

Prerequisites for Accepting the Digital Educational Environment in New Cultural and Historical Conditions

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According to cultural historical activity theory motivation, adaptability, study-related experience (“perezhivanie”), and moral codes may be considered as prerequisites for Digital educational environment (DEE) acceptance. To measure the attitudes towards DEE a Scale for Assessing University Digital Educational Environment was used (AUDEE Scale by M. Sorokova, M. Odintsova, and N. Radchikova). Academic motivation was evaluated by “Academic Motivation Scales” Questionnaire (by T. Gordeeva, O. Sychev, and E. Osin). Study-related experiences were measured by Activity-Related Experiences Assessment technique (AREA) developed by D. Leontiev and his colleagues. Moral behavior was evaluated with the help of Moral Disengagement Questionnaire (MD-24) adapted by Y. Ledovaya and her colleagues. Students’ adaptability was assessed by a questionnaire developed by T. Dubovitskaya and A. Krylova. 406 students of Moscow State University of Psychology and Education took part in the investigation (90,1% female). The average age was $28,7 \pm 9,6$ years (median = 24 years) varying from 19 to 72 years. The results showed that it is possible to distinguish two groups based on the results of AUDEE scale: Acceptance group and Resistance group. Acceptance group has higher scores in almost all motivation indicators, study-related experiences of pleasure and meaning, adaptability to educational activities, and lower scores in five out of seven moral disengagement strategies. Statistical analysis (classification trees) showed that motivation (both external and internal) and study-related experience are key resources for the DEE acceptance.

Keywords: digital educational environment, prerequisites for acceptance / rejection, motivation, cultural-historical conditions, «cultural capability».

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Introduction

The digital revolution has opened up new opportunities for education, quickly and significantly changed it. The digital transformation of education includes the process of using digital tools. In modern cultural and historical conditions, a digital instrument is becoming a familiar cultural instrument. As L. Vygotsky and A. Luria stated: “A cultured person has nothing to strain his sight to see a distant object — he can put on glasses for this, look through binoculars or take a telescope; he does

not need to listen to the distance, run as fast as he can to convey the news — he performs all these functions with the help of those instruments and means of communication and transportation that carry out his will. All artificial tools, all cultural environment serve to expand our senses, and a modern cultured person can afford the luxury of possessing them” [35, p. 156]. The luxury of possessing digital tools expands our capabilities, generates new pedagogical practices and forms a new social developmental situation. In such a way, digital technologies arise, on the one hand, as part of the historical heritage

of human activity, mediated by tools, and on the other, as powerful multifunctional intermediary means, which significantly expands human capabilities, including in the field of education.

T. Blayone states that modern information technologies, as it were, function “between” people and their environment, increasing opportunities and contributing to both interiorization (construction of individual thinking) and exteriorization (the ability of a person to restructure internalized schemes and reintroduce them into the environment in the form of ideas, artifacts, etc.) [5]. All this occurs against the background of a cultural shift (disruption of the existing balance of the cultural system), in the conditions of a transition from a stable state to an unstable one, and can contribute to both the development of culture, an increase in its creative potential, and stagnation, or even destruction [27]. What is happening in the field of education can be described as a “local cultural revolution” (according to M. Saraf [27]), which inevitably includes a set of profound qualitative changes in education, as a result of which there is a restructuring and transformation of the entire structure of education and its relationships with other areas of life.

The specificity of the new social situation of development requires a revision of views on the process of socialization and the introduction of the concept of “digital socialization” [29]. Digital socialization is understood as “the process of mastering and appropriating a person’s social experience acquired in online contexts, mediated by all available digital technologies, reproducing this experience in mixed offline / online reality and forming his digital personality as part of a real personality” [29, p. 76.]. The problem of digital socialization at a new historical stage in the development of society includes a wide range of issues. These are issues of acceptance / rejection of new technologies; attitudes towards innovation; motivation to study in a digital educational environment (DEE); the quality of experience as characteristic of educational activity; moral codes (academic honesty / dishonesty) as universal components of human culture; the ability to quickly adapt to the changing conditions of digitalization. This is also the problem of satisfaction with online learning; the effectiveness of the use of information and communication technologies, their assessments and factors that determine this effectiveness.

An integrated approach that has become widespread recently [7, 20] proposes to determine the efficiency of online learning as a set of two indicators: the level of knowledge, skills, and abilities and student satisfaction with the experience of online education. Academic performance was often considered in the research, possibly due to its easy availability, while satisfaction with online education and convenience of work in a DEE were rarely examined. That is why students’ attitudes towards the DEE were taken as the indicator of e-learning performance in this work. Students’ attitudes towards DEE, acceptance of DEE are even more important because without acceptance and positive attitude good educational results are impossible.

In such a way, the main question of interest for scientists working in this field concerns the prerequisites

and factors of DEE acceptance. According to cultural historical activity theory (CHAT) that includes L. Vygotsky’s cultural historical theory and A. Leontiev’s Activity Theory, one of the key prerequisites is motivation. Intrinsic motivation is essential because intention, in fact, is a verbal representation of the future action result. However, the intention represents an order to oneself (“I will do this”) and marks a very important step in correct development of human motivation processes: the emergence, along with external orders, of internal ones, that is, the internalization of speech motivation [24, p. 53]. As the next step in complicating the motivational structure of human actions is mediation our motives by acts of social evaluation, extrinsic motivation is also important. External and internal motivation, correlated with the level of social culture of the individual, contribute to the mutual enrichment of all participants in the educational process. As a result, students from passive recipients of knowledge, skills and abilities become active participants in online learning.

Another important concept for CHAT is “*perezhivanie*” (experience), which is often not translated into English (e.g., [14]) and has German analogs “das Erleben”, “das Erlebniss”. The concept *perezhivanie* “allows us to further consider consciousness as a self-generating system that is developed as a new human quality that emerges along with ongoing social life” [14, p. 3]. *Perezhivanie* appears during human action; it involves emotions and cognition within a complex psychical network that is never defined as a result of a single external cause. The state of experience (*perezhivanie*) is similar to a state of *flow* [9] — a state of concentration or complete absorption with the current activity and the situation. It is considered that the flow state is an optimal state of intrinsic motivation, where a person is fully immersed in what they are doing. Sometimes flow experience is characterized as the optimal experience. As optimality could be understood in three different ways [18] as 1) effectiveness, i.e., the achievement of a certain result, 2) positive emotional balance, maximizing positive emotions and minimizing negative, and 3) inclusion in the sense contexts of your own life as well as the lives of other people and society in overall, connection with the past and the future, in the experience of flow all three components are united. Notice that optimal experience includes sense contexts that are close to Vygotsky’s notion of senses (a dynamic system of senses that includes a motivational (affective) side, the will, the dynamics of action and the dynamics of thinking [14]). In such a way, motivation is closely related to experience (*perezhivanie*) in specific activities [19].

Another factor of acceptance / rejection of online learning is moral codes (academic honesty / dishonesty) as universal components of human culture. According to CHAT the concept of moral identity is culturally biased [16, 25]. Ethics and moral codes remain critical and universal components of human culture and have a strong imprint in language [28]. Language (labeling) plays a great role because mediators (material or symbolic) are considered intrinsic components of higher mental functions. This influence could be found in different mechanisms of moral disengagement [4]. Some studies have

shown that most violations of ethical standards occur during online examinations [22]; in a networked environment in general, as many of the characteristics of online technology increase the potential for dishonest behavior. At the same time, students in the online environment are less likely to admit that their actions were wrong [1]. However, some researchers have shown that the Internet and other digital tools are means, but not causes of academic dishonesty [33]. Other factors also contribute to the use of dishonest strategies. For example, under such social norms, where their use is considered acceptable [21]; in collectivist cultures, where there is a greater tolerance for dishonest strategies and moral attitudes towards mutual assistance are widespread [3]. In general, the cultural context plays an important role in shaping students' attitudes towards academic dishonesty: how acceptable dishonest behavior is and what is meant by morality / immorality [8].

Adaptability allows to reflect the process and results of internal changes, external active adaptation, and self-change of the individual to new conditions of existence and may be important too. Adaptability to learning in a digital educational environment presupposes an optimal combination of internal (subjective) and external (environmental) conditions. On the part of the subject of educational activity, there may be resistance to the introduction of information and communication technologies. Globally, resistance to the introduction of new technologies into culture is in fact resistance to modernity, which prevents successful adaptation to changing environmental conditions [13].

Summarizing all of the above, we note that one of the specific tasks of psychological science is to highlight the prerequisites for the acceptance of digital educational technologies in new cultural and historical conditions. Based on cultural historical activity theory, such prerequisites are motivation to learn in a digital educational environment [24]; experiencing pleasure and meaningfulness of learning activities in new conditions [19]; moral codes (academic honesty) as universal components of human culture [8] and the ability to quickly adapt to educational activities in the context of digitalization [13].

Method

Participants

406 students of Moscow State University of Psychology and Education took part in the investigation (90,1% female). All of them complete online courses on mathematical methods in psychology. The average age was $28,7 \pm 9,6$ years (median = 24 years, mode = 20 years) varying from 19 to 72 years. The data was obtained in September-December of 2020 when the University worked in distance mode. The database is available at RusPsyDATA [31].

Instruments

To measure the attitudes towards the DEE a special Scale for assessing university digital educational environment was used (AUDEE Scale by M. Sorokova, M.

Odintsova, and N. Radchikova, 2021 [32]). AUDEE Scale has six subscales: "DEE Learning Process Satisfaction", "DEE Communication Satisfaction and Learning Motivation", "DEE Stress Tension", "Need for Support in the DEE Learning Activities", "DEE Dishonest Strategies Prevalence", and "DEE Accessibility" as well as the total score indicating the degree of positive attitude.

Academic motivation was evaluated by "Academic Motivation Scales" Questionnaire (by T. Gordeeva, O. Sychev, and E. Osin, 2014 [15]) based on self-determination theory describing the intrinsic and extrinsic motivation of academic activity. It is assumed that different types of motivation related to needs are satisfied by the nature of the learning activity (such as needs for cognition, achievement, and personal growth) and needs external to learning (such as needs for autonomy and self-respect). The Questionnaire has seven scales, including three scales measuring types of intrinsic motivation (intrinsic cognition, achievement, and personal growth), three scales measuring extrinsic motivation (motivation for self-respect, introjected, and external regulation), and an amotivation scale.

Study-related experiences were measured by Activity-Related Experiences Assessment technique (AREA) developed by D. Leontiev and his colleagues in 2018 [18]. This technique allows to determine four different experiences one could have when studying: Effort, Pleasure, Meaning, and Void. The experience of effort tells us about the effectiveness of the activity, the experience of pleasure – about its pleasantness, and the experience of meaning – about its involvement in more broad contexts. The absence of all three components is manifested in the experience of emptiness (void), which could be described as psychic entropy, a sensation being a victim of uncontrolled processes [18, p. 57].

Moral behavior was evaluated with the help of Moral Disengagement Questionnaire (MD-24) based on A. Bandura's concept of moral disengagement and adapted by Y. Ledovaya and her colleagues in 2016 [17]. According to A. Bandura's concept of moral, disengagement has eight different mechanisms: Moral Justification, Euphemistic Labelling, Advantageous Comparison, Displacement of Responsibility, Diffusion of Responsibility, Distortion of Consequences, Dehumanization, Attribution of Blame.

Students' adaptability was accessed by a special questionnaire that includes two scales: adaptability to the study group and adaptability to the educational activity developed in 2010 by T. Dubovitskaya and A. Krylova [12].

Statistical packages SPSS V.23 and SAS JMP 11.0.0 were used for statistical analysis.

Results and discussion

Descriptive statistics for all measured variables are presented in Table 1. Average values of Moral Disengagement Scales lie in the range between 1,5 and 3,1 that corresponds with the data obtained by Y. Ledovaya et al. [17]. The scores for adaptability to the study group and adaptability to educational activities are also similar to

those obtained by T. Dubovitskaya and A. Krylova (12,0 and 10,6 respectively) [12]. The results of motivation measurement are higher for some scales and lower for some scales than the results of T. Gordeeva et al. [15]. For example, achievement motivation is two points more for our sample, introjected motivation is two points less, but the difference between the means lies within two points.

Cluster analysis (*k*-means) was used to divide all the participants into groups on the basis of their attitude towards DEE (AUDEE Scale). All AUDEE subscales were used. All of them were standardized because of different ranges. The results show that two different attitudes towards DEE (two clusters) could be distinguished (pict. 1). One group of participants (cluster 2, N = 221) is characterized by the satisfaction with the learning process and communication above average, by learning motivation above average, by high evaluation of DEE accessibility, by stress

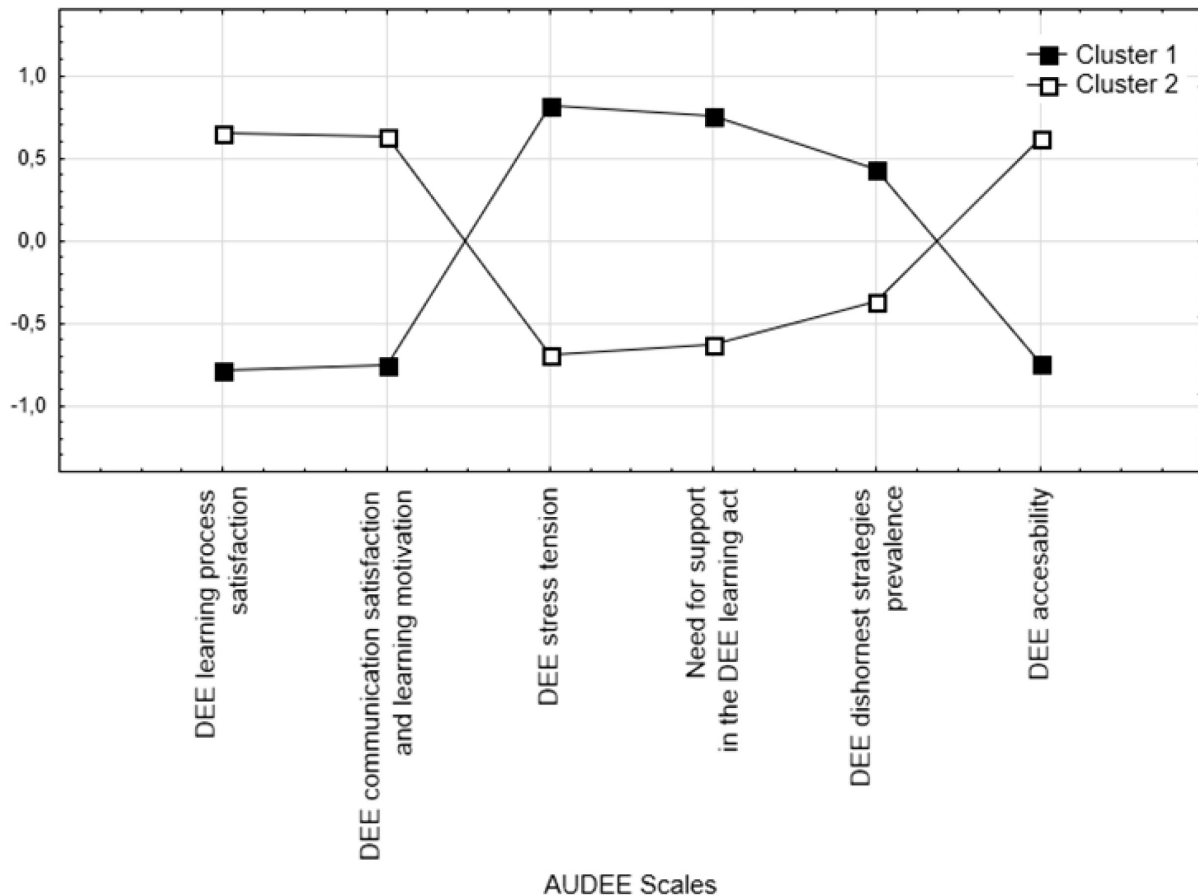
tension below average, by need for support below average, and by low estimation of dishonest strategies prevalence. It could be assumed that the members of this group accept DEE technology, and therefore it may be called an Acceptance group. The other group of participants (cluster 1, N = 185) is characterized by the satisfaction in the learning process and communication below average, by learning motivation below average, by low evaluation of DEE accessibility, by stress tension above average, by need for support above average, and by high estimation of dishonest strategies prevalence. All this indicates that the members of the group try to resist DEE technology and avoid it. Further, we will refer to it as Resistance group.

To determine what characteristics are specific for each group Student's *t*-test was applied. The comparison of the two groups (table 2) shows that they differ almost in all study-related experiences: pleasure experience

Table 1

Descriptive statistics for all measured variables: mean ± standard deviation, median [lower quartile; upper quartile], minimum, and maximum (N=406)

Questionnaires and scales	M ± SD	Me [LQ; UQ]	Min	Max
Activity-Related Experiences Assessment technique (AREA)				
Effort	12,8 ± 3,4	13 [11; 15]	3	18
Pleasure	11,5 ± 3,9	12 [9; 14]	3	18
Meaning	14,0 ± 3,7	15 [12; 17]	3	18
Void	7,7 ± 3,6	7 [5; 10]	3	18
“Academic Motivation Scales” Questionnaire				
Intrinsic cognition	16,6 ± 3,0	17 [15; 19]	4	20
Achievement	15,9 ± 3,1	16 [14; 18]	4	20
Personal growth	16,1 ± 3,1	16 [14; 19]	4	20
Self-respect	13,6 ± 4,1	14 [11; 16]	4	20
Introjected motivation	11,2 ± 3,9	11 [8; 14]	4	20
External regulation	9,2 ± 3,7	9 [6; 12]	4	20
Amotivation	7,1 ± 3,4	6 [4; 9]	4	20
Students Adaptability in the Higher Educational Establishment				
Adaptability to Study Group	12,0 ± 3,3	13 [10; 15]	0	16
Adaptability to Educational Activities	10,9 ± 3,8	12 [8; 14]	0	16
Moral Disengagement Scale (MD-24)				
Moral Justification	2,2 ± 1,3	2 [1; 3]	1	7
Euphemistic Labelling	1,5 ± 0,9	1 [1; 2]	1	7
Advantageous Comparison	2,9 ± 1,4	3 [2; 4]	1	7
Displacement of Responsibility	2,4 ± 1,3	2 [1; 3]	1	6
Diffusion of Responsibility	2,4 ± 1,3	2 [1; 3]	1	7
Distortion of Consequences	2,0 ± 1,3	2 [1; 3]	1	7
Dehumanization	2,4 ± 1,5	2 [1; 3]	1	7
Attribution of Blame	3,1 ± 1,6	3 [2; 4]	1	7
AUDEE Scale				
DEE Learning Process Satisfaction	45,7 ± 8,5	46,0 [40; 52]	13	60
DEE Communication satisfaction and Learning Motivation	19,4 ± 6,2	19,5 [15; 24]	7	35
DEE Stress Tension	20,5 ± 6,6	20,0 [15; 25]	8	40
Need for support in DEE learning activity	14,2 ± 4,6	14,0 [11; 17]	6	28
DEE Dishonest Strategies Prevalence	16,7 ± 3,8	16,0 [14; 19]	7	30
DEE Accessibility	21,4 ± 3,0	22,0 [20; 24]	11	25
AUDEE Scale total score	133,1 ± 23,4	134 [116; 150]	54	184



Pict. 1. k-means cluster analysis results

and meaning experience are significantly higher for Acceptance group, Void experience is significantly lower. However, there is no difference in effort. That may be interpreted in a way that both groups highly appreciated the effectiveness of their activities in the digital educational environment due to perseverance.

Almost all kinds of motivation were higher in Acceptance group compared to Resistance group, and amotivation was respectively lower. The only exception is introjected motivation. This means that the Acceptance group is characterized by more pronounced aspirations: to learn new things, to achieve high results in studies, to develop their abilities, in contrast to the Resistance group. At the same time, for those and others, educational activity is based on a sense of duty to significant people.

It is interesting that the adaptability to the study group does not differ, but the adaptability to learning process is one point higher for Acceptance group.

The comparisons of different moral disengagement mechanisms show that although the differences in mean values are not big (from 0,2 to 0,4 scale points), they are statistically significant for euphemistic labelling, displacement and diffusion of responsibility, distortion of consequences, and dehumanization. All mechanisms of moral separation are more pronounced in the Resistance group than in the Acceptance group. Moral responsibility that discourages academic dishonesty reduces its use, but can be neutralized through various mechanisms.

Thus, the Resistance group believes that in fact the use of dishonest strategies is not a deception (Euphemistic Labelling); and the appropriation of other people's ideas is not such a serious offense (Distortion of Consequences); that dishonest strategies are provoked by educators or fellow students (Displacement of Responsibility); and that everyone uses dishonest strategies (Diffusion of Responsibility); some people can be dispensed with without ceremony (Dehumanization).

It may be supposed that the Resistance group appreciates the mechanisms of moral disconnection more highly due to the belief that the Internet increases the tendency to neutralize moral responsibility ("the online disinhibition effect" [33, 34]). The mechanism of dehumanization emerges due to difficulties in identifying a person, a certain impersonality of the image of a person in the digital environment. However, these assumptions require additional research.

O. Dremova and her colleagues showed that the use of dishonest strategies may be due to negative experiences in learning activities (fear, boredom, dislike for learning activities, etc.) [10, 11]. Positive experiences in learning activities (interest, inspiration, satisfaction with the learning process, etc.) prevent the use of dishonest strategies. This is confirmed by the data obtained in our study for the Resistance group: reduced satisfaction with the educational process and communicative interaction, pronounced stress intensity, the experience of emptiness and meaninglessness of educational activity.

Descriptive statistics (mean ± standard deviation) and the results of comparison of two groups (Student's test *t*-value and probability level *p*)

Variable	Mean ± Std.Dev.		t	p
	Acceptance group (N=221)	Resistance group (N=185)		
Age, years	28,4 ± 9,2	29,0 ± 10,1	-0,6	0,5687
Activity-Related Experiences Assessment technique (AREA)				
Effort	12,8 ± 3,5	12,8 ± 3,4	-0,1	0,8844
Pleasure	13,5 ± 3,0	9,1 ± 3,4	13,7	0,0001
Meaning	15,3 ± 2,7	12,4 ± 4,1	8,7	0,0001
Void	6,3 ± 2,8	9,4 ± 3,6	-9,9	0,0001
"Academic Motivation Scales" Questionnaire				
Intrinsic cognition	17,4 ± 2,6	15,7 ± 3,1	5,9	0,0001
Achievement	16,5 ± 3,1	15,1 ± 3,0	4,5	0,0001
Personal growth	16,8 ± 3,0	15,2 ± 2,9	5,6	0,0001
Self-respect	14,2 ± 4,3	13,0 ± 3,8	2,8	0,0060
Introjected motivation	11,2 ± 4,1	11,2 ± 3,7	-0,1	0,9169
External regulation	8,9 ± 3,9	9,7 ± 3,5	-2,1	0,0328
Amotivation	6,2 ± 2,8	8,1 ± 3,8	-5,9	0,0001
Students Adaptability in the Higher Educational Establishment				
Adaptability to Study Group	12,2 ± 3,2	11,7 ± 3,3	1,6	0,1149
Adaptability to Educational Activities	11,3 ± 3,7	10,3 ± 3,8	2,6	0,0091
Moral Disengagement Scale (MD-24)				
Moral Justification	2,2 ± 1,4	2,2 ± 1,3	-0,3	0,7792
Euphemistic Labelling	1,4 ± 0,8	1,6 ± 1,0	-2,9	0,0044
Advantageous Comparison	2,9 ± 1,5	3,0 ± 1,3	-0,8	0,4216
Displacement of Responsibility	2,2 ± 1,2	2,6 ± 1,3	-2,7	0,0069
Diffusion of Responsibility	2,2 ± 1,2	2,6 ± 1,3	-3,6	0,0004
Distortion of Consequences	1,9 ± 1,2	2,3 ± 1,4	-3,2	0,0013
Dehumanization	2,2 ± 1,4	2,6 ± 1,5	-3,1	0,0022
Attribution of Blame	3,0 ± 1,7	3,2 ± 1,5	-1,3	0,1991

Thus, the Acceptance group is characterized by satisfaction with the educational process and communicative interaction in the DEE, high ratings of the DEE availability, a sense of security, and independence (no need for support in the DEE). Specific features for this group are the following: experiences of pleasure and meaningfulness of educational activity in the DEE; increased motivation to learn new things, to achieve high results in studies, to develop their abilities; sufficient adaptation to the educational process), and lower ratings for the use of dishonest strategies. The Resistance group is characterized by insufficient satisfaction with the educational process and communicative interaction in the DEE, low assessments of accessibility, stress, and a pronounced need for support. This group differs by the experience of emptiness and meaninglessness in educational activity, reduced motivation, insufficient adaptation to the educational process, but sufficient adaptation to the educational group; by usage of some mechanisms of moral separation to neutralize moral responsibility. However, this group is characterized by tenacity and perseverance when working in DEE.

To determine what are the most important characteristics that distinguish Acceptance group a classification tree was built. Classification (or decision) tree analysis is

a statistical method which repeatedly splits up a sample into subgroups [6, 26]. The resulted tree for Acceptance group is presented in pict. 2, including the classification variable and the cut point for each split. Within each node the proportion of participants who have got to the Acceptance group between the baseline and follow-up assessments is shown. The model appeared to be very good (AUROC = 0,82; sensitivity = 77%, specificity = 76%, positive predictive value = 79%).

The model (pict. 2) shows that the main predictors to get into the Acceptance group are motivation (Achievement motivation and Self-Respect motivation) and study-related experiences (Pleasure and Void). Achievement motivation of more than 16 points (median value, table 1) increases the chance to get into the Acceptance group from 41,2 % to 63,5 %. For highly motivated students (Achievement motivation ≥ 16 points), pleasure experience is the most important construct. If the pleasure is equal or more than 12 points (median value, table 1), then the chance to get into the Acceptance group increases from 31,3 % to 79,5 %. Very high Self Respect motivation that represents extrinsic motivation (more than 16 points, i.e., more than the upper quartile, table 1) increases chances to get into the Accep-

tance group for more than 10 % (from 74,3 % to 88,3 %). The minimal chance to get into the Acceptance group (3,6 %) is predicted for students with Achievement motivation below average (less than 16 points), pleasure study-related experience lower than 9 points (less than low quartile), and void study-related experience equal to or more than 11 points which is higher than upper quartile. This chance is a little higher (23,1 %) if Void study-related experience is less than 11 points.

The risk group with predicted chances to get to the Acceptance group around 8 % is characterized by sufficiently high intrinsic motivation (Achievement motivation ≥ 16 points) but low pleasure study related experience (less than 12 points) and high void study experience (more than 10 points). All this shows that motivation and activity-related experience are important prerequisites for new educational technology acceptance. Adaptability and moral behavior are less important for the prediction of DEE acceptance / rejection. Firstly, this is due to the already accomplished shift in the culture of society, where information technologies have been widely introduced for several decades. The participants of our study, having passed through the “threshold” state between two stages of cultural development (pre-informational and informational), adapted to these conditions in their daily activities. They have space for individual transformation in the educational environment. After all, “an adult is not only connected with the environment by thousands of intimate connections – he himself is its product, his essence is in the essence of his environment” [35, p. 130]. “The environment, as it were, grow inward, behavior becomes social, cultural, not only in its content, but also in its mechanisms, in its techniques” [35, p. 157]. Such “growing inward” involves the process of adaptation to new conditions. At the present stage, there is an increase in the overall level of digital competencies, a culture of digital citizenship is being formed [29] regardless of age [30]. Second, the use of dishonest strategies in education is global and widespread throughout the world. increasingly, students see certain acts of academic dishonesty as appropriate, common and acceptable in education, regardless of whether they accept or not ac-

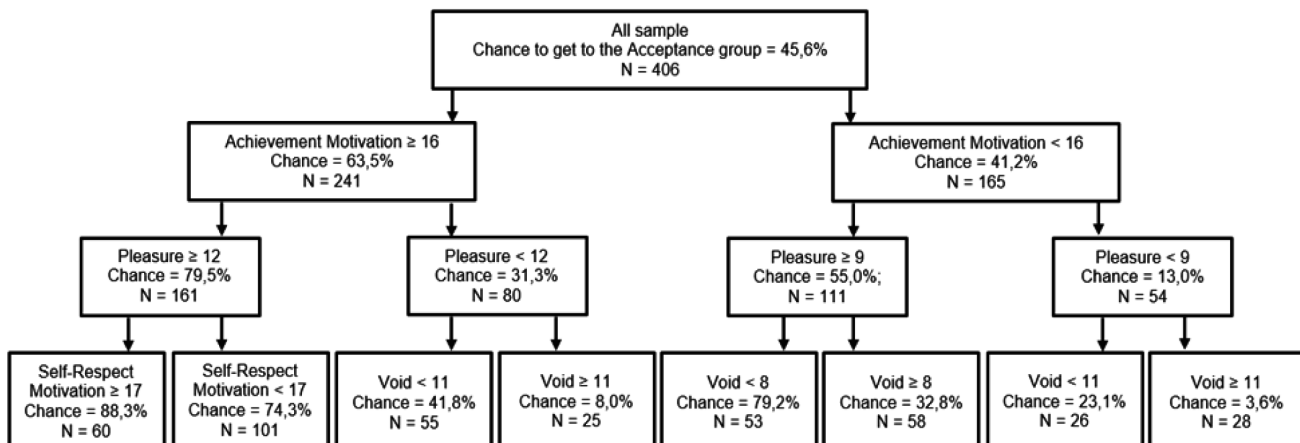
cept the digital learning environment [2]. In addition, it is possible that collectivism [23], characteristic of Russian culture, is a sufficiently significant factor predicting joint forms of academic dishonesty.

Conclusion

As we can see, the predictions of cultural historical activity theory that postulates that motivation, experiencing pleasure and meaningfulness of learning activities in new conditions, moral codes (academic honesty), and the ability to quickly adapt to educational activities in the context of digitalization could be seen as prerequisites for the DEE acceptance were empirically confirmed. The results of our research show that the prerequisites for the DEE acceptance are the following: experience of pleasure and meaningfulness of educational activity; increased motivation to learn new things, to achieve high results in studies, to develop their abilities; sufficient adaptability to the educational process. Prerequisites for DEE resistance are the following: the experience of emptiness and meaninglessness of educational activity; decreased motivation; insufficient adaptability to the educational process; using some mechanisms of moral separation to neutralize moral responsibility.

The unifying characteristics of the two groups distinguished by the attitude towards the DEE (Acceptance group and Resistance group) are persistence and perseverance when working in the DEE and successful adaptation to the study group. These characteristics can be viewed as resources for embracing digital reality in education, reducing tensions and determining the success of information technology adoption.

Thus, according to the apt remark of L. Vygotsky and A. Luria, “Culture, the environment remakes a person, not only giving him certain knowledge. They transform the very structure of his psychological processes, developing in him certain methods of using his own capabilities” [35, p. 221]. We see that every person has these opportunities, but not everyone can use them for their



Pict. 2. Classification tree for Acceptance group; classification variables, cut points for each split, estimated risk to get to Acceptance group, and number of participants

intended purpose due to various reasons and barriers. To some extent, our research allowed us to only partially understand these reasons. In the future, it is planned to study the “cultural capability” of modern man as a dynamic phenomenon, acquired in live contact with the so-

cial environment, highlighted by L. Vygotsky and A. Luria. This phenomenon is of particular relevance today as a result of the complication, enrichment of the cultural environment and the growing demands on the resources and capabilities of the person himself.

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Предпосылки для принятия цифровой образовательной среды в новых культурно-исторических условиях

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Согласно теории культурно-исторической деятельности, мотивация, адаптированность, учебный опыт («переживание») и моральные установки могут рассматриваться как предпосылки для принятия цифровой образовательной среды (ЦОС). Для измерения отношения к ЦОС использовалась шкала оценки цифровой образовательной среды университета (Шкала ЦОС М. Сороковой, М. Одинцовой и Н. Радчиковой). Академическая мотивация оценивалась с помощью опросника «Шкала академической мотивации» (Т. Гордеева, О. Сычев, Е. Осин). Учебный опыт измерялся с помощью методики диагностики переживаний в деятельности (ДПД), разработанной Д. Леонтьевым и его коллегами. Моральное поведение оценивалось с помощью опросника отчуждения моральной ответственности (MD-24), адаптированной Ю. Ледовой и ее коллегами. Адаптированность студентов проверялась с помощью методики, разработанной Т. Дубовицкой и А. Крыловой. В исследовании приняли участие 406 студентов Московского государственного психолого-педагогического университета (90,1% женщины). Средний возраст составил 28,7±9,6 года (медиана = 24 года), варьируясь от 19 до 72 лет. Результаты показали, что по шкале ЦОС можно выделить две группы: группу принятия и группу сопротивления. Первая группа имеет более высокие баллы почти по всем показателям мотивации, переживания удовольствия и смысла в рамках учебного опыта, способности адаптироваться к учебной деятельности и более низкие баллы по пяти из семи стратегий отчуждения моральной ответственности. Статистический анализ (дерева классификации) показал, что мотивация (как внешняя, так и внутренняя) и учебный опыт являются ключевыми ресурсами для принятия ЦОС.

Ключевые слова: цифровая образовательная среда, предпосылки принятия/сопротивления, мотивация, культурно-исторические условия, «культурная способность».

Финансирование. Настоящее исследование финансировалось Московским государственным психолого-педагогическим университетом (МГППУ) в рамках исследовательского проекта «Цифровые технологии в высшем образовании: разработка технологии индивидуализации обучения с использованием электронных курсов».

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