

## MOTIVATORS OF COGNITIVE ACTIVITY, ACCOMPANYING EMOTIONS AND FEELINGS IN THE CONDITIONS OF TRADITIONAL AND E-LEARNING THROUGHOUT LIFELONG

<sup>a</sup>TETIANA MIYER, <sup>b</sup>LARYSA HOLODIUK, <sup>c</sup>LYUDMILA ROMANENKO, <sup>d</sup>OLENA SAKALIUK, <sup>e</sup>OLGA KHYZHNA, <sup>f</sup>KARINA SHAFRANSKA, <sup>g</sup>JI ZHIDAN

<sup>a,c,d</sup>*Borys Grinchenko Kyiv University, 18/2, Ihoria Shamo Blvd., 02154, Kyiv, Ukraine*

<sup>b</sup>*Municipal Institution "Kirovograd Regional IN-Service Teacher Training Institute named after Vasyl Sukhomlynsky", 39/63, Velyka Perspektivna Str., 25006, Kropyvnytskyi, Ukraine*  
<sup>c</sup>*Dragomanov National Pedagogical University, 9, Pirogov, St., 01601, Kyiv, Ukraine*

<sup>f</sup>*Szkoła Główna Gospodarstwa Wiejskiego (SGGW), 166, Nowoursynowska Str., 02-787, Warsaw, Poland*

<sup>e</sup>*Dragomanov National Pedagogical University, 9, Pirogov, St., 01601, Kyiv, Ukraine*

email: <sup>a</sup>t.miyer@kubg.edu.ua, <sup>b</sup>golodiuk\_larysa@ukr.net, <sup>c</sup>l.romanenko@kubg.edu.ua, <sup>d</sup>o.sakaliuk@kubg.edu.ua, <sup>e</sup>khyzhna@gmail.com, <sup>f</sup>karina.szafranska@sonica.com.pl, <sup>g</sup>czidanczi@gmail.com

**Abstract:** The article presents the theoretical and experimental results of the research of cognitive activity, which is carried out with an emphasis on motivators of traditional and e-learning throughout life, as well as the accompanying positive and negative emotions and feelings. During the research, we attributed to the motivators the content of learning, learning process, activities and result. These motivators make a person want to act with a certain intensity and direct his activity in lifelong learning. Accompanying emotions play the role of internal signals of motivators of cognitive activity, situationally regulate the cost of body resources, increase or decrease the intellectual activity of man in the learning process. Feelings indicate a stable motivational significance for a person of a certain motivator of cognitive activity, as well as indicate the emotional experience that a person has gained in previous stages of learning, affect the processes of mutual and self-evaluation. As a result of experimental research, the priority of the components of content, process and result as motivators of human cognitive activity in the period of preparation for professional activity (22-23 years) and in the period of its implementation (30-32 years, 40-42 years, 50-52 years) are considered.

**Keywords:** Activity, result, Cognitive activity, Emotions, Feelings, Learning content, Learning process, Lifelong learning, Motivator of cognitive activity.

### 1 Introduction

Human activity is a manifestation of life and a condition of development. N. Bordovskaya and S. Rozum [3] characterize human activity as immanent, i.e., always inherent. Activity is determined by the action of motivating forces, to which scientists include needs, desires, desires, and so on. It is through these internal motivating forces that any external influence is refracted. That is, all external influences always cause, activate a certain need, which becomes a motivating force for action (activity), and the motive sets the general direction of action. Cognitive activity is a necessary attribute of lifelong learning. This is a trait of man, which is manifested in his readiness and desire for activity. This is the implementation of activities [31].

In the context of lifelong learning, cognitive activity is a characteristic of human activity, manifested in its attitude to the content and learning process, the desire to effectively master the knowledge and means of activity in optimal time and mobilize moral and volitional efforts to achieve goals.

In the development of cognitive activity M. Davydyuk [8] distinguishes 4 levels:

- 1) Zero level (characterized by lack of initiative, lack of independence and the presence of gaps in knowledge and skills);
- 2) Reproductive level (there is a stimulating and productive initiative, independence at the level of copying, knowledge of program material within the textbook, lack of skills);
- 3) Search level (characterized by heuristic initiative, independence, knowledge of program material, ability to perform atypical tasks);
- 4) Creative level (characterized by the focus of initiative, the presence of independence, knowledge and skills to

discover the subjectively new or to develop an objectively new).

N. Bordovska and S. Rozum [3] note that achieving or not achieving the goal of cognitive activity, satisfaction or dissatisfaction of cognitive needs is experienced in the form of emotions and feelings. Scientists characterize emotions differently.

K. Izard [11] defines emotions as something that is experienced as a feeling that motivates, organizes, and directs perception, thinking, and action.

According to O. Leontiev, emotions play the role of internal signals and stimuli. They do not contain information about external objects, their connections and relationships, objective situations in which the subject's activity takes place, but express, first of all, the connections between the motives of activity. Emotions perform the function of motivating activities, but they are not motives themselves. They do not subordinate activity to themselves, but are its regulator and mechanism of movement. They give a subjective colour to everything that happens around us [18, p. 164].

Negative emotions determine the mobilization of human resources, while positive emotions minimize the cost of resources [38]. Negative emotions inform a person about unfavourable situation, the need to change it, while positive emotions indicate well-being and do not stimulate action [2].

That is, situational emotions reflect the subjective meaning of objects in specific conditions. Relative stability is inherent in another form of experiencing the satisfaction or dissatisfaction of cognitive needs, achieving or not achieving the goal of cognitive activity. It's a feeling.

Feelings are a form of humans' experience of their attitude to objects and phenomena of the surrounding reality. In contrast to situational emotions, feelings highlight phenomena that have a stable motivational significance.

In ontogenesis, feelings emerge later than situational emotions. Their formation depends on the development of individual consciousness, which is caused by educational influences. The objects of feelings are, above all, those phenomena and conditions on which the development of events depends. These phenomena and conditions are significant for a person and are perceived by him emotionally.

Feelings arise as a result of the generalization of emotional experience. Formed feelings become the leading formations of the emotional sphere and begin to determine the dynamics and content of situational emotions. In turn, situational feelings clarify the content of feelings about a particular situation and encourage a certain activity. In the process of forming a personality, feelings are organized into a hierarchical system.

Some feelings take the lead, while others become potential with unrealized tendencies. The content of the dominant feelings determines the important characteristics of the orientation of the individual. Cognitive activity generates in a person cognitive or intellectual feelings (feelings of the new, feelings of doubt, feelings of satisfaction with the process, the result). Their subject is the learning process itself, its outcome and a generalized sense of love for the truth.

An example of feelings that reflect the emotional attitude to social reality can be a sense of belonging to a particular group, a sense of loyalty to the group (institution). In the context of cognitive activity, social feelings determine a person's attitude to the educational institution, other participants in learning, to himself.

## 2 Materials and Methods

Motivator is that which causes the desire to act, which, in turn, causes and directs cognitive activity. Thus, understanding the essence of the motivator is not possible without understanding the essence of the phenomenon of "desire to act".

The desire to act is a motive with a clear awareness of the need, its objects and possible ways to meet the need to learn something new. That is, the emergence of the desire to act indicates that the need that was experienced passed into the thought of the possibility of its realization. The possibility of constructing a plan of cognitive activity is explained by the fact that desire has a motivating force and sharpens awareness of the purpose of future action and how to achieve it.

In the research, we focused on such motivators of cognitive activity as: 1) the content of learning; 2) the learning process; 3) activity; 4) the result. We also took into account that the manifestation of cognitive activity can occur during the organization of traditional forms of learning (Learning is organized in a certain audience; participants in the learning process interact directly with each other) and e-learning (Learning is organized on the basis of electronic technologies, especially the Internet. Technologies allow participants in the learning process to learn remotely).

Various methods were used in the research, namely: theoretical (analysis of scientific data, ordering and systematization of selected information, generalization of results) and empirical (testing). The experimental part of the research involved 625 students (future teachers) aged 22-23 years and teachers aged 30-32 years, 40-42 years and 50-52 years for 630 people of each age category.

## 3 Results and Discussion

### 3.1 The Content of Learning as a Motivator of Cognitive Activity, Accompanying Emotions and Feelings

The content of education is a translational model of social experience. The content of education in every country of the world is defined as a national heritage [19, p. 255]. The content of education in different countries is an appropriate translational model of social experience. Its construction is based on an information array of quantitative and of qualitative data. The content of education as a translational model of social experience generally reflects reality. It also defines the socio-pedagogical context, which: 1) meets modern needs; 2) meets future demands, which are formed in accordance with the development of society and the transformation of its needs.

The content of education is a dosed and structured presentation of a certain part of the content of education to the participants of the learning process.

The content of learning as a motivator of cognitive activity arouses the desire to act to learn the facts, the essential connections between them, the essence of various phenomena, their origins, rules as generalized methods of action, and so on.

V. Ilyin [10] defines three levels of development of motivation by the content of training: the first level – interest-hobby; the second level – interest-attitude; the third level is the interest-orientation of the personality, which arises on the basis of the formation of a stable dominant system of motives. In the context of ontogenesis, interest-interest (ie the level of development of motivation by content) arises on the basis of reflex-oriented human reaction.

According to the results of M. Morozova's research, cognitive activity is first directed to certain facts and phenomena. As the accumulation of knowledge, cognitive activity goes beyond the descriptive factual content and is aimed at understanding the causal relationships between the phenomena being studied [30].

According to the results of the educational project "AXIA" [23; 24] a person experiences the need to learn something throughout life (Figure 1).

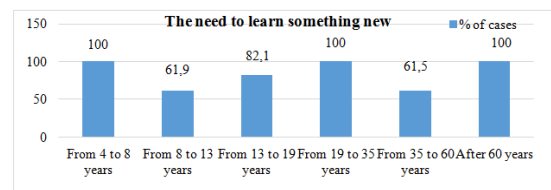


Figure 1 – A person's experience of needing to learn something new throughout life

As shown in Figure 1, the need to learn something new is a cross-cutting need, but dominates in 100% of cases among other needs only at the age of 4 to 8 years, from 19 to 35 years and after 60 years.

It is important to note that the content of learning as a motivator of cognitive activity may fade if the learning does not take into account certain features of content processing.

1. One scientific concept is learned in an average of 1.8 minutes [34, p. 552] only if a person is interested in learning and feels the need for knowledge.
2. One page of the textbook contains an average of 1800 characters, if a person of any age cannot work with information on the page of the textbook (separate primary and secondary information), the content of training "does not work" as a motivator of cognitive activity.
3. As a result of one-time reading of the textbook a person can learn material that does not exceed 20-25% of its content.

As a result of experimental research, I. Pidlasny [34] found that the highest results of mastering the content of the text are achieved when learning, or rather working with a particular text, lasts from 1.5 to 2.5 TORT. The TORT criterion is the time for one-time reading of the text. This criterion allows comparing the cost of time to study different in volume and complexity of the material. Also it enables determining the time required for quality processing of a certain part of the learning content and maintaining cognitive activity at the optimal level.

Formula:  $ODW_{opt} = TORT_{text} + k \times TORT_{text}$ , where

$ODW_{opt}$  – optimal duration of work with the educational text;

$TORT_{text}$  – the time for one-time reading of the text;

$k$  is the coefficient of learning for different groups of people, for groups with a low level of learning  $k = 1.5-1.6$ ; for groups with an average level of learning  $k = 1.3-1.4$ ; for groups with a high level of learning  $k = 1,1-1,2$ .

To illustrate the process of using the TORT criterion, the scientist gives the following example. Students can read the text of a textbook paragraph in 8 minutes. This means that the TORT of this text is 8 minutes. The text will be read by students with a coefficient of learning 1.4. One has to substitute the data into the formula as follows:  $ODW_{opt} = 8 + 1,4 \times 8 = 19,2$ . To ensure the optimal level of cognitive activity, work with the text should last 20 minutes.

Information in itself does not have any impact on the motivational sphere of man and does not cause certain emotions. Accompanying emotions and feelings will arise only when the content of information meets the actual needs of man. If the content of learning meets the existing needs, it finds a response in the mental and emotional spheres of a person who learns throughout life. If the content of education arouses a person's interest, feelings of joy, satisfaction, excitement, etc., we can hope for the emergence of needs and motives, cognitive activity [22].

### 3.2 The Learning Process as a Motivator of Cognitive Activity, Accompanying Emotions and Feelings

The learning process is a dynamic interaction (cooperation, partnership) of participants in the learning process, which is aimed at active learning of the content of education, personal development.

According to the results of the "AXIA" [25, 26] educational project, the need to learn something new while communicating is most effectively met. In the process of learning communication provides the maximum result, if organized:

- With tutor and teacher – from 4 to 8 years;
- With classmates-friends – in the period from 8 to 13 years and 13 to 19 years;
- With colleagues – in the period from 19 to 35 years and from 35 to 60 years;
- With new acquaintances – after 60 years.

The learning process as a motivator of cognitive activity unfolds differently in ontogenesis. At the beginning of school the child is attracted not by the content, but the process (drawing process, sculpting process, the process of listening to the story, etc.) [14].

In the period of systematic learning, the quality of the organization of the learning process acquires special significance. However, in one class, in the same conditions of quality organization of the learning process, we can observe five groups of students who have different attitudes to learning activities, which is accompanied by different cognitive activity [4, 5, 36].

*Group I* (more students in the class) are students-performers, in the lesson they are honest and diligent, but show an average level of cognitive activity. Assimilation of knowledge for this group is only a means of satisfying the need: to please parents, to gain authority in the classroom, to earn the praise of the teacher.

*Group II* (4-5 students of the class) are students with intellectual initiative and a high level of cognitive activity, which is realized in the desire to work independently, quickly find answers to the teacher's questions.

*Group III* (2-3 students in the class) are students who are constantly in a state of mental stress and a high level of cognitive activity. They come up with interesting puzzles, successfully choose words, are able to find an analogy in life to the studied. These students are not afraid to make mistakes, because they are more interested in the learning process than grades for learning.

*Group IV* (4-5 students in a class) are students who are guided not by a cognitive motive, but by the desire to be like everyone else. Cognitive activity of students in the classroom is low. They cannot complete the learning task on their own.

*Group V* (2-3 students in the class) are students with a negative attitude to learning. Mental efforts tire them quickly. They learn only because adults demand it.

The learning process as a motivator of cognitive activity should be organized:

1. Taking into account three levels of cognitive activity:

- Level I – elementary (attractive are the processes of drawing, modeling, listening, reading).
- Level II – active (attractive processes of thinking, reasoning).
- Level III – cognitive (attractive are the processes of cognition, intellectual search and movement to the truth).

2. Taking into account the type of cognitive activity that is inherent in each student (group of students). This can be:

- Executive type of cognitive activity (like to perform tasks);

- Search and performance type of cognitive activity (like purposeful search for information necessary to perform the task);
- Creative type of cognitive activity (to develop new tasks, exercises, tasks, projects).

In the conditions of distance learning the manifestation of cognitive activity is influenced by various phenomena and processes. In particular, these are:

1. The sense of belonging experienced by participants in online learning. As a result of a study conducted by S. Peacock, J. Cowan, L. Irvine, J. Williams it was found that the formation of a sense of belonging is influenced by the actions of the teacher, which are aimed at [33]:

- The organization of interaction between participants in online learning;
- The formation of enthusiasm for the process (passion for the process);
- Adherence to the culture of communication;
- Introduction of didactic and psychological support for each participant.

2. In the conditions of distance learning phenomena and processes influence learning, and in the manifestations of cognitive activity. In particular, these are:

- The feelings of belonging experienced by participants in online learning;
- The feelings satisfaction participants' online learning.

According to the results of the study of the feeling of satisfaction in participants of postgraduate distance learning, R. Andoh, R. Appiah, and P. Agyei [1] formulated the following conclusion: the emergence of a feelings of satisfaction does not depend on age, article or study program, but largely depends on the location of the training centre and study period.

3. The level of self-efficacy and awareness of the value of the task

According to the D. Lee, S. Watson, W. Watson [16] study, students with a high level of self-efficacy were much more likely to choose a strategy of self-directed learning than students with a low level of self-efficacy. Students who assigned high value to the task showed a higher level of cognitive activity and higher learning outcomes compared to students for whom the value of the task was low or medium.

According to the results of V. Onyschuk's [32] experimental research, different ways of organizing the learning process aroused different emotions in students. Negative attitude to the learning process is evidenced by the following considerations of students: I did not like the English lesson, because we worked very little. I did not like the lesson of the native language, because the teacher is in a hurry and you do not have time. I did not like the history lesson because the material was repeated for a long time. I did not like the algebra lesson because I did not solve many examples and problems. Positive attitude to the learning process: The physics lesson was interesting because they solved problems and drew diagrams. According to V. Onyschuk's [32] generalizations, students like the learning process, during which they are active, sufficiently loaded with educational work, independently solve problems, perform tasks (make diagrams, perform experiments, analyze a piece of music, etc.).

The learning process evokes positive emotions if there is:

- Focus on autonomy (maintaining the student's own cognitive initiative, the ability to make choices, involvement in independent problem solving, focus on student perspectives);
- Focus on the structure (the teacher acts as a leader for the student in the educational environment, creates the necessary field for his activities, rationally organizes

cognitive activity, provides feedback on the movement in the field of activity);

- Focus on the student (the teacher gives the student time, attention and gives the opportunity to make subjective discoveries, to express themselves) [41].

Positive feelings in the learning process arise as a result of understanding the processes of "what to do" (elementary level), "how to do" (activity and cognitive levels) and their separation from each other. Decreased cognitive activity is observed in cases where in the learning process there are: excessive attention and insincere praise, unjustifiably overestimated or underestimated, derogatory criticism and disregard for attention.

### 3.3 Activity as a Motivator of Cognitive Activity, Accompanying Emotions and Feelings

Activity motivation refers to the structural elements of the activity itself. That is, activity as a motivator excites and directs human activity to actions and operations as part of a particular activity.

To motivate the activity, it is necessary to understand the process of the activity (performing a certain type of exercises, solving a certain type of task, etc.).

V. Shadrikov identifies three stages of development of motivation [37]:

- Stage I "I want" (in the choice of activities and activities are determined by the wishes of the child);
- Stage II "possible" (adults begin to limit the child's desires);
- Stage III – "should" (adults ignore the wishes of the child).

Yu. Kulyutkin and G. Sukhobskaya [15] singled out the following motivation strategies for the implementation of activities:

1. Realistic strategy – in the process of choosing an activity a person takes into account the importance of the level of their achievements depending on the complexity of the task and the value of the result. Selects tasks of medium difficulty, which allows identifying the level of their capabilities and probably get a sufficient level of results.
2. Risk strategy – a person motivated by prestige and level of achievement, chooses tasks (tasks, projects) of high complexity, taking into account the probability of low success.
3. Cautious strategy – a person unmotivated or unsure of his abilities prefers those tasks (tasks, exercises, projects), the possibility of solving which is beyond doubt.

The authors of these three strategies of motivation note that the strategy of choice of activity is determined by individual qualities of the individual, and also depends on the conditions of activity. In different situations for a person is characterized by different strategies for motivating activities [15]. For example, a child is interested in the process of solving mathematical problems, he chooses a problem of high complexity, seeking to satisfy their interests and realize their abilities. However, in the literature lesson her motives are others, which, in turn, affects the choice of complexity of the task.

An integral condition of the transition of learning motivation from interest to individual facts to the level of cognitive interest in the laws, causation, nature and origin of objects and phenomena of the objective world, which characterizes the creative level of cognitive activity, is the possession of information. After all, the boundary between reproduction and creativity is conditional and mobile, the qualitative transition from one type of activity to another depends on the accumulated number of elements at the previous stage [13]. The more elements of creativity accumulate in reproduction, the closer the transition to a qualitatively new, creative type of knowledge.

Thus, the main actions of reproduction are: 1) recognition and deep awareness of information; 2) systematization and assimilation of the essential; 3) reproduction and application of knowledge in practice. The main categories of creativity are full or partial independence; search for possible options to achieve the goal; creation of a new (in individual development) product. Creative learning is based on forecasting – predicting possible outcomes. Prediction is possible only on the basis of reproduction of logically ordered information that reflects the relationships between phenomena and objects [13].

If a person seeks to carry out certain activities, then there is reason to talk about the emergence of motivation for this activity. S. Zanyuk [42]. Low level of cognitive activity indicates a decrease in interest in this activity, the extinction of positive emotions in the absence of control by adults. The average level of effectiveness is the presence of motivation in semi-obligatory situations. A high level of effectiveness of motives is manifested if the educational activity takes place, despite obstacles and lack of control by the teacher [7].

### 3.4 The Result as a Motivator of Cognitive Activity, Accompanying Emotions and Feelings

Motivation as a result is a steady identification of a person's need to succeed in work. This motivational quality of personality is called "achievement motivation" [9] and others. The basis of achievement motivation is: 1) the desire to enjoy the achievement of results; 2) fear of failure [10].

Scientists have developed various theories to explain the motivation to achieve. Weiner's attribution theory [40] is based on the comparison of the explanation of successful and unsuccessful results of activities with motivation. According to the generalizations of the scientist, individuals who are motivated to succeed, explain successful results, internal factors (especially high abilities), and failure – the lack of effort, sometimes adverse circumstances. Individuals in whom the motive of avoiding failures prevails explain success by external factors (luck, ease of the task), and failure – by their inability and excessive complexity of the task.

H. Heckhausen [9] developed the concept of the motive of achievement. The basis of the concept – the following components of the self-esteem system [9]:

- Individual relative norm (the results of the action are correlated with the previous results of the person and there is an improvement or deterioration of his achievements);
- Social relative norm (comparison with the corresponding results of other people);
- Subject (immanent) (evaluation criteria follow from the features of the task). The scientist found that the most favorable impact on the current motivation of achievements in the classroom, on academic performance, the formation of orientation to success and interest in subjects has the application of the teacher's individual relative norm of assessment. Students tend to master the relative norm of assessment, which is followed by the teacher. Students use this norm during self-assessment.

Also the motivator can be to get the result, the opportunity to take a certain position in the team, get approval, and for first-graders to perform the duties of a student [14].

Achievement-oriented behavior implies that everyone has motives to succeed and prevent failure. However, each individual has a dominant tendency to be guided by either the motive of achievement or the motive of preventing failure. The motive for achievement is related to productive performance, and the motive for preventing failure is related to anxiety and protective behavior. The predominance of one or another motivational trend is always accompanied by difficulties in choosing a goal. After completing a series of exercises and receiving information about successes and failures, students motivated to achieve overestimate their failures, and motivated to prevent failure, on the contrary, overestimate their successes.

In the case of simple and well-developed skills motivated to prevent failure work faster. Their results decline more slowly. When performing problem-solving tasks that require productive thinking, these students worsen their work when time is limited, and for students who are motivated to succeed, their work improves.

It is important to emphasize that the result as a motivator of cognitive activity and related emotions and feelings in the context of traditional learning and e-learning are different. In the context of traditional learning, students with average abilities will be much more motivated to achieve results and prevent failure. Neither very smart nor incapable students will have a strong motivation associated with achievement, and experience the accompanying emotions and feelings, because the situation of the competition will seem to them either "too easy" or "too difficult" [39].

Summarizing the work of scientists, we can formulate the following conclusion. During the implementation of e-learning there is:

1. Insignificant influence of the level of motivation on academic success [35].
2. Significant influence on the academic achievements of the depth of perception of what is being studied and the time during which the educational activity was carried out (Relationship between).
3. Significant influence of the competitive psychological climate in the professional team on increasing motivation to learn, cognitive activity and results of e-learning of working people [18].

The result as a motivator of cognitive activity may be accompanied by the experience of negative intellectual emotions, which are associated with the control and evaluation by the teacher of the results of students [30]. Also, negative intellectual emotions arise when there is no success in learning [30]. The lack of a positive result in learning, accompanied by negative experiences, leads to a negative attitude of students to certain subjects, prevents the emergence of cognitive interests [20], and strengthens the desire to succeed, leads to new, rational ways to learn.

We supplemented the theoretical generalizations on the research problem with empirical data. For two years, we studied the motivators of cognitive activity in students (ages 20-22) and working teachers (ages 30-32; 40-42; 50-52) (Figure 2).

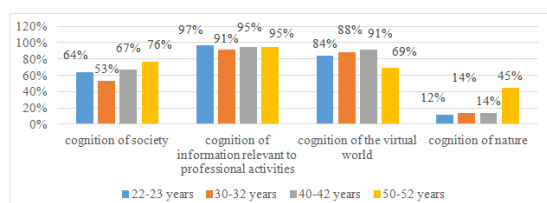


Figure 2 – Components of the content of learning as a motivator of cognitive activity and the priority of their impact on the person during lifelong learning

Based on the comparison of the data in Figure 2, we can conclude that the content of learning as a motivator of cognitive activity has a different direction in the period of preparation for professional activity (22-23 years) and during its implementation (30-32 years, 40-42 years, 50-52 years). For all categories of respondents, content that contains information relevant to professional activities is important. The content of learning, which is focused on both cognition of society and cognition of nature, is beginning to attract the attention of the largest number of respondents aged 50-52. Instead, the content of learning, which contributes to the cognition of the virtual world, causes an increase in cognitive activity from 22 to 42 years.

Analysis of the data in Figure 3 shows that such processes as reading and research of phenomena and processes of the surrounding world cause cognitive activity in only a small number of respondents. Instead, the search for relevant information and discussion of phenomena, processes of the real world, a significant number of respondents attributed to the motivators of cognitive activity. The obtained data indicate that the highest possible level of cognitive activity can be achieved if dialogic technologies are used to organize the traditional learning process and e-learning.

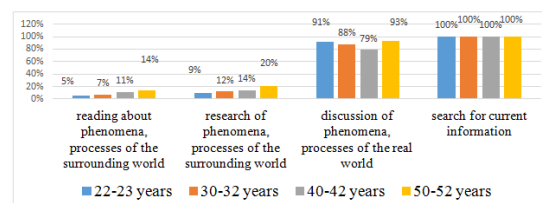


Figure 3 – Components of the learning process as a motivator of cognitive activity and the priority of their impact on the person during lifelong learning

Based on the comparison of the data in Figure 4, we can conclude that self-realization and emotional satisfaction as a result cause cognitive activity in the largest number of respondents.

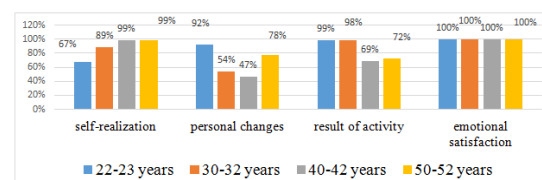


Figure 4 – Components of the result as a motivator of cognitive activity and the priority of their impact on the person during lifelong learning

As a result, personal changes cause cognitive activity in the largest number of respondents aged 22-23 years, and in the smallest number of respondents aged 40-42 years. The result of educational activity is a motivator of cognitive activity for respondents aged 20-22, and the result of professional activity - for respondents aged 30-32.

#### 4 Conclusion

Human activity is a manifestation of life and a condition of development. Cognitive activity is a necessary attribute of human lifelong learning. Accompanying emotions and feelings are a mental reflection of the meaning of cognitive activity.

A motivator is something that makes one to want to act. The motivator of cognitive activity is what causes activity and directs it. Motivators of cognitive activity include the content of learning, learning process, activities, results. The action of motivators of cognitive activity can be observed during the organization of e-learning and traditional (this is learning that is organized in a certain audience based on the direct interaction of participants in the learning process).

The content of learning as a motivator of cognitive activity should arouse the learner's desire to act to learn the facts, the essential connections between them, the essence of various phenomena, their origins, rules as generalized methods of action and more. The desire to act is a motive with a clear awareness of the need, its objects and possible ways to meet the need to learn something new. The content of training "works" as a motivator of cognitive activity if:

- During the training the peculiarities of processing the content of training during e-learning and in the traditional form are taken into account;
- The person shows interest, feels the need for knowledge;

- The content of information meets human needs, relevant to professional activities, provides knowledge of the virtual world and society.

The learning process as a motivator of cognitive activity refers to the dynamic interaction (cooperation, partnership) of participants in the learning process, which is aimed at active learning of the content of education, personal development. For people of different ages, the learning process "works" as a motivator of cognitive activity in different ways. The child is attracted by the process itself (drawing process, sculpting process, listening process, etc.), the student – the organization of the learning process, the adult – the practical orientation of the learning process. The learning process "works" as a motivator of cognitive activity and is accompanied by positive emotions when participants in online learning experience a sense of belonging [33] and a sense of satisfaction [1]. Also, participants in online learning attribute high value to a learning task or task [18]. They are aware of and distinguish between the processes of "what to do" (elementary level) and "how to do" (activity and cognitive levels). Also, participants in online learning search for relevant information and discuss real-world phenomena and processes.

Activity as a motivator of cognitive activity excites and directs human activity to actions and operations as part of a particular activity at the level of reproduction and creativity. One and the same person may be motivated to perform one activity at the level of reproduction and another at the level of creativity. The low level of cognitive activity in the context of traditional and e-learning indicates a decrease in interest in this activity, the extinction of positive emotions when the control of the teacher or teacher is reduced or absent. We can talk about a high level of cognitive activity when the activities take place, despite obstacles and lack of control by the teacher.

The result as a motivator of cognitive activity directs human activity both to achieve success in activities and to prevent failure. In the context of traditional learning, the result as a motivator of cognitive activity in different ways motivates people of different ages and different levels of development of abilities. In e-learning, the depth of perception of what is being studied, the amount of time during which the study material was processed, the emotional experience of a person's competitive psychological climate in the team indicate cognitive activity aimed at academic achievement.

During learning, a sense of belonging and emotional satisfaction have a stable motivational significance for a person. The presence of these feelings enhances cognitive activity during traditional and e-learning. It also has a positive effect on the processes of mutual and self-evaluation and on cognitive activity in the absence of control by the teacher or lecturer.

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