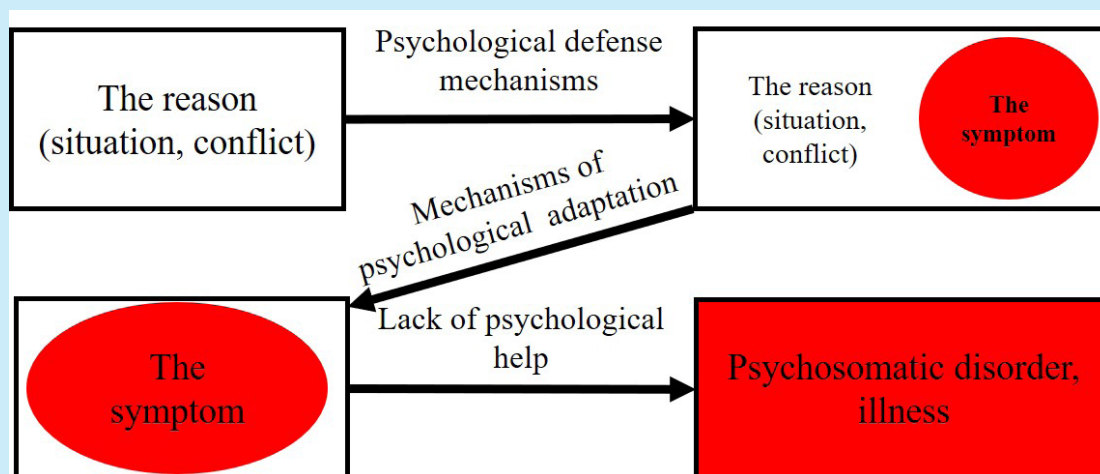


Figure 1 - An algorithm of transformation of didactogenic situations into a psychosomatic disorder.

This process can be explained using the example of “background and figure”. The “figure” is the component of the psyche that draws attention, and the “background” is what happens, but is not noticed. Conditionally, we have a student who does not want to go to school because of a conflict

with a teacher. In this case, the conflict becomes the “figure”, and the student worries about it, becoming stressed. At this point, psychological defense mechanisms are triggered, leading to symptoms in the form of poor health. Scientists have shown that the human brain can focus on only one

thing, so when a symptom appears in the form of physical illness, the conflict with the teacher goes to the “background”, and the “figure” becomes a symptom that, due to inaction or lack of psychological help, can turn into a psychosomatic disorder.

The presented analysis of the works gave reason to conclude that the problem of the increasing psychosomatic disorders is relevant today and requires the search for modern methods and technologies to protect and improve the physical and mental health of students during the educational process.

In this context, the hypothesis underpinning the research is that by paying due heed to issues of didactogeny, establishing a structured collaboration between educators, parents, and children with the aim of fostering a secure and supportive learning environment, we can significantly contribute to alleviating the stress levels among students and enhance their academic achievements.

Materials and methods

The problem of the influence of didactogeny on the psychosomatic state of students lies at the intersection of pedagogy, psychology, and medicine, making its study require the integration of diverse methodological approaches. In conducting our research, we have relied on the principles of an integrated (multidisciplinary) approach that incorporates elements of psychological, pedagogical, sociological, and statistical analysis.

The rationale for adopting this approach was based on the following:

1. The psychological and pedagogical approach allowed us to consider didactogeny as a phenomenon within the educational process and analyze the effect of pedagogical pressure students' psycho-emotional well-being. Additionally, this perspective emphasized the development of preventative measures in educational

practice.

2. The sociological approach enabled us to identify patterns of stress within the educational setting, utilizing surveys and analysing the collected data.
3. The statistical and analytical approach was used to verify the effectiveness of the selected methods of work and to identify correlations in the data from the pedagogical experiment.

Pursuant to the outlined goals and objectives, a wide range of research methods were used throughout the course of the study, encompassing literary analysis, observation, questionnaire surveys, pedagogical experiment, and methods of statistical analysis.

The method of literature analysis was employed to provide a theoretical foundation for the concept of “didactogeny” and to delineate the main causes of didactogeny in the modern education system. Using observation method, we explored the manifestations of didactogeny in students, identifying pedagogical scenarios that fostered stress. A survey was conducted to gather insight into the subjective perception of didactogenic factors by schoolchildren. The questionnaire we designed allowed us to discern the correlation between pedagogical stressors and the psychosomatic symptoms in children. The method of pedagogical experiment was used to develop and validate recommendations for the prevention of psychosomatic issues among school-aged children, as well as to assess the efficacy of the proposed preventive measures. To analyze the quantitative data acquired during the experiment, we employed the Wilcoxon test. This method is particularly useful in the context of correlation analysis, which involves the identification of relationships between variables and the assessment of changes following the implementation of preventive measures.

Results and Discussion

Our research was conducted in several

stages. Initially, we delved into identifying the primary causes of didactogeny among students by employing a written survey method through an online questionnaire. The benefits of this technique are manifold, as it offers convenience, eliminates the need for specialized training, and requires minimal time investment. Furthermore, the

fact that the survey was anonymous played a big role in the truthfulness and sincerity of the answers received. The survey consisted 10 closed-ended situational questions with two possible answers. Our survey of schoolchildren on didactogeny gave the following results (Table 1).

Table 1 - Results of a survey of schoolchildren on the manifestation of didactogeny

Nº	Question: Answering the questions, try to remember if there was a situation in your academic life when you...	The answer was "yes"		The answer was "no"	
1	... did not want to attend an educational institution because of a conflict with a teacher.	28 / 40	70%	12 / 40	30%
2	... have come across an unfair or biased attitude of the teacher towards you.	23 / 40	57,5%	17 / 40	42,5%
3	... felt stupid, not talented, unattractive because of any comments from the teacher.	22 / 40	55%	18 / 40	45%
4	... felt helpless, unable to be heard by the teacher.	21 / 40	52,5%	19 / 40	47,5%
5	... felt fear of the teacher.	21 / 40	52,5%	19 / 40	47,5%
6	... were afraid to ask the teacher a question, although you understood that there was nothing wrong with that.	21 / 40	52,5%	19 / 40	47,5%
7	... felt nausea, dizziness, fever, sore throat, chest tightness, or other types of physical discomfort before meeting with a particular teacher.	17 / 40	42,5%	23 / 40	57,5%
8	... have experienced unpleasant sensations because you cannot master new educational material.	27 / 40	67,5%	13 / 40	32,5%
9	... felt that you were losing interest in any particular subject because of your dislike of the teacher.	23 / 40	57,5%	17 / 40	42,5%
10	... felt causeless pathological fears because of any actions of the teacher.	15 / 40	37,5%	25 / 40	63,5%

40 students from different grades participated in our survey. As we can see from the results, more than half of the respondents experienced didactogeny manifestations. It should also be noted that 17 out of 40 people confirmed the presence of a psychosomatic symptoms such as nausea, dizziness, fever, sore throat, chest tightness or physical ailments. 37.5% of the surveyed schoolchildren developed pathological fears and phobias after an unsuccessful communicating with a

teacher. 57.5% of respondents agreed with that any negative actions by a teacher, they lost interest in a school subject. 55% of schoolchildren claimed to have experienced dysmorphobia (a somatoform disorder characterized by excessive concern for imaginary or exaggerated defects in body appearance) after incorrect comments by a teacher about their appearance [9].

The findings of the survey underscore the issue of a lack of comprehension

and confidence between educators and students. The described problems, according to our forecasts, further affect the physical and mental health of schoolchildren, contributing to their academic underperformance.

Considering the prevention and correction of didactogeny, we want to highlight the following methods:

- correct assessment of the basic level of knowledge of students and its correlation with the requirements of the program;
- establishing feedback with all participants in the pedagogical process;
- correct assessment of the psychological characteristics of students;
- formation of motivation for learning; education aimed at the formation of a value attitude towards oneself, responsibility for oneself;
- development of self-education skills, self-control, introspection, self-assessment of their work, behavior
- the development of an emotional type of cooperation between the teacher and the student.

Regarding the development of the emotional type of teacher's cooperation, we believe that timely prevention of didactogeny can help prevent students from having a disorder of the emotional and volitional sphere. Therefore, it is possible and necessary to talk about the development of an emotional type of cooperation between a

teacher and a student, which consists, first of all, in the fact that the lesson material is deeply experienced by the teacher himself, which in turn affects the emotional sphere of students. As V.G. Kazanskaya notes, "there is an emotional and personal unity ("symbiosis"): the experiences of one are intertwined with the emotions of the other, and the assessments of each other's activities become emotionally colored, which is expressed in satisfaction from communicating with each other" [10]. The role of the educator, in our view, is to elicit as many positive sentiments as possible from students regarding the educational process. The attitude that the teacher gives when teaching is especially important. It is necessary not to escalate the idea of any subject in the classroom as a complex science, but to show its fascination, beauty, and clarity, while developing the emotional sphere of schoolchildren.

Additionally, we would like to emphasize the significance of communication between teachers and students outside of classroom, in a more informal setting. When the students realize that teachers are human beings with their own interests and feelings, it creates an atmosphere of trust and comfort for the students. The organization of events such as sports games, training sessions, and joint visits to museums and cinemas provides a good opportunity for students to "defusing tensions".

The Table-2 outlines the recommendations we have developed to minimize the didactogenic effects and prevent psychosomatic disorders in students.

Table 2 – Suggestions for minimizing the didactogenic effects in students

Recommendations	Purpose	Forms of work
1. Creating a favorable emotional atmosphere in the educational environment	Reduce anxiety and stress caused by strict requirements and negative pedagogical attitudes.	<ul style="list-style-type: none"> - The formation of a supportive teaching environment in which students feel confident and protected. - Developing a culture of empathy and respect between teachers and students. - Avoiding derogatory statements, comparisons, and excessive pressure on academic performance.

2. Correction of pedagogical methods and strategies	Reducing the traumatic effects of the learning process and developing intrinsic motivation to learn.	<ul style="list-style-type: none"> - The use of gentle methods of motivation aimed at maintaining interest in learning, rather than fear of punishment. - Individual approach to students, taking into account their characteristics and level of training. - Minimizing authoritarian teaching methods, increasing dialogue and cooperation.
3. Psychological support for students	Development of resistance to stress and formation of healthy adaptation mechanisms.	<ul style="list-style-type: none"> - Introduction of psychological assistance programs (regular consultations, stress management training). - Development of students' emotional self-regulation skills (relaxation techniques, mindfulness). - Active involvement of school psychologists in working with students experiencing stress.
4. Working with teachers	Decrease the level of professional burnout of teachers and improve their interaction with students.	<ul style="list-style-type: none"> - Conducting advanced training courses on issues of psychological safety in education. - Development of emotional intelligence of teachers, training in effective communication with students. - Introduction of the practice of supervision and pedagogical reflections for the analysis of professional difficulties.
5. Optimizing the learning load	Prevention of overload and reduction of psychosomatic risks.	<ul style="list-style-type: none"> - Revision of the amount of homework and educational material, considering age-related opportunities. - Regular breaks and active physical exercises to reduce fatigue. - The introduction of more flexible assessment systems that consider not only academic success, but also individual progress.
6. Interaction with parents	Formation of a unified educational strategy aimed at reducing stress.	<ul style="list-style-type: none"> - Organization of educational events for parents on the impact of didactogeny. - Development of teacher–parent–student cooperation to create a unified parenting strategy. - Encouraging parents to participate in school life to increase children's trust in the educational system.

When organizing work with students, it is important to pay special attention to choosing efficient methods. special attention should be paid to the choice of effective and efficient methods. From our point of view, one of these methods is the forum theater. In the context of minimizing the manifestations of didactogeny, this method has several significant advantages:

- Creating a safe space for discussing stressful situations;
- Developing emotional intelligence and empathy;
- Learning skills for constructive interaction with teachers;
- Correcting pedagogical behaviors and reflecting on teaching practices;
- Practical development of stress management strategies;
- Involvement and active participation of children in the learning process.

The Forum-Theater method is an excellent way to form an emotional type of teacher-student cooperation. The methodology of the Forum Theater has been used to develop empathy through dramatic experiments when the viewer becomes a spectator-actor and explores various alternatives for understanding and solving problems [11].

We conducted a small-scale experiment with students from grades 9-10, using the Forum Theater methodology. The total number of participants was 34. Our research was divided into three stages. In the initial stage, we handed out forms with questions to the students and asked them to complete. The questionnaires contained 6 statements with two possible responses (positive or negative). To ensure the purity of the experiment, the students did not indicate their names when filling out the questionnaires. In the formative stage, we held a training game, in which both students

and teachers participated. During the game, we set a rule that was mandatory for everyone. When a ribbon was tied around a participant's wrist, he had to forget about his role in real life and transform into a certain character. We had prepared scenarios with conflict situations between participants in the educational process. Each actor's task was to find a peaceful resolution to the conflict. Roles were assigned randomly, allowing for the possibility of students and educators exchanging the roles. Following the conclusion of the game, participants were once again requested to complete the same survey forms.

The main purpose of the experiment is to reduce the manifestation of didactogeny in schoolchildren by searching for ways to solve various conflicts between teachers and students. The table below shows the results of the survey before and after the experiment (Table 3).

Table 3 - Results of the survey of schoolchildren before and after the experiment using the Forum Theater method

Nº	Statements	Before the experiment	After the experiment
1	Do not want to attend a certain subject of certain teacher.	50%	29,4%
2	Are afraid to ask the teacher a question they are interested in.	70,5%	47%
3	Feel emotional stress when communicating with a teacher.	52,9%	11,7%
4	Feel powerless in the absence of understanding of new material.	85,2%	50%
5	They do not feel the teacher's willingness to cooperate.	58,8%	17,6%
6	Feel safe, fully trusting the teacher.	44,1%	70,5%

Notwithstanding the fact that the data in the table demonstrate a clear positive trend in solving problems related to didactogenic manifestations, we deemed it necessary to validate our assumptions by conducting a statistical analysis. For this purpose, we used the Wilcoxon test, which is applied when comparing related samples. To assess the statistical significance of the indicators before and after the experiment, we put forward two hypotheses:

- Null hypothesis (H0): the differences between the compared groups of observations are statistically insignificant (i.e., there is no change in the indicators of didactogenic manifestations after using the Forum-Theater method); $H_0: M_1 = M_2$;
- Alternative hypothesis (H1): the differences between the compared groups of observations are statistically significant (i.e., there are changes

in the indicators of didactogenic manifestations after using the Forum-Theater method); H1: $M1 \neq M2$.

M1 – results before the experiment;

M2 – results after the experiment.

Further, according to the Wilcoxon test algorithm, the magnitude of changes in the survey results before and after the experiment and their corresponding ranks were calculated. The data obtained are shown in the Table 4.

Table 4 - The magnitude of the changes and their corresponding ranks

Statements	The number of people who agreed with this statement before the exp.	The number of people who agree with this statement after the exp.	The magnitude of the change	Change rank	The rank of the change with a sign
1	2	3	4	5	6
Do not want to attend a certain subject of certain teacher.	17	10	-7	2	-2
Are afraid to ask the teacher a question they are interested in.	24	16	-8	3	-3
Feel emotional stress when communicating with a teacher.	18	4	-14	5,5	-5,5
Feel powerless in the absence of understanding of new material.	29	17	-12	4	-4
They do not feel the teacher's willingness to cooperate.	20	6	-14	5,5	-5,5
Feel safe, fully trusting the teacher.	15	21	+6	1	+1

Having ranked the absolute values of the change (column 5), we checked the correctness of the ranking. Considering that according to the Wilcoxon criterion, the calculated sum of ranks should be equal to the correct sum of ranks, we obtained the following results:

$$27^{\text{calculated sum of ranks}} = 27^{\text{correct sum of ranks}}$$

Then, we calculated the amount of atypical changes. In our case, changes with the "+" tag are not typical, that is, rare. The sum of atypical changes is equal to: $5.5+1=6.5$. Thus, we have determined the empirical value of the Wilcoxon criterion ($W_{\text{emp}}=1$).

Considering that our sample consists of 6 units, we determined from the table of the critical value of the Wilcoxon criterion that $W_{\text{cr}}=2$ ($p=0.05$).

Comparing the empirical value of the Wilcoxon test with its critical value in Figure 2, we can conclude that the null hypothesis is rejected, since the Wilcoxon test has a critical area located to the left of the critical point. This confirms the hypothesis that changes in the indicators of didactogenic manifestations after using the «Forum-theater» method are statistically significant.

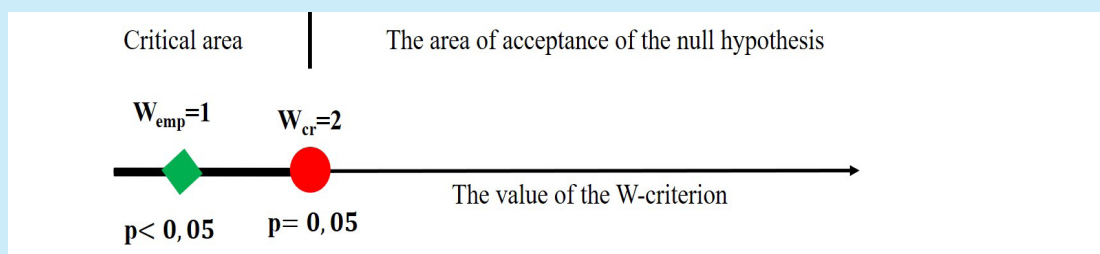


Figure 2. Evaluation of the empirical value of the Wilcoxon criterion.

Analyzing the results, we can see a positive trend across all issues. This further supports our theory that the joint informal pastime of teachers and students at such events allows you to recreate an atmosphere of safety. Student, recognizing the teacher from the other side, in a different role, begins to trust him more. This helps reduce emotional tension among participants in the educational process.

The forum theater method afforded the participants the unique perspective on the issue at hand. After the scenes where the student played the role of a teacher, and the teacher stayed in the role of a student, both sides shared their insights, resulting in a deeper comprehension of the opposing viewpoint.

The experiment had a marked impact not only on the schoolchildren, but also on the teachers. Those educators who participated actively in the game reported, within days of the training using the Forum Theater, that their students were asking more engaged questions about the lesson materials and displaying their creativity.

Conclusions

The study analyzed the problem of didactogeny as a set of traumatic factors of the educational process that affect the psycho-emotional state and health of students. In order to accomplish the purpose of the research, a number of objectives were addressed:

- During the theoretical analysis, the concept of “didactogeny” in the context of the educational process is revealed.
- The main causes of its occurrence are analyzed and key pedagogical stressors affecting the psycho-emotional state of students are identified.
- Empirical research has confirmed the relationship between didactogenic factors and the development of psychosomatic disorders in children.
- Based on the data obtained, recommendations have been developed to minimize the didactogenic impact in the educational environment, including creating a favorable pedagogical climate, optimizing the learning load, psychological support for students and the use of interactive teaching methods such as forum theater.

Thus, the goals and objectives set at the beginning of the study were successfully achieved. Based on the analysis, we have drawn the following conclusions:

1. Didactogeny is a significant stress factor in the educational environment, which has a negative impact on the emotional well-being and psychosomatic health of children and adolescents.
2. The main causes of didactogeny in the modern education system are related to authoritarian teaching methods, excessive academic workload, emotional rigidity of teachers, lack of

individual approach and unfavorable school atmosphere.

3. To prevent didactogeny and reduce its negative impact, it is advisable to implement the following strategies:
 - Creating a supportive teaching environment based on respect and cooperation.
 - Development of emotional intelligence among teachers and teaching methods of nonviolent communication.
 - Optimization of the learning load and individual approach to students.
 - The inclusion of active learning methods, such as forum theater, which contribute to the formation of students' skills of self-regulation and constructive interaction.
 - Active involvement of school psychologists and parents in the prevention of didactogeny.

Despite the results achieved, this study highlights several new avenues for further investigation into the issue of didactogeny.

- **In-depth exploration of individual differences in vulnerability to didactogenic factors.** It is essential to take into consideration the age, personal characteristics, anxiety levels, and stress resilience of students, as responses to pedagogical stressors may vary. A promising area is the study of the influence of familial upbringing on susceptibility to didactogenic influences.
- **Research of the influence of digital educational technologies on the level of didactogenic stress.** The introduction of distance learning, electronic portfolios, and online interaction with teachers may both reduce and enhance stress effects. It is crucial to examine the impact of the digital environment on learning stress levels and the emotional well-being of students.
- **Development and testing of comprehensive programs for the prevention of didactogeny.** Implementation of experimental

programs (for example, training for teachers on reducing emotional rigidity, techniques for dealing with conflict situations) and evaluation of their effectiveness. Determination of optimal methods of psychological support for students, including the integration of the forum theater into school educational programs.

- **Investigating the impact of didactogeny on educators.** Didactogenic factors not only affect students but also educators, leading to professional burnout and decline in teaching quality.
- **A comparative analysis of didactogenic influences in diverse educational systems.** Comparing didactogenic elements across different countries and educational frameworks can unveil effective integrational strategies for mitigating manifestations of didactogeny. Analyzing successful approaches to minimizing didactogeny can inform the adaptation of the best practices within national educational systems.

Consequently, further investigations should focus on devising practical strategies for averting didactogeny, examining its manifestations in diverse educational settings, and identifying the most efficacious approaches to fostering a secure and conducive educating environment.

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Білім беру процесінде дидактогенияның салдары ретіндегі білім алушылардың психосоматикалық бұзылыстары

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Аңдатпа. Мақалада педагогикалық этикеттің немесе құқықтық нормалардың бұзылуынан, оқытушы тарапынан педагогикалық әдептің сақталмау себебінен туындаған деструктивті психикалық күйлердің салдары ретінде білім алушыларда дидактогенияның пайда болу мәселесі қарастырылады. Зерттеу жұмысы дидактогенияның білім алушылардағы психосоматикалық бұзылыстардың пайда болуына тигізетін әсерін зерттеуге және педагогикалық тәжірибеде оның алдын алу жолдарын анықтауға бағытталған. Зерттеу барысында «дидактогения» ұғымына теориялық талдау жүргізілді. Авторитарлық оқыту әдістері, шамадан тыс оқу жүктемесі және педагогтар тарапынан эмоционалды қолдаудың болмауы сияқты дидактогендік әсердің пайда болуының негізгі себептері анықталды. Мәселені жан-жақты талдауды қамтамасыз ету және алынған нәтижелердің дәйектілігін арттыру мақсатында авторлар психологиялық-педагогикалық, әлеуметтік және статистикалық талдау элементтерін біріктіретін кешенді (пәнаралық) тәсіл принциптеріне сүйенеді. Авторлар сипаттаған өзара әрекеттесу дағдыларын қалыптастыруға, мазасыздықты азайтуға және оқушылардың психологиялық тұрақтылығын арттыруға бағытталған педагогикалық эксперимент барысы мен нәтижелері зерттеу жаңашылдығы болып табылады. Эмпирикалық дәлелдерге сүйене отырып, дидактогендік факторлардың әсері мен балалардағы мазасыздық, ұйқының бұзылуы, бас ауруы және басқа психосоматикалық белгілер арасындағы корреляция расталды. Дидактогендік әсерді азайту үшін авторлар қолдау көрсететін білім беру ортасын қалыптастыруды, білім берушілердің эмоционалды интеллектін дамытуды, оқу жүктемесін оңтайландыруды, сондай-ақ, форум-театр сияқты, оқытудың интерактивті әдістерін енгізуді қамтитын ұсыныстар кешенін ұсынды. Алынған нәтижелерді саралай келе авторлар келешек зерттеулердің келесі перспективалық бағыттарын ұсынды: дидактогендік факторларға сезімталдықтағы жеке айырмашылықтарды зерттеу, цифрлық технологиялардың дидактогенияға әсері, профилактикалық бағдарламаларды әзірлеу және сынақтан өткізу, сондай-ақ әртүрлі білім беру жүйелеріндегі дидактогенияның алдын алу жолдарын салыстырмалы түрде талдау. Алынған нәтижелер педагогикалық практикада дидактогендік әсер ету деңгейін төмендету және білім алушылардың психикалық және физикалық денсаулығын сақтауға ықпал ететін қолайлы оқу шарттарын ұйымдастыруда пайдалы болуы мүмкін.



Кілтті сөздер: психосоматикалық бұзылыс, дидактогения, мектептің білім беру процесі, психосоматикалық симптом, дидактогендік невроз, денсаулық сақтау технологиялары, ынтымақтастықтың эмоционалды түрі, форум-театр әдісі.

Психосоматические нарушения обучающихся как следствие дидактогении в образовательном процессе

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Аннотация. В данной статье рассматривается проблема возникновения у обучающихся дидактогении как следствия деструктивных психических состояний, спровоцированных или инициированных нарушением педагогического этикета или правовых норм, отсутствием педагогического такта со стороны педагога. Исследование направлено на изучение влияния дидактогении на развитие психосоматических нарушений у обучающихся и определение путей их профилактики в педагогической практике. В ходе исследования проведён теоретический анализ понятия «дидактогения» и его влияния на учащихся. Определены основные при-

чины возникновения дидактогенного воздействия, включающие авторитарные методы преподавания, чрезмерную учебную нагрузку и недостаток эмоциональной поддержки со стороны педагогов. Для обеспечения всестороннего анализа проблемы и повышения достоверности полученных результатов авторы опирались на принципы комплексного (междисциплинарного) подхода, объединяющего элементы психолого-педагогического, социологического и статистического анализа. Новизной исследования является описанный авторами результат педагогического эксперимента, способствующего формированию навыков конструктивного взаимодействия, снижению тревожности и повышению психологической устойчивости обучающихся. На основе эмпирических данных подтверждена корреляция между воздействием дидактогенных факторов и проявлениями тревожности, нарушений сна, головных болей и других психосоматических симптомов у детей. Для сведения к минимуму дидактогенного воздействия, авторами предложен комплекс рекомендаций, включающий формирование поддерживающей образовательной среды, развитие эмоционального интеллекта педагогов, оптимизацию учебной нагрузки, а также внедрение интерактивных методов обучения, таких как форум-театр. Авторами предложены перспективные направления дальнейших исследований такие как: изучение индивидуальных различий в восприимчивости к дидактогенным факторам, влияние цифровых технологий на педагогический стресс, разработка и апробация профилактических программ, а также компаративный анализ дидактогении в различных образовательных системах. Полученные результаты могут быть использованы в педагогической практике для снижения уровня дидактогенного воздействия и создания благоприятных условий обучения, способствующих сохранению психического и физического здоровья обучающихся.



Ключевые слова: психосоматическое нарушение, дидактогения, образовательный процесс школы, психосоматический симптом, дидактогенный невроз, здоровье сберегающие технологий, эмоциональный тип сотрудничества, метод форум-театр.

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