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Factors' learning motivation dynamics in training course: a study with students in Kazakhstan

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The article demonstrates the relevance of the presented topic, draws attention to the problem of low learning motivation among students, poor quality study of training courses, and the need to consider the dynamics of learning motivation among students during their development. The purpose of the study is to identify the factors that influence the dynamics of students' learning motivation at various phases of training course, and then to modify the course's structure accordingly. Students were surveyed using two questionnaires created by the authors: "Learning motivation" and "Dynamics of learning motivation." Participating in the survey were students from university and college. Students identified the dynamics of learning motivation for several course components. Organizational, psychological, communicative, target and effective are the factors of dynamics of learning motivation. The analysis enabled the identification of the factors influencing the dynamics of students' learning motivation, which must be incorporated into the course's instructional design.

KEYWORDS

vocational education, learning motivation, training course, dynamics of learning motivation, factors of learning motivation, instructional design

1 Introduction

In recent years, enhancing the alignment between vocational education and social development needs has become a strategic consensus shared by nations worldwide (Pan et al., 2025). Modern vocational education must meet the demand of society for professional knowledge, adapt educational programs to the changing requirements of students, and provide favorable conditions for the development of professional competencies in order to maintain its quality, that would contribute to achievement of the sustainable development goals in education. The relevance of various vocational concepts remains invisible when conducting tasks at work, hence student motivation for learning may decrease and students' understanding accordingly (Øgård et al., 2025). The development of professional competencies, which are reflected in the learning outcomes of the educational program, is ensured by practical training and training courses. The essential condition for the development of professional competencies by a student is his learning motivation, the absence or low level of which is one of the most significant issues in university-based vocational training (Guseynova, 2020). Learning motivation, especially intrinsic motivation, is positively correlated with academic outcomes, that measured by scores or grades (Lazowski and Hulleman, 2016; Alkış and Taşkaya Temizel, 2018).

1.1 Learning motivation

Learning motivation is the subject of extensive research in fields such as education, psychology and sociology. Scientific works in this field cover both academic and applied aspects aimed at studying the factors determining the desire for learning. Research on educational motivation contributes not only to a deeper understanding of the mechanisms of personal development and well-being, but also to the improvement of educational programs, as well as the formation of an effective state educational policy. There are many studies on motivation, its categories, its structure, and its sources. According to Markova et al. (1990), motivation is what moves a person, causes him to perform a task with enviable persistence and perseverance, and to move toward an objective. Khalimova and Golovan (2014) claim that motivation for a particular activity refers to a process through which that activity takes on a specific personal meaning for a person, fosters the stability of that person's interest in it, and transforms the externally set goals of that activity into the needs of the person themselves. In the psychological and pedagogical literature, it is difficult to find a direct definition of the term "learning motivation."

However, "learning motivation," "teaching motivation," and "student's motivational sphere" are used interchangeably. Based on the analysis, Zenkova (2017) identifies learning motivation as a specific form of motivation included in learning activities and determining the student's knowledge need. Regarding external and internal motivation, foreign researchers observe, "when a person acts on the basis of internal motivation, the reasons for participating in learning are associated with his innate enjoyment and interest in performing academic tasks. This represents the utmost degree of autonomy" (Bureau et al., 2022).

In psychology, learning motivation is interpreted within the framework of various theories and approaches to understanding personality, needs, and learning processes. Most modern theories of motivation, and in particular learning motivation, are strongly influenced by the socio-cognitive approach. But in a number of them — and this is important — the emphasis is on the problems of emotions, as well as on the system of student relationships with teachers, parents and peers (Nikitskaya and Tolstykh, 2018).

The theories presented encompass learning motivation, emphasizing different aspects but with common overlaps. The unifying element of all the theories is the assertion of cognitive mechanisms at the core of learning motivation, where the learner analyses his/her abilities, assesses the complexity of learning tasks, and the influence of environmental factors on learning and goal attainment.

Therefore, learning motivation is a system of motives, including motives, incentives, emotions, and interest, that helps the student determine the direction of learning activity, encourages him to participate in the learning process, and allows him to actualize himself in it.

1.2 Factors of learning motivation

Learning motivation is characterized by its dynamic nature, which refers to the changes that occur in the learning motivation of learners as a result of a variety of factors. Koroleva (2019), Karyakina (2018), and Gorskaya et al. (2016) study the learning motivation of students from the point of view of different aspects: changes in the level of

learning motivation during the entire period of study at the university, motives for learning activities, such as obtaining a diploma, future professional activity. For us, the learning motivation of students within the context of training course mastery, its dynamics, and influencing factors is of the utmost importance.

The levels of students' learning motivation are usually determined by internal and external factors. The analysis of the interaction of these factors allows for a deeper understanding of the mechanisms of formation and maintenance of motivation to learn. Researchers consider cognitive and emotional-volitional characteristics of a person to be internal factors determining the level of educational motivation. Students with a high level of internal learning motivation demonstrate great initiative and commitment to self-improvement (Ryan and Deci, 2000).

An important aspect, according to Bandura, is also self-esteem and confidence in one's own abilities: a high level of self-efficacy positively correlates with academic performance (Nikitskaya and Tolstykh, 2018). External factors include the influence of the educational environment, pedagogical approach and social support. The effectiveness of learning motivation is determined by the balance between internal and external factors.

The training course is, in our opinion, a comprehensive psychological and pedagogical system that includes objectives, evaluation system, format of content, methods, means, and forms of teaching, the teacher's personality, reflected in the style of communication between the teachers and students, thereby fostering the development of learning outcomes.

2 Materials and methods

The purpose of the study is to examine the motivation of students to study the training course, and it was conducted to answer the following questions:

- 1 What factors impact the dynamics of students' learning motivation while studying in a training course?
- 2 When and why are the greatest decreases and increases in learning motivation observed?

The purpose of the study is to identify the factors that influence the dynamics of students' learning motivation at various phases of training course, and then to modify the course's structure accordingly.

2.1 Participants

The sample consists of 125 students of educational programs in the field of "Pedagogical sciences" from university and college. The gender ratio was not taken into account, as the predominance of women is representative of the pedagogical vocational education in the country. The majority are university students, as well as 2nd year students (Table 1).

2.2 Data collection instruments

We utilized theoretical analysis and empirical data processing to accomplish the objective of the study. Students were surveyed online

TABLE 1 Sample distribution by variables ($n = 125$).

Variables	Frequency	Percentage (%)
Year of study		
1	28	22.4
2	40	32
3	39	31.2
4	18	14.4
The level of education		
College	58	46.4
University	67	53.6

using the “Learning motivation” and “Dynamics of learning motivation” questionnaires created by the authors. The surveys involved students studying at university and college. In order to pass the “Learning Motivation” survey, students were required to identify the factors that affected their learning motivation throughout the course. In the “Dynamics of learning motivation” survey, students identified periods of greatest decrease and increase in motivation to learn during course mastery.

The Study Motivation Questionnaire was developed based on the course’s main components: communication, teaching methodology, instructor, assignments, and evaluation, which were used to evaluate the questionnaire’s results. The “Dynamics of learning motivation” questionnaire was based on the major phases of the course: the introduction, the main body, and the conclusion. On the basis of the survey results, mathematical data processing, quantitative results, and qualitative data analysis were conducted.

In our case, the survey is not is scale in the traditional sense: it includes both closed open-ended questions designed to collect diverse information that cannot be reduced to a single quantitative indicator. Therefore, to assess the quality of the instrument, a Content validity check was conducted to assess the quality of the instrument. Specialists in the field of pedagogy and psychology with experience in designing diagnostic tools participated in the development of the questionnaire. At the validation stage, each question was correlated with the relevant aspect of learning motivation, which made it possible to verify the completeness and relevance of the coverage of the key characteristics of the studied construct. In addition, the statements were checked for clarity, lack of ambiguity, and compliance with the age and educational characteristics of the respondents. More details about the surveys are provided in [Appendix A](#). As part of the statistical analysis, a Chi-square independence test was conducted between college and university respondents to identify differences in the perception of factors affecting learning motivation. This method of statistical analysis was applied to categorical data obtained as a result of the survey, and allowed us to assess the presence of statistically significant differences in the distribution of responses between the two groups of respondents. For each of the factors, a table of conjugacy was formed for the variables “The level of education” and “Year of study.”

3 Results

125 students of 1–4 year of study took part in the polls. When interviewing students in the framework of the “Learning Motivation”

questionnaire, we obtained data on the factors that had the greatest impact on the positive or negative dynamics of their learning motivation during the training course. It should be noted that the respondents had the opportunity to select several factors for each criterion. Factors that had a positive and negative impact on the dynamics of students’ learning motivation during the course for each of the criteria are presented in [Tables 2, 3](#). It should be noted that there is a slight difference in the responses of college and university students.

According to the “communication” criterion, for the majority of students, a comfortable working environment in the classroom is important in studying the course (64%). Also important is the optimal format of communication between the teacher and students (60.8%) and the opportunity to communicate with other students (22.4%).

Based on the “teacher” criterion, the competence and experience of the teacher (61.6%), as well as the active participation of the teacher in discussions (51.2%) are important for students. 32.8% of respondents note the teacher’s recognition of students’ success, as well as the teacher’s ability to admit his mistake (24.8). The survey showed that in the process of teaching (the criterion “Method of teaching”), the method of presenting information (59.2%), the use of modern teaching technologies (42.4%), a differentiated approach to teaching (35.2%) and the clear logic of the course (33.6%) has a positive effect on learning motivation. Tasks, during the performance of which the development of practical skills (47.2%), the solution of cases from real life and future professional activity (46.4%), significantly increase the learning motivation. Completing creative tasks increases the learning motivation of 40% of students. Team performance of tasks was noted by 35.2% of respondents, interactive interaction by 24% of students.

In accordance with the “evaluation” criterion, an effective evaluation format is of great importance (49.6%). The presence of high-quality feedback stimulates an increase in the learning motivation of students during the course (48%). Participation of students in the development of assessment criteria for assignments and the presence of ongoing assessment to monitor progress (22.4 and 24.8%). Among the optimal assessment formats, students single out teamwork (40.8%) and a game format (39.2%). For some students, project activities (21.6%) as a final assessment provide an opportunity to demonstrate their learning outcomes. Testing was noted by 19.2% of students, in our opinion, as the most familiar. The assignment for mutual assessment as a final one (17.6%) allows the formation of over-subject competencies.

Within communication criterion, the authoritarian manner of communication between the teacher and students (65.6%) and excessive classroom discipline requirements (41.6%), decrease students’ learning motivation. In addition, a small percentage of respondents (2.4%), cited “disrespect for the student as a person” as one of the causes of the decline in learning motivation.

The incompetence and ambiguity of the instructor (34.4%) and his lack of assistance (46.4%) diminish the desire to learn. The passivity of the teacher during discussions (39.2%) or the predominance of the teacher’s controlling function (32.8%) does not provide students with interactive conditions for self-actualization. Students added the alternative “devaluation of student success” (2.6%).

As part of the “method of teaching” criterion, our survey revealed that the low practical value of the course (29.6%) and the monotony of the teacher’s teaching style (56.8%) deter students from enrolling in the course and completing assignments. The absence of course-related

TABLE 2 Factors of increasing students' learning motivation during the course.

No.	Criteria	Factors	% of students
1	Communication	Comfortable working environment in the classroom	64
2		The optimal format for communication between a teacher and students	60.8
3		Opportunity to communicate with other students	22.4
4	Teacher	Competence and experience of the teacher	61.6
5		Active participation of the teacher in discussions	51.2
6		Recognition by the teacher of student success	32.8
7		The teacher's ability to admit his mistake	24.8
8	Method of teaching	Use of modern learning technologies	42.4
9		Differentiated approach to teaching	35.2
10		Information submission method	59.2
11	Tasks	Clear course logic	33.6
12		Tasks for mastering practical skills	47.2
13		Completion of creative tasks	40
14		Solving cases from real life and future professional activity	46.4
15	Evaluation	Team execution of tasks	35.2
16		Effective assessment format	49.6
17		Having quality feedback	48
18		Participation of students in the development of assessment criteria for assignments	22.4
19		Availability of ongoing assessment to monitor progress	24.8
20		Command format of the final assignment	40.8
21		Game format of the final control	39.2
22		Testing	19.2
23		Peer assessment task	17.6
24		Project activity	21.6

supplementary materials (22.4%) and the use of obsolete instructional technologies by the instructor (24%), both diminish student interest. Unrelated course topics lead to a misunderstanding of course objectives for 37.6% of respondents.

The tasks' theoretical orientation (40%) and unreasonable complexity (35.2%) contribute to a decline in motivation to learn. Tasks unrelated to the course's learning outcomes (32%) and the teacher's excessive requirements for the level of students' preparedness (44.8%) also demotivate students to learn.

According to the results of a survey conducted within the context of the "evaluation" criterion, the absence or provision of ineffective feedback (24%) decreases the learning motivation of students, as they do not receive comments on how to further enhance the completed task.

The frequent use of only one assessment format by teachers (32.8%) does not enable students to realize their full potential and does not allow them to demonstrate mastery of course learning outcomes. The ineffective assessment format (19.2%), grading/points without discussion and comments (50.4%), the absence of assessment criteria (36%) and the biased attitude of the teacher influence the dynamics of students' learning motivation (1.6%). To identify differences in the perception of factors affecting learning motivation, a Chi-square test was conducted between college and university respondents. The chi-squared values obtained and the

corresponding p-significance levels for all analyzed categories demonstrated the absence of statistically significant differences between the two groups ($p > 0.05$). Thus, mentions of such positive factors as a comfortable working environment in the classroom ($\chi^2 = 10.06$; $p = 0.185$), the competence and experience of the teacher ($\chi^2 = 5.03$; $p = 0.656$), as well as testing as an assessment format ($\chi^2 = 10.36$; $p = 0.169$) did not vary significantly depending on the level of education. This suggests that the positive aspects of the learning process are perceived quite similarly by students of both categories. Similarly, the frequency of mentioning demotivating conditions, such as the teacher's authoritarian communication style ($\chi^2 = 2.78$; $p = 0.905$), scoring without comments, and monotonous presentation style, also did not demonstrate statistical significance. At the same time, the monotony factor of the presentation of the material approached the threshold value ($\chi^2 = 11.99$; $p = 0.101$), which may indicate a potential tendency to differentiate perception on this basis, especially in senior courses. At the same time, when analyzing the factors that reduce learning motivation, significant differences were found in the indicator "teacher's overestimated requirements for the level of preparation of students" ($\chi^2 = 3.96$, $p = 0.0467$). This indicates that university and college students perceive academic requirements differently, and it is likely that teachers' expectations are perceived as higher in one of the groups. Such differences may be due to the

TABLE 3 The decrease in students' learning motivation during the course for each of the criteria.

No.	Criteria	Factors	% of students
1	Communication	Authoritarian style of communication between teacher and students	65.6
2		Too high requirements for discipline in the classroom	41.6
3		Disrespect for the student as an individual	2.4
4	Teachers	Lack of help from the teacher	46.4
5		Incompetence and uncertainty of the teacher	34.4
6		Passivity of the teacher in discussions	39.2
7		Devaluation of student success	2.6
8		The predominance of the controlling function of the teacher	32.8
9	Method of teaching	Monotonous teaching style	56.8
10		Low practical value of the course	29.6
11		Lack of additional materials on the course, topics	22.4
12		Teacher use of outdated teaching technologies	24
13		Unrelated course topics	37.6
14	Tasks	Tasks of a theoretical orientation	40
15		Exaggerated requirements of the teacher to the level preparedness of students	44.8
16		Unreasonable complexity of tasks	35.2
17		Assignments that are not related to learning outcomes	32
18	Evaluation	Giving ratings / points without discussion and comments	50.4
19		Lacking or providing ineffective feedback	24
20		Inefficient grading format	19.2
21		Lack of evaluation criteria	36.8
22		Frequent teacher uses of only one assessment format	32.8
23		Teacher bias	1.6

specifics of educational programs, the level of academic workload, or the style of pedagogical interaction. The results obtained indicate a high degree of similarity in the ideas of college and university students of various courses about the pedagogical and organizational conditions that contribute to or hinder their learning motivation. This allows us to talk about the stability of the influence of a number of key factors, which confirms the universality of many aspects of instructional design.

Throughout the “Dynamics of learning motivation” survey, we collected data on the periods of students' highest and lowest learning motivation at various phases of the course, as well as the factors that influenced this (Table 4).

Based on the results of the survey, the periods with the greatest increase in learning motivation are the outset and the middle of the course. An analysis of the responses of students whose period of highest learning motivation is the beginning of the course (64.1%) revealed that the most favorable factors are the significance of the course for the student personally, the clarity of the goals and objectives of the course, the opportunity to demonstrate the results of the course, and a comfortable communication format with the teacher. This, in our opinion, piques students' inquiry, piques their interest in the future course content, and creates a favorable first impression of the instructor's personality.

An analysis of the responses of students for whom the period of highest learning motivation is in the middle of the course (35.9%)

enabled the identification of the following factors: support in the form of effective feedback, teacher competence, a comfortable communication format, the high practical relevance of the course, clear assessment criteria that allow students to successfully prepare for and pass, and current and boundary control. The optimal difficulty of tasks contributes to the desire of students to conquer the course more effectively and to feel successful.

The period of maximum decrease in students' learning motivation under the influence of various factors is the beginning, middle and end of the course (Table 5).

The ambiguity of the course's goals and objectives, the low value of the course to the student, the poor organization of course, the vagueness or absence of assessment criteria, and the teacher's uncooperative communication style are factors that contribute to low learning motivation for 23.1% of students at the beginning of the course.

Students whose learning motivation decreased as much as possible during the middle of the course (35.9%) cite the following factors: vagueness or absence of assessment criteria, poor course organization, low practical relevance of the course, complex or unrelated tasks, and teacher incompetence.

41% of students attribute the decline in learning motivation at the conclusion of the course to biased assessment and a sense of the course's logical incompleteness. We believe this be due to the course outcomes, or rather to the possibility of demonstrating them. It could

TABLE 4 Factors influencing the positive dynamics of students' learning motivation at various course stages.

No.	Course stage	Factors	% of students
1	Start	The value of the course for the student personally	51.2
2		Clarity of course goals and objectives	43.2
3		Opportunity to demonstrate learning outcomes	23.2
4		Comfortable format for teacher communication	53.6
5	Middle	Support in the form of effective feedback	53.6
6		Teacher competence	28.0
7		High practical significance of the course	33.6
8		Clear evaluation criteria	23.2
9		Optimal difficulty of tasks	33.6

TABLE 5 Factors influencing the negative dynamics of students' learning motivation at various course stages.

No.	Course stage	Factors	% of students
1	Start	Low value of the course for the student personally	33.6
2		Ambiguity of the goals and objectives of the course	28.0
3		Teacher's communication style	35.2
4	Middle	Poor course organization	23.2
5		Ambiguity or lack of evaluation criteria	25.6
6		Complex or unrelated assignments	33.6
7		Teacher's incompetence	20.8
8		Low practical significance of the course	20.8
9		Lack of help and feedback	20.0
10	Completion	Biased assessment	50.4
11		Feeling of logical incompleteness of the course	33.6

also be influenced by the selection of an ineffective format for the final examination.

4 Discussion

The obtained results indicate the presence of certain shortcomings in the design of training courses. The results showed a high demand among students for a comfortable working atmosphere in the classroom, tasks for mastering practical skills, using modern learning technologies, changing the way information is presented, creative tasks, solving cases from real life and future professional activities, an effective assessment format, high-quality feedback, as well as the team format of the final assignment.

The similarity of the perception of key pedagogical factors by students of different levels of educational training, and also indicates the universal nature of some conditions that determine educational motivation. This allows us to talk about the stability of the influence of a number of key factors, which confirms the universality of many aspects of instructional design. This is consistent with the concepts of motivational design (Keller, 2010) and pedagogical support (Ryan and Deci, 2000), according to which the basic needs for autonomy, competence and belonging are preserved in students regardless of their status, age or level of education. Links In addition, the absence of differences may indicate similar approaches in teaching and

organizing the educational process in colleges and universities, which, on the one hand, confirms the trend towards unification of standards, and on the other hand, indicates the need to individualize educational practices depending on the specifics of the audience. The results obtained emphasize the need for a more flexible approach to designing the learning environment and pedagogical strategies, taking into account the context and level of the education. In addition, they confirm the relevance of further study of individual and institutional factors influencing educational motivation. It should be borne in mind that the interpretation of the results is limited by the nature of the data obtained through self-reports and multiple responses, which may reduce the accuracy of categorization of individual factors. For further clarification, we can recommend conducting high-quality interviews or factor analysis, which allows us to structure the perception of motivational influences more deeply.

One of the factors influencing this situation is teachers' limited understanding of the essence of the phenomenon of learning motivation. The lack of a holistic understanding of its nature, structural components and mechanisms of formation leads to the fact that motivational aspects of learning are either ignored or taken into account formally. This, in turn, reduces the effectiveness of educational programs and actualizes the need to improve the professional competence of teachers in the field of learning motivation.

The identified shortcomings in the design of training courses should not be considered in isolation, but in the context of theories of personality development, which emphasize the importance of taking into account the individual characteristics of the student, his psychological needs, values and levels of self-determination.

Ineffective channels and the teacher's communication style, which is not based on empathy, create a negative learning environment that does not allow you to experience positive emotions and maintain interpersonal relationships (Positive Psychology, Seligman et al., 2009). Learning motivation increases when self-learning is seen as a revelation of strengths, a way to achieve meaning and gain pleasure.

Insufficient orientation of the content and structure of courses to the psychological needs (autonomy, competence, relatedness with others) and interests of students, which reduces their involvement and activity in the educational process. Supportive and open communication helps create a working atmosphere of trust, reduces academic stress, and gives students a sense of belonging to the educational community (Theory of self-determination, Ryan and Deci, 2000). The student should be able to choose or influence the learning process. Positive learning outcomes increase the desire to continue, as well as when a student feels like part of a group, learning team.

Outdated teaching technologies reduce the quality of the teaching methods of the course and do not allow students to immerse themselves in the learning process with a high degree of concentration and enjoy completing tasks (Flow Concept, Csikszentmihalyi, 1990). The state of maximum engagement and autonomous satisfaction from learning activities ("flow") has a positive effect on the dynamics of learning motivation.

The ambiguity of learning outcomes reduces their value for students professionally (Expectancy and Value Theory, Eccles and Wigfield, 2002). When a student is focused on success, believes that he can succeed, waits for him, considers the task useful and valuable for himself, he is motivated.

Biased assessment, poor-quality feedback deprives students of an adequate perception of the reasons for success or failure, confidence and control over their own results (Theory of Attribution, Weiner, 1985). Motivation to learn increases significantly when students consider academic success to be the result of their own efforts.

Instructional design of a training course should take into account two key aspects that have a complex influence on students' motivation to learn: psychological and pedagogical. After analyzing the results, we can conclude that the following categories of factors influence the dynamics of students' learning motivation within the course:

- organizational and pedagogical (methods of teaching the course, format and validity of the proposed tasks, teaching technology, assessment system, qualitative feedback, etc.);
- communicative (the style of communication between the teacher and students, communication rules, the interactivity of interaction among course participants, etc.);
- psychological (recognition of student achievements, conditions for attaining success, interest, teacher support, teacher bias, choice, differentiated learning approach, etc.);
- target (clarity of the goals and objectives of the course, the value of the course for the student, for his professional activities, self-education, etc.);

- value (high practical value of the course, mastering the practical skills in demand at the end of the course, direct connection of tasks with learning outcomes, etc.).

The results of the student survey revealed key aspects that require a rethinking of approaches to the instructional design of training courses. It should be noted that the learning motivation of students at different stages of education changes. Therefore, we can meet weakly motivated and self-directed students. Thus, researcher Grow (1991) identifies the following stages of learning:

- dependence;
- interest;
- involvement;
- self-direction.

At the first stage, students are the least arbitrary in the organization of the educational process, they are less immersed in educational activities, since they are driven not so much by cognitive or professional motives as by external factors in relation to the process and result of educational activity. Here it is necessary to create conditions for the emergence of interest in the course, involvement in the process, the appearance of external motivation. At the stage of interest, students are characterized by the appearance of internal motivation for learning, which must be supported. At the stage of involvement and self-direction, support is required when students begin to periodically "get tired" of studying. Self-directed (internally motivated) students are immersed in the learning process, more active, conscious, arbitrary.

The goal is that motivational content of consciousness that is perceived by a person as the immediate and immediate expected result of his activity (Maklakov, 2001). Therefore, at the beginning of the study of the course, you should make sure that the purpose of its development is clear to students. In addition, it is necessary to arouse interest in the content of the course, to show its value for their future professional activities. Particular attention should be paid to opening up opportunities for students to show their initiative, to demonstrate theoretical and practical skills in the course. At this stage, the personality of the teacher, his experience in the field taught, as well as the style of communication with students are of no small importance.

The main portion of the course should emphasize the interactive interaction of students with the instructor and other students, the performance of tasks by students with varying levels of difficulty and problematization, and the provision of feedback on their performance. When confronted with difficulties in accomplishing assignments, students must acquire new information or apply their existing theoretical training to novel circumstances. Providing it is feasible, such a level of difficulty is effective for increasing learning motivation. At this juncture, much depends on the teaching experience and skill level of the instructor, as well as their capacity to organize the course's logic.

When designing a course, it is necessary to devote time to the selection of appropriate learning technologies, including a preliminary examination of their practical implications and the functionality. This will assist students in achieving learning outcomes.

The conclusion of the course is equally as essential as the introduction. For students, success is of paramount importance. Students must have the opportunity to realize themselves and demonstrate their learning outcomes.

5 Conclusion

Several practical implications of the course's instructional design can be identified based on the above-mentioned factors of students' learning motivation at various stages of training course:

- a clear definition of the place and role of the training course in general vocational training;
- selection of relevant educational content, taking into account the achievements of science and technology;
- consistency and consistency of complicating the content of the course;
- ensuring interactive interaction, effective communication;
- use of an integrated approach in the selection of learning technologies based on their advantages;
- ensuring the possibility of mastering practical skills;
- creation of conditions for self-realization of the student in the course;
- consistency of assessment tools with learning outcomes.

The obtained results will assist educators in resolving the issue of increasing the learning motivation of students by enhancing the instructional design of individual courses.

In addition, ignoring the provisions of modern theories of personality development when designing training courses leads to the creation of programs that are less conducive to personal growth, self-realization and the formation of sustainable learning motivation. In conclusion, this research findings contribute to current research by providing insights into dynamics of learning motivation factors.

Data availability statement

The datasets presented in this article are not readily available in compliance with the principles of confidentiality and protection of personal data. Requests to access the datasets should be directed to omarchuk-83@mail.ru.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local

legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

MO: Writing – original draft, Conceptualization, Data curation, Methodology, Project administration, Writing – review & editing. NM: Conceptualization, Data curation, Methodology, Writing – review & editing.

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Supplementary material

The Supplementary material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/feduc.2025.1611184/full#supplementary-material>

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