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## THE RESULTS OF A QUESTIONNAIRE SURVEY ON THE INTRODUCTION OF INNOVATIVE TECHNOLOGIES IN THE EDUCATIONAL PROCESS (QUESTIONNAIRE SURVEY)

**Resume:** the article presents an analysis of the data of questioning teachers in relation to the introduction of innovative technologies in the educational process. The survey was conducted among teachers of the Department of Therapeutic and Pediatric Dentistry. The use of innovative teaching methods in the educational process was positively evaluated by the teachers of the department.

**Objective of the study:** to assess the teachers' perception of the introduction of innovative teaching methods in the educational process according to the data obtained from survey.

**Materials and methods.** Study design: cross-sectional. A cross-sectional study was conducted among 31 teachers of the Department of Therapeutic Pediatric Dentistry. Of this number of patients, 31 responded to an online questionnaire via Google Form.

**Results:** An online survey was conducted with 31 teachers of the Department of Therapeutic and Pediatric Dentistry. An online questionnaire was provided containing 19 questions, including sections such as relevance, reflective thinking, innovativeness and support for an innovative method. For the Relevance section, 4 questions were provided; in the section "reflective thinking" - 4 questions; in the section "innovation and support of the innovative method" - 11 questions. The last two items in the questionnaire are intended to indicate the time of the online survey, comments and suggestions. In each question, the respondent must choose only one option out of 5 answer options in the gradation "almost always", "often", "sometimes", "rarely", "almost never".

**Conclusion:** survey results have proven the efficiency of the application of innovational methods of education, which can improve the overall quality of education. The use of innovational methods mirrors the teachers' level of professional competency and their interest in preparation of qualified specialists.

**Keywords:** education, online survey, preparation for vocational training, innovative technologies.

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## ЖАСАУ САУАЛНАМАСЫНЫҢ НӘТИЖЕЛЕРІ ОҚУ ҮРДІСІНДЕГІ ИННОВАЦИЯЛЫҚ ТЕХНОЛОГИЯЛАР (САУАЛНАМА)

**Түйін.** Мақалада инновациялық технологияларды оқу үдерісіне енгізуге қатысты мұғалімдердің сауалнамалық сауалнамасы берілген. Оқытушылардың инновациялық оқыту әдістеріне қатынасына салыстырмалы талдау жасалып, осы әдістердің оқу нәтижесіне жетудегі рөлі мен тиімділігі, оқытудың инновациялық әдістерін оқу үдерісінде қолдану кафедра оқытушылары тарапынан оң бағаланды.

**Зерттеудің міндеті:** Сауалнама бойынша педагогтардың оқу үдерісіне оқытудың инновациялық әдістерін енгізуді қабылдауын бағалау.

**Зерттеу материалдары мен әдістері.** Оқу дизайны: қима. Терапиялық балалар стоматологиясы кафедрасының 31 оқытушысы арасында көлденең зерттеу жүргізілді. Осы пациенттердің 31-і Google Form арқылы онлайн сауалнамаға жауап берді.

**Нәтижелері.** Терапевтік және балалар стоматологиясы кафедрасының 31 оқытушысымен онлайн сауалнама жүргізілді. 19 сұрақтан тұратын онлайн сауалнама ұсынылды, оның ішінде өзектілік, рефлексиялық ойлау, интерактивтілік және интерактивті әдісті қолдау сияқты бөлімдер бар. Өзектілік бөлімі бойынша 4 сұрақ берілді; «рефлексиялық ойлау» бөлімінде – 4 сұрақ; «Интерактивтілік және интерактивті әдісті қолдау» бөлімінде – 11 сұрақ. Сауалнамадағы соңғы екі тармақ онлайн сауалнама, ескертулер мен ұсыныстарды өткізу уақытын көрсетуге арналған. Әрбір сұрақта респондент «әрқашан дерлік», «жиі», «кейде», «сирек», «ешқашан дерлік» градиациясындағы 5 жауап нұсқасының біреуін ғана таңдауы керек.

**Қорытынды.** Қорыта келе, сауалнама нәтижелері білім сапасын арттыратын оқытудың инновациялық әдістерін қолданудың тиімділігін дәлелдеді. Инновациялық әдістерді қолдану педагогтардың кәсіби құзыреттілік деңгейін, білікті мамандарды даярлауға деген қызығушылықтарын көрсетеді.



**Түйінді сөздер:** сауалнама сауалнамасы, білім беру, бағалау, инновациялық технологиялар, кәсіптік оқыту.

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## РЕЗУЛЬТАТЫ АНКЕТНОГО ОПРОСА ПО ВНЕДРЕНИЮ ИННОВАЦИОННЫХ ТЕХНОЛОГИЙ В ОБРАЗОВАТЕЛЬНЫЙ ПРОЦЕСС (АНКЕТНЫЙ ОПРОС)

**Резюме.** В статье представлены данные анкетного опроса преподавателей в отношении внедрения инновационных технологий в образовательный процесс. Проведен сравнительный анализ отношения преподавателей к инновационным методам обучения, роль и эффективность данных методов в достижении результатов обучения. Использование в образовательном процессе инновационных методов обучения был положительно оценен преподавателями кафедры.

**Цель исследования:** Оценить восприятие преподавателями внедрения инновационных методов (имитационные и не имитационные) обучения в образовательный процесс по данным анкетного опроса.

**Материалы и методы:** Дизайн исследования: одномоментное поперечное. Было проведено одномоментное поперечное исследование среди 31 преподавателя кафедры «Терапевтической детской стоматологии». Из этого количества пациенток ответили на онлайн-анкетирование через Google форму 31.

**Результаты:** Было проведено онлайн-анкетирование у 31 преподавателя кафедры «Терапевтическая и детская стоматология». Была предоставлена анкета в онлайн-формате, содержащая 19 вопросов, включающая такие разделы, как релевантность, рефлексивное мышление, инновационность и поддержка инновационного метода. По разделу «релевантность» были предоставлены 4 вопроса; по разделу «рефлексивное мышление» - 4 вопроса; по разделу «инновационность и поддержка инновационного метода» - 11 вопросов. Два последних пункта в анкете предназначены для указания времени онлайн-анкетирования, комментариев и предложений. В каждом вопросе респондент должен из 5 вариантов ответа выбрать только один вариант в градациях «почти всегда», «часто», «иногда», «редко», «почти никогда».

**Вывод.** Таким образом, результаты анкетного опроса доказали эффективность применения инновационных методов обучения, которые позволяют улучшить качество обучения. Использование инновационных методов отражают уровень профессиональной компетенции преподавателей, их заинтересованность в подготовке квалифицированных специалистов.

**Ключевые слова:** анкетный опрос, образование, оценка, инновационные технологии, профессиональное обучение.

**Relevance.** Innovative technologies are rapidly breaking into modern human life, which had a positive impact on the level and quality of life of modern society. Innovative technologies have covered most areas of human activity (education, medicine, economics, etc.) [1]. Due to the intensive implementation of innovative technologies, education in higher medical institutions has improved by a significant portion, which makes it possible to train competitive specialists who are able to meet the needs of a constantly changing labor market, ensure the further development of our country and its integration into the international arena [2].

Improving the quality of education in higher medical institutions, in our opinion, can be achieved by synchronizing education and innovation, which is aimed at developing the educational process, creating opportunities for students to master educational material and skills based on the targeted development of creative and critical thinking, educational and research activities, and simulation modeling.

In order to introduce interactive teaching methods, it is necessary to comply with a number of conditions in the organization: motivation, democratic style, positive relations between the teacher and the student, cooperation, mobility and enthusiasm both on the part of the teacher and on the part of the intern, a variety of forms and methods of interactive teaching [3-4]. This can be achieved "only if there is a connection between innovation in education and interactive teaching methods, which means "... all types of activities that require a creative approach to the material and provide conditions for the improvement of each student" [5-6].

A number of teachers of the department, among whom the survey was conducted, use interactive teaching methods in

practice, such as the method of illustrating clinical material, "work in small groups", "tree of knowledge", the method "picture collection", "chain", "fill in the map", the "case study" method, tasks in a test form, etc. [7-8]. The use of interactive teaching methods during the classes is one of the steps in the formation of scientific and professional thinking [9-10].

Today, in higher educational institutions, along with the traditional lecture and seminar system of education, various innovative educational technologies are widely used, such as student-oriented, developing, problem-based, modular and distance learning; game and activity; information and communication and simulation; research teaching methods. Along with these methods, the search for more advanced innovative teaching methods using digital technologies is relevant [11-12].

### Research methods and materials:

1. Survey of teachers of the department "Therapeutic and pediatric dentistry"

2. Analysis of survey data using descriptive, analytical and statistical methods.

An online survey was conducted with 31 teachers of the Department of Therapeutic and Pediatric Dentistry. An online questionnaire was provided containing 19 questions, including sections such as relevance, reflective thinking, interactivity, and support for the interactive method. For the Relevance section, 4 questions were provided; in the section "reflective thinking" - 4 questions; in the section "interactivity and support for the interactive method" - 11 questions. The last two items in the questionnaire are intended to indicate the time of the online survey, comments and suggestions. In each question, the respondent must choose only one option out



of 5 answer options on the scale of "almost always", "often", "sometimes", "rarely", "almost never"

**Results:** The results of the data in the section "interactivity and support for the interactive method" indicate that the bulk of the consideration requires one's experience with colleagues in research using interactive teaching methods, which corresponds to a high level of professional support of experts. However, the idea is that a small part of the

facilitator is unwilling to disclose development opportunities until they receive learning outcomes and substantiate the effectiveness of teaching methods.

According to the survey data, the answers to the question: "the training I conduct focuses on topics that interest students" had this distribution - 65% - "almost always"; 35% - "often" (Figure 1).

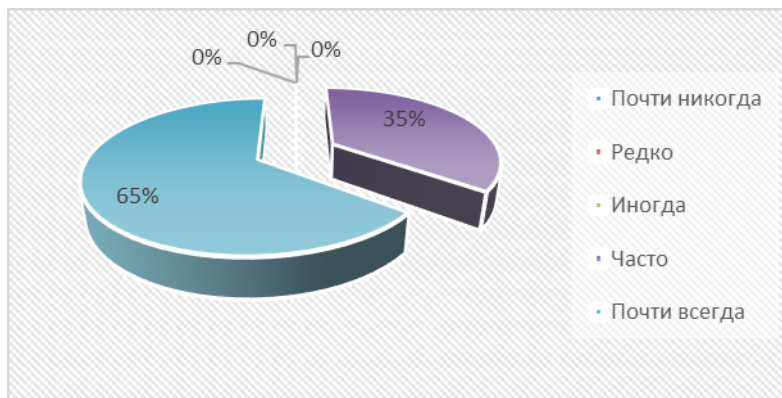


Figure 1 – The assessment of students' engagement

The answers to the question: "students study what is useful in professional practice", had this distribution: 87% - "almost always" and 13% - "often" (Figure 2).

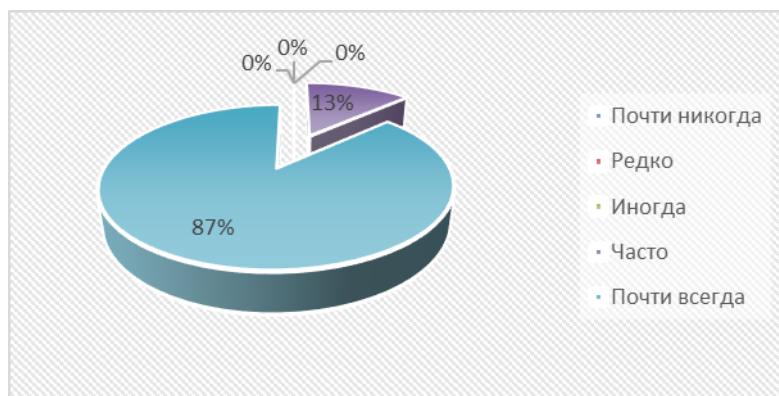


Figure 2 – The attitude towards professional practice

To the question «students study what can improve their professional skills," 84% of respondents said that "almost always" and 16% - "often». To the next question, "what I teach is closely related to the professional practice of students," 71% of faculty answered - "almost always" and 29% - "often", which highlights the level of professional practice.

Analyzing the data of the first section "relevance" revealed the interest of both teachers and students in obtaining professional knowledge and skills, as evidenced by high rates. However, this section is subjective in nature and this explains the receipt of high positive answers.

The following data were obtained and analyzed from the section "reflective thinking", where teachers replied to four questions. To the question "I am critical about the student learning process," 74% said they "rarely are critical"; 16% - "sometimes," 7% - "almost always" and 3% - "often". 35% of teachers with a result of "almost never" to the statement "I am critical of my own views" gave following answers: 31% - "sometimes"; 15% - "rare" and 15% - "rare" and 4% - "almost always." To the question: "I am critical of the views of other teachers," the given replies were obtained - 65% - "rarely"; 35% - "almost never."

When asked about the critical attitude to the literary data read - 55% - "almost never"; 29% - "rarely" and 16% - "sometimes".

By analyzing the data of the second section "reflective thinking," low indicators of critical attitude to the learning process were obtained. The faculty themselves are also critical about their own views, the views of their colleagues, and literary data. In our opinion, this may be due to the personal qualities of the teacher and his empathy, a positive perception of innovative teaching methods.

In the "interactivity and support of the interactive method" section lecturers responded to 11 questions, we analyzed following data. To the question "I explain my ideas to other teachers," 42% answered "often"; 29% of teachers - "sometimes"; 26% of faculty - "almost always" and 3% - said it was "rare." To the question "I ask other teachers to explain their thoughts," 81% of teachers answered "sometimes" and 19% of teachers - "often."

When lecturers were asked "other faculty members ask me to explain my thoughts", 45% of faculty members said "often"; 29% of teachers - answered "sometimes"; 13% answered - "rare" and 13% of faculty responded that



"almost never" (Figure 3). The use of interactive learning methods is a complex process that requires the teacher to have skills and experience. Therefore, young teachers, as a rule, appeal to experienced colleagues to find out their opinion on the implementation of a particular teaching method. Survey data showed that 45% of educators

frequently share and explain ideas. However, for unknown reasons, 13% of educators never address such questions. To successfully implement interactive learning methods, professional support for teachers plays a fundamental role in the educational process.

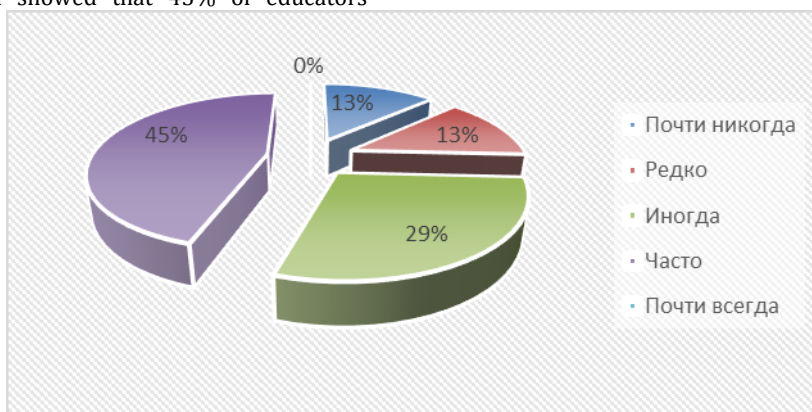


Figure 3 – Professional support to teachers

When asked "other faculty members share my views," 45% of faculty members said "often"; 42% of faculty responded - "almost always" and 13% of faculty responded "sometimes." Most educators support and share the views of their colleagues for using interactive learning methods in the educational process, highlighting the level of collegiality and competence.

To the question "the use of interactive training affects the level of professional training," 42% of teachers answered - "often"; 32% of faculty responded - "almost always" and 26% of faculty responded "rarely" (Figure 4). Respondents agree that the use of interactive training affects the level of professional training, improves the quality of training, and develops the clinical thinking of students.

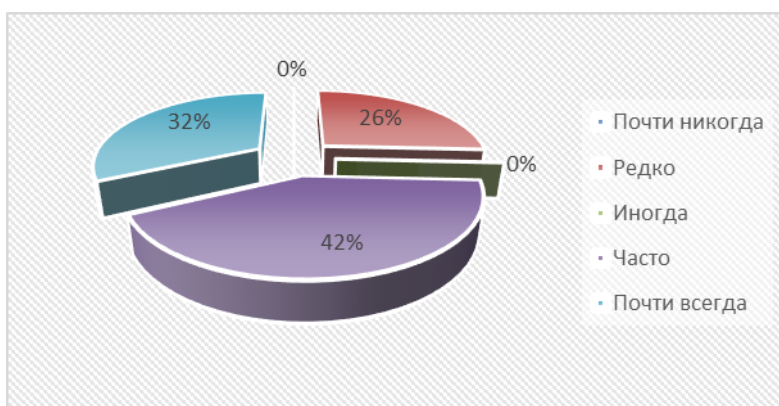


Figure 4 – Effect of interactive methods on the professional skills

When asked "methods are not effective because they are a game, entertainment that is not directly related to solving vocational training problems", 55% of teachers said that "rarely"; 26% of teachers responded - "almost never" and 19% of teachers - "often" (Figure 5). Over 50% of teachers believe that interactive methods can be effective. However, 19% of teachers expressed a negative attitude towards the

introduction of interactive methods, considering them as a game, entertainment and not reflecting the level of professional training. Since the questionnaire did not take into account the age data of the respondents and the teaching experience, it can be assumed that older teachers are harder to perceive interactive teaching methods in comparison with young teachers.

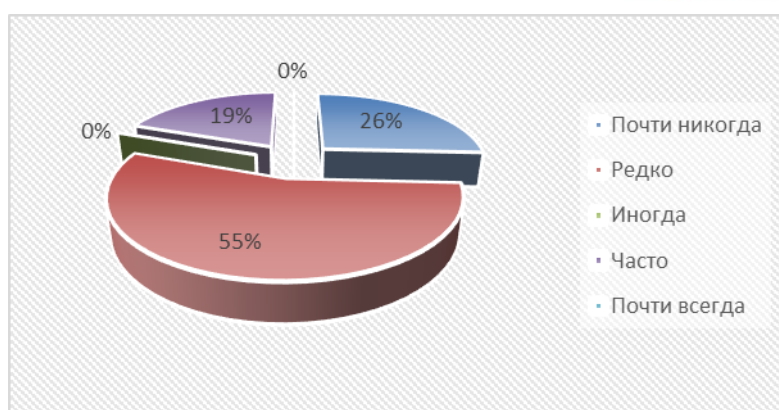


Figure 5 – Effectiveness of innovative methods in solving professional training problems

To the question "do you pay sufficient attention to prepare for classes if the lesson is conducted using innovative technologies," 55% of teachers answered "often"; 29% of teachers responded - "almost always" and 16% of teachers - "sometimes". During preparation for classes using innovative methods, teachers note the need for additional preparation for classes. Undoubtedly, given the new technologies, teachers should devote sufficient time to self-training, self-education and self-development to achieve an effective lesson.

To the question "contribute to the organization of problematic training," 45% of teachers answered - "almost always"; 23% of faculty responded "frequently"; 13% - "almost never"; 13% - "rarely" and 6% of teachers answered - "sometimes." All answer options were obtained as a percentage of this question. Nevertheless, the majority of respondents (45%) believe that the use of interactive training methods solves issues of organizing problematic training due to the variety of methods and their combined use in analyzing a complex topic.

When asked "interactive learning provides an opportunity to be self-reliant," 84% of educators said "almost always"; 13% of faculty responded that "often" and 3% of faculty - "rarely." Interactive teaching methods provide an opportunity for students to independently solve complex problems and problems, as evidenced by data from 84% of respondents.

When asked "interactive learning teaches self-examination (reflection) of one's knowledge and experience," 58% of faculty members said "almost always"; 39% of faculty responded - "often" and 3% of faculty - "rarely." Most teachers believe that interactive teaching methods teach self-analysis of knowledge and skills, contribute to personal responsibility for the final results of training. In addition, teachers are more self-critical about the possibilities of gaining knowledge and learning skills by students.

When asked "the interactive method of learning contributes to the manifestation of individuality," 32% of teachers gave the answer "almost always"; 29% of teachers responded - "often," 26% of teachers - "rarely" and 13% of teachers - "sometimes." Most teachers noted that in preparation for classes using innovative methods, their activity and manifestation of individuality became significantly higher.

The results of the Interactive and Interactive Method Support section demonstrate that the majority of educators share their experiences with colleagues when conducting classes using interactive training methods, highlighting the high level of professional support for educators. However, a small part of teachers do not want

to share ideas of their own developments until they receive training results and justify the effectiveness of the training method.

Thus, the results of the questionnaire survey proved the effectiveness of using innovative training methods that improve the quality of training. The use of innovative methods reflects the level of professional competence of teachers, their interest in training qualified specialists.

#### Conclusion:

1. Since the majority of teachers of the department "Therapeutic and Pediatric Dentistry" participated in the survey, the data obtained can be taken as an objective assessment of the satisfaction of teachers with their teaching activities at the National Educational Institution "Kazakhstan-Russian Medical University". And the use of interactive learning affects the level of professional training, improves the quality of education, and develops the clinical thinking of students.

2. The survey was conducted anonymously, which gives the opportunity to teachers to answer honest and give their real attitude about the innovative technologies in the educational process, which makes it possible to evaluate this survey as faithful.

3. The use of interactive teaching methods is a complex process that requires the teacher's skills and experience. Therefore, young teachers, ask for the help from experienced colleagues to find out their opinion on the implementation of a particular teaching method. Survey data showed that 45% of educators are often asked to share and explain ideas. However, for unknown reasons, 13% of teachers never ask for this favor. For the successful implementation of interactive teaching methods, the professional support of teachers plays a fundamental role in the educational process.

4. Thus, the survey was successful, the goal was achieved. The results of the questionnaire survey proved the effectiveness of the use of innovative teaching methods that improve the quality of education. The use of innovative methods reflect the level of professional competence of teachers, their interest in training qualified specialists.

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