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EDUCATIONAL SITE "E-AGENT" AS AN EFFECTIVE WAY OF LEARNING ENGLISH

Abstract. In recent years, the use of SMART-technologies in education has gained increasing significance, particularly in foreign language instruction. This study investigates the effectiveness of the digital educational platform "E-agent" in teaching English. The objective is to evaluate the impact of SMART-technologies on English language learning within a differentiated framework adapted to various CEFR proficiency levels. The research examines the potential of SMART-technologies for individualized learning, with specific focus on the "E-agent" platform, and assesses their contribution to developing an interactive and adaptive learning environment. The scientific relevance of the study lies in enhancing language-teaching methodology through the integration of modern digital tools. The hypothesis was tested through a comparative pedagogical experiment, allowing for differentiation between the genuine cognitive effects of SMART-technologies and the temporary "novelty effect". This provides an evidence-based foundation for the integration of digital agents into educational practice. The methodology involved an experimental study with 50 students from the 6th grade, using the "E-agent" platform developed on the Tilda Publishing website builder, which ensures high interactivity and adaptive content delivery. The platform's effectiveness was evaluated through pre- and post-testing, complemented by questionnaire analysis. The results demonstrate that the use of "E-agent" significantly increases student engagement and improves English learning outcomes. The findings confirm the pedagogical value of SMART-technologies and the "E-agent" platform as effective tools for English language education. The practical significance of the study lies in the potential implementation of "E-agent" in educational institutions to enhance teaching quality and strengthen student motivation.

Keywords: SMART-technologies; educational site; English language education; E-agent; individualized learning; digital tools

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«E-AGENT» БІЛІМ БЕРУ САЙТЫ АҒЫЛШЫН ТІЛІН ОҚЫТУДЫҢ ТИІМДІ ТӘСІЛІ РЕТІНДЕ

Аңдатпа. Соңғы жылдары SMART-технологияларды білім беру процесінде қолдану, әсіресе шет тілдерін оқытуда ерекше маңызға ие бола бастады. Бұл зерттеу ағылшын тілін оқытуға арналған «E-agent» цифрлық білім беру платформасының тиімділігін анықтауға бағытталған. Зерттеудің мақсаты – әртүрлі CEFR деңгейлеріне бейімделген сараланған оқыту аясында SMART-технологиялардың ағылшын тілін меңгеруге әсерін бағалау. Зерттеу барысында SMART-технологиялардың жекелендірілген оқытудағы мүмкіндіктері қарастырылып, «E-agent» платформасының интерактивті және адаптивті білім беру ортасын қалыптастырудағы рөлі талданды. Зерттеудің

ғылыми маңыздылығы – заманауи цифрлық құралдарды тіл оқыту әдістемесіне енгізу арқылы теориялық негізді кеңейтуінде. Гипотеза салыстырмалы педагогикалық эксперимент арқылы тексерілді, бұл SMART-технологиялардың нақты танымдық әсерін уақытша «жаңалық әсерінен» ажыратуға мүмкіндік берді. Осылайша, цифрлық агенттерді білім беру процесіне енгізудің деректерге негізделген дәлелдемесі ұсынылды. Зерттеу әдістемесі 6-сыныпта оқитын 50 оқушының қатысуымен жүргізілген экспериментке негізделді. Негізгі зерттеу құралы – Tilda Publishing платформасында әзірленген «E-agent» сайты. Платформаның тиімділігі алдын ала және қорытынды тестілеу нәтижелерімен, сондай-ақ сауалнама мәліметтерімен бағаланды. Нәтижелер «E-agent» оқушылардың оқу мотивациясын арттырып, ағылшын тілін меңгеру нәтижелерін жақсартатынын көрсетті. Қорытындыда SMART-технологиялар мен «E-agent» платформасының ағылшын тілін оқытуда тиімді құрал екендігі дәлелденді. Зерттеудің практикалық маңыздылығы білім беру мекемелерінде оқыту сапасын арттыру және студенттердің уәждемесін нығайту мақсатында «E-agent» сайтын енгізу мүмкіндігімен айқындалады.

Тірек сөздер: SMART-технологиялар; білім беру сайты; ағылшын тілін оқыту; E-agent; жеке оқыту; сандық құралдар

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ОБРАЗОВАТЕЛЬНЫЙ САЙТ «E-AGENT» КАК ЭФФЕКТИВНЫЙ СПОСОБ ИЗУЧЕНИЯ АНГЛИЙСКОГО ЯЗЫКА

Аннотация. В последние годы использование SMART-технологий в образовательном процессе приобретает всё большую значимость, особенно в преподавании иностранных языков. Данное исследование направлено на оценку эффективности цифровой образовательной платформы «E-agent» в обучении английскому языку. Цель работы – определить влияние SMART-технологий на усвоение английского языка в рамках дифференцированного подхода, адаптированного к различным уровням CEFR. В исследовании рассматриваются возможности SMART-технологий для индивидуализированного обучения, а также анализируется роль платформы «E-agent» в создании интерактивной и адаптивной обучающей среды. Научная значимость исследования заключается в расширении методики преподавания английского языка за счёт интеграции современных цифровых инструментов. Гипотеза была проверена посредством сравнительного педагогического эксперимента, что позволило отличить реальное когнитивное воздействие SMART-технологий от временного «эффекта новизны». Это обеспечило доказательную базу для дальнейшего внедрения цифровых агентов в образовательную практику. Методология исследования основана на эксперименте с участием 50-ти учащихся 6-го класса. Основным инструментом выступила платформа «E-agent», разработанная с использованием конструктора Tilda Publishing. Эффективность оценивалась на основе входного и итогового тестирования, а также анкетирования. Результаты показали, что использование «E-agent» повышает учебную мотивацию и улучшает показатели владения английским языком. Полученные данные подтверждают, что SMART-технологии и платформа «E-agent» являются эффективными средствами обучения английскому языку. Практическая значимость исследования заключается в потенциальном внедрении «E-agent» в образовательных учреждениях для повышения качества преподавания и усиления мотивации учащихся.

Ключевые слова: SMART-технологии; образовательный сайт; обучение английскому языку; E-agent; индивидуальное обучение; цифровые инструменты

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Introduction

In the modern world, profound changes are taking place in all areas of life, including education. Traditional learning in classrooms with wooden desks and blackboards is gradually losing its relevance for the younger generation. Today's students prefer a more kinesthetic, interactive approach; they

acquire knowledge differently from previous generations. Born in the era of technology, they cannot imagine their lives without digital devices and social media. Therefore, teachers must keep pace with the times, adjust their teaching methods to students' needs, and integrate SMART-learning technologies into the educational process.

The key ideas are reflected in the national strategy *"Kazakhstan – 2050"*, which emphasizes that: *"To become a developed and competitive state, we must become a highly educated nation. In the modern world, simple literacy is no longer sufficient. Our citizens must be ready to constantly master the skills of working with advanced technologies and modern production"* (Nazarbaev, 2018). Similarly, President Kassym-Jomart Tokayev noted at the Digital Bridge 2023 Forum that: *"Kazakhstan should not stay away from this process – this is the demand of the time. Therefore, we are now paying special attention to the development of advanced technologies. The current task is to unite IT specialists, experts, scientists, and educators to effectively combine their efforts"* (Tokayev, 2023).

These statements stress the importance of modern educational solutions, particularly the transition toward SMART-education and the Education 4.0 paradigm. SMART-learning integrates a variety of digital tools and educational technologies into a unified system that enables both collective and individualized learning. It transforms classrooms into dynamic learning spaces connected through digital technologies and promotes accessibility, motivation, and student engagement.

In line with these principles, the present study is entitled "Educational E-agent as an Effective Way of Learning English".

The aim of this research is to determine the effectiveness of using SMART-technologies in teaching English through a digital educational website designed for learners of different CEFR levels.

The objectives of the study are:

- to identify the effectiveness of SMART-technologies in developing all aspects of English language proficiency;
- to design an educational website titled "E-agent" aimed at improving communicative skills;
- to conduct a study among school students to evaluate their attitudes toward the developed online platform.

The object of the research is the pedagogical and methodological aspects of teaching English through SMART-technologies.

The subject is the use of the E-agent website as an effective digital tool for improving all speech skills in English learning.

Research hypothesis: the implementation of the developed multimedia product ("E-agent") will enhance students' motivation and sustain their interest in learning a foreign language, leading to improved academic performance.

Methods and instruments include theoretical and methodological analysis, pedagogical observation, questionnaire, experiment, and testing.

To ensure the reliability and scientific validity of the results, the study involved 50 students in total. The experimental group (25 students) used the "E-agent" website as their primary learning resource, whereas the control group (25 students) continued their studies through traditional methods without SMART-technologies. The E-agent platform was developed by Tilda Publishing, which made it possible to incorporate adaptive design, interactive tasks, and multimedia materials to enhance learner engagement and provide accessible digital learning opportunities.

The integration of SMART-technologies transforms traditional education into SMART-education, where personalized learning plays a key role. Technology-supported learning enables continuous monitoring of student progress and content adaptation to individual needs through artificial intelligence. This personalized approach encourages self-paced learning, enhances comprehension efficiency, and sustains intrinsic motivation by tailoring educational content to specific learner requirements.

Materials and methods

The methodology of the research is based on an experimental approach aimed at determining the effectiveness of SMART-technologies in teaching English. It combines both qualitative and quantitative methods to ensure the reliability and validity of findings.

Research sample and participants:

The study was conducted during the 2023-2024 academic year at a secondary school. A total of 50 students from grades 8-9 participated. They were randomly divided into two groups: an experimental group (25 students) and a control group (25 students). The experimental group studied English using the specially designed SMART-learning website "E-agent", while the control group continued traditional instruction using textbooks and printed materials.

Phases of the experiment:

The experimental work consisted of three stages:

1. Preparatory stage – selection of methodological materials and development of the "E-agent" website, including its structure and learning modules.

2. Main stage – implementation of the experimental teaching process over eight weeks.

3. Final stage – collection of data, comparative analysis, and interpretation of results.

Instruments and methods:

- Theoretical analysis of literature on SMART-education, digital pedagogy, and methodology of English language teaching;
- Pedagogical observation to record students' engagement and motivation;
- Questionnaire to examine students' attitudes toward using the "E-agent" platform;
- Testing and experiment to collect measurable evidence of academic progress.

Description and procedure of the test:

Testing served as one of the central tools of empirical data collection. It consisted of two stages – pre-test and post-test.

Pre-test: conducted before the beginning of the experiment to determine the initial level of English proficiency in both groups. Tasks were designed according to the CEFR framework and assessed four core skills: listening, reading, speaking, and writing.

Post-test: administered after the eight-week training period using tasks of equivalent complexity and structure. The aim was to measure improvement and evaluate the effectiveness of learning through SMART-technologies.

Each skill was assessed on a 25-point scale (maximum score of 100). The results were then compared using indicators such as average performance, percentage of growth across skills, and overall learning gain.

Data processing and analysis:

The difference between the pre-test and post-test scores of both groups was calculated quantitatively using Excel tools. Mean values, percentage growth, and comparative diagrams were used to visualize learning progress. Qualitative analysis of questionnaire data further supported interpretation of results and validated experimental findings.

Technological base:

The "E-agent" website was developed on the Tilda Publishing platform, which integrates interactive features, multimedia resources, and automated testing modules. The platform allowed students to follow an individualized learning pace and enabled educators to evaluate the direct impact of SMART-technologies on learning outcomes.

This methodological design ensured transparency, replicability, and scientific soundness of the research, as well as a comprehensive assessment of both cognitive and motivational effects of using SMART-learning in English language teaching.

Literature review

In the scientific article *"E-learning as a Condition for the Innovative Development of System Education"* by domestic researchers G.K. Nurgaliyeva and E.V. Artykbayeva, who devoted their studies to the issues of electronic learning, emphasized that Kazakhstan follows the global Education 4.0 trend. The authors point out that for the first time, in the *State Program for the Development of Education in the Republic of Kazakhstan until 2020*, e-learning (Education 4.0) was considered a system-forming priority for the modernization of the national education system (Nurgaliyeva, 2012). This confirms that digital transformation is no longer an auxiliary process, but a strategic direction in the country's educational development.

In relation to the growing relevance of this field, many scholars have focused their research on

SMART-technologies and their implementation in education. According to E. Loshkareva, I. Ninenko, D. Sudakova, and others, the challenges of the modern world require a transformation from traditional to personalized education. The researchers argue that the basic principles of SMART-education, which form the foundation of Education 4.0, include *project-based learning, digitization and informatization of education, personalization of learning, and the integration of education, research, business, and high-tech industry* (Loshkareva, 2018). These principles demonstrate the shift toward competency-based and learner-centered approaches facilitated by digital tools (Ariza, 2026).

Further, in the article *"The Concept of SMART-Technologies in the Educational Process"* by D.Zholdybekova, Z. Kamalova, E. Manoshkina, and M. Akhmetova, particular attention is paid to the professional role of teachers in implementing digital education. The researchers state that the creation of high-quality educational and SMART control programs is a complex process demanding skilled educators, termed SMART-educators. According to them, teachers become SMART-educators through professional knowledge, experience, and continuous skill improvement, which introduce diversity and innovation into the learning process. Openness to new experience and the ability to adapt to changing professional conditions are becoming professional necessities for every teacher (Akhmetova, 2023).

The author of *"The Effectiveness of Teaching in Schools Using SMART-Technologies"* also highlights the changing role of teachers. The educator is seen not only as a source of information, but also as a facilitator and guide in the learning process, someone who helps students develop critical, analytical, and independent thinking (Kerimbayev, 2025). By using SMART-technologies, teachers are able to present complex topics in accessible and interactive ways, thereby increasing understanding and learner engagement. However, the author notes that SMART-technologies will never replace teachers but rather serve as auxiliary mechanisms to create a dynamic and adaptive educational environment (https://surl.li/ezqapt).

Based on the reviewed works, the use of SMART-technologies in education provides several key advantages:

Personalized learning, which tailors content to students' interests and learning styles, enabling deeper understanding and better retention of material;

SMART-content tools (e.g., SMART boards, interactive displays, intelligent software) that help sustain learners' motivation and engagement;

Development of digital literacy, critical thinking, creativity, and collaboration among students.

However, researchers also highlight notable challenges and drawbacks:

- Information overload and possible cognitive fatigue caused by continuous digital exposure;
- Inequality of access to technological resources among students;
- Potential risks and ethical dilemmas associated with the use of intelligent technologies. Some scholars note that SMART-technologies may form a "risk space" where inadequate decisions can emerge if used improperly. Modeling such risks allows researchers to outline a "threat field" reflecting the challenges of digitalization and the influence of transhumanist trends on modern education (http://project6169247.tilda.ws/).

In summary, the literature shows a clear consensus that the introduction of SMART-technologies contributes to educational modernization by enhancing learning quality, interactivity, and accessibility. Nevertheless, their integration requires the development of professional competencies, ethical frameworks, and equal technological access to ensure balanced and sustainable digital transformation within the education system.

Results and discussions

The practical part of the research included both quantitative and qualitative analysis based on data collected from 50 respondents – English language teachers and 6th-grade students of Grammar School №24 in Taraz city. The study applied an online questionnaire (https://forms.gle/z3zgCHfkVDtf7Vvp6) and experimental testing (pre- and post-tests) to evaluate the effectiveness of SMART-technologies and the newly developed digital educational site "E-agent."

Before the experiment, both the control and experimental groups demonstrated similar levels of English proficiency based on the pre-test results (average scores: 68% and 70%, respectively). The implementation phase lasted eight weeks, during which the experimental group used the "E-agent"

website as their main learning tool, while the control group continued studying through traditional textbook-based lessons without SMART-technologies. After the experiment, a post-test was conducted to compare progress. The results showed that the experimental group achieved an average score of 86%, while the control group improved only to 71%. The 15% difference in total performance indicates significantly higher learning progress among students who used the “E-agent” platform.

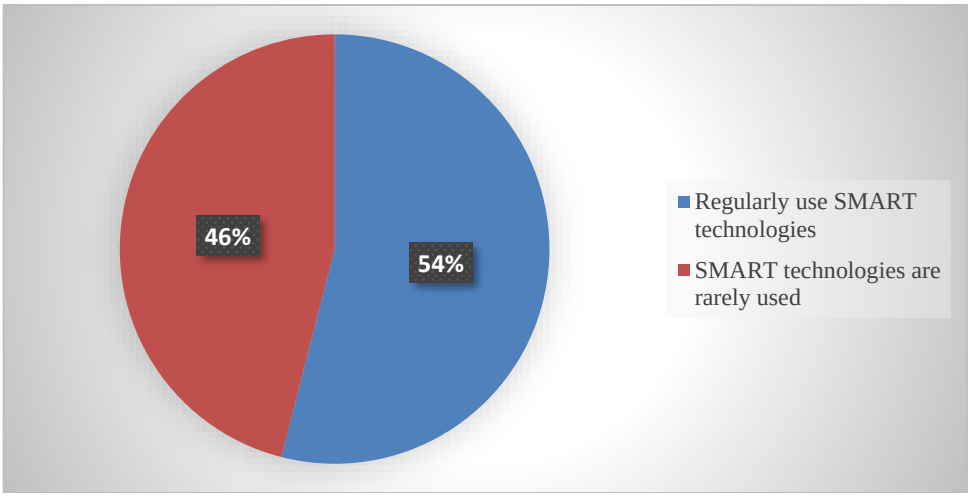


Diagram 1 – Usage of SMART-education and SMART-technologies in Educational Process
Диаграмма 1 – Білім беру үдерісінде SMART-білім беру мен SMART-технологияларды қолдану
Диаграмма 1 – Использование SMART-образования и SMART-технологий в образовательном процессе

The survey revealed that 54% (27 respondents), including both teachers and students, are already familiar with and actively use SMART-education and SMART-technologies. This suggests a growing integration of digital tools into daily teaching and learning processes. Respondents indicated that such technologies help them understand the principles of innovative and interactive education using modern information and communication technologies.

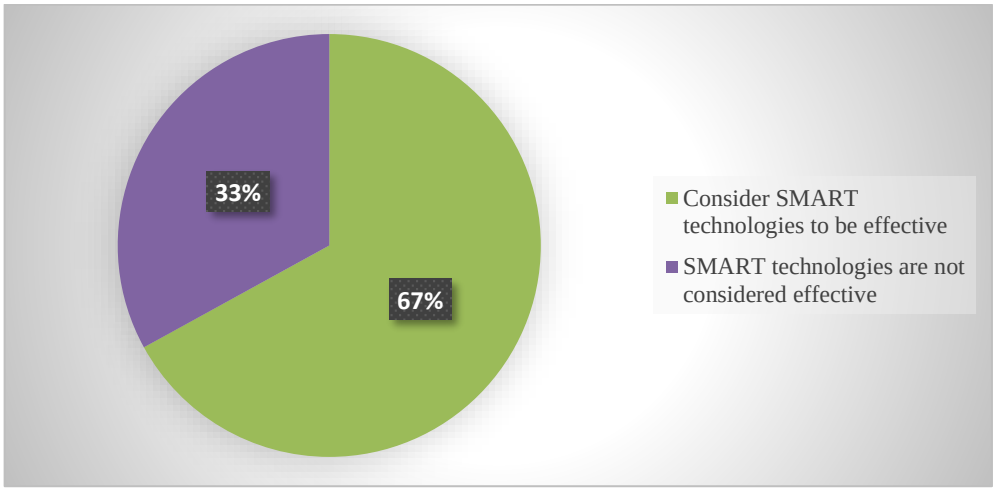


Diagram 2 – Efficiency of “E-agent” in the Educational Process
Диаграмма 2 – Білім беру үдерісіндегі «E-agent» тиімділігі
Диаграмма 2 – Эффективность «E-agent» в образовательном процессе

According to the respondents, 67% agreed that SMART-technologies – including interactive boards, VR/AR features, artificial intelligence, gamification, and access to online resources – effectively enhance learning motivation and engagement. Both teachers and students noted that these tools help

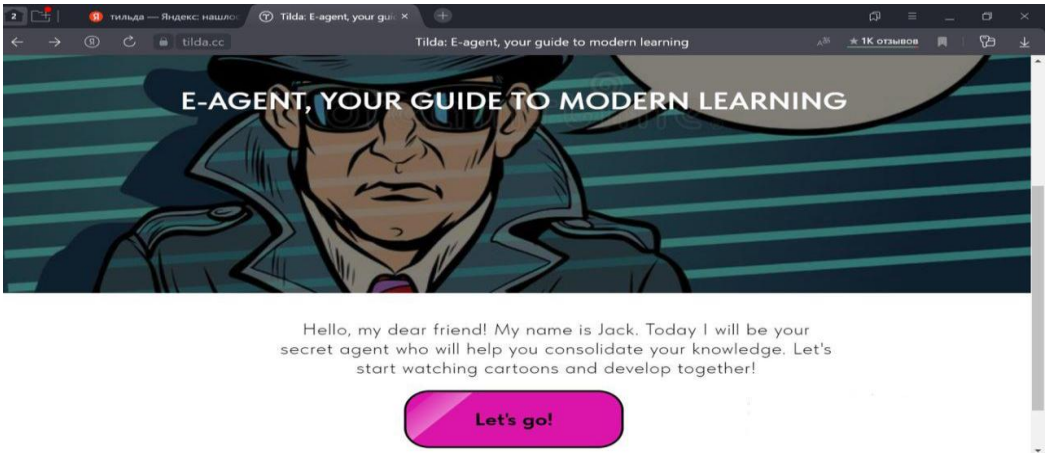
structure study time, monitor progress, and set personalized goals. Teachers, in turn, emphasized that SMART-technologies facilitate lesson planning, student progress tracking, and the adaptation of materials to learners' needs.

To verify the survey results, the experimental stage included an open lesson that integrated "E-agent" into classroom instruction. All four language skills – reading, listening, writing, and speaking – were tested in both groups before and after the intervention.

Table 1 – Comparative Analysis of Language Skill Improvement Based on the Implementation of the "E-agent" Platform
Кесте 1 – «E-agent» платформасын енгізу негізінде тілдік дағдылардың жақсаруын салыстырмалы талдау
Таблица 1 – Сравнительный анализ улучшения языковых навыков на основе внедрения платформы «E-agent»

Skill	*Control Group Improvement*	*Experimental Group Improvement*
Listening	+10%	+28%
Speaking	+9%	+26%
Reading	+12%	+20%
Writing	+11%	+19%

As shown in the table, the experimental group's improvement was consistently higher across all skills. The integration of multimedia, visual materials, and interactive tasks on the "E-agent" platform provided a strong kinesthetic and emotional learning component, which significantly enhanced language comprehension and retention compared to traditional methods.



Screen 1 – Home Page of the Educational Site "E-agent"
Скриншот 1– «E-agent» білім беру сайтының басты беті
Скриншот 1 – Главная страница образовательного сайта «E-agent»

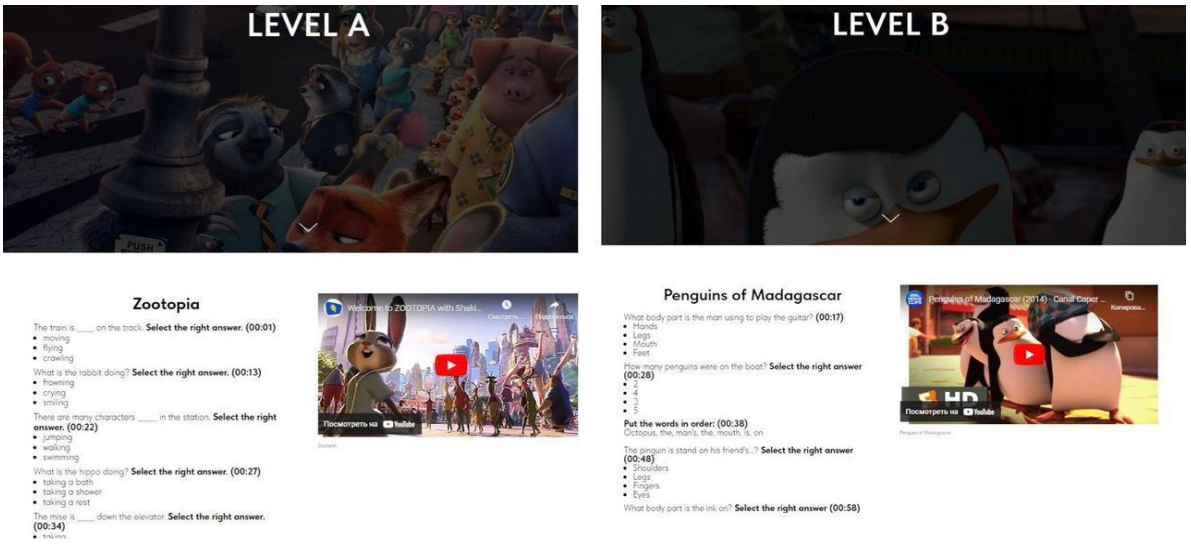
This site is suitable for those users who want to improve and strengthen their skills simply, quickly and entertainingly. On the site you can find cartoons for learning English. The cartoons do not contain slang, complex grammatical constructions, the speech rate is measured, which will not create difficulties in understanding and mastering the language. And since the information presented in the form of a cartoon is a factor of authenticity, a high level of trust in the information being studied is created on the part of the student.

Moreover, the audiovisual format makes learning effective and useful, as the video contains a large amount of information in a small space. A well-thought-out and well-made video reduces cognitive load and relieves stress, fatigue, and the feeling of dissatisfaction from trying to understand the meaning of a large amount of text in an irrelevant display. Watching the actions taking place in

cartoons stimulates the perception of information by both the logical hemisphere of the brain and the figurative hemisphere, which is responsible for intuition and creativity. This technique will allow you to master the language using associative connections.

Also, the educational site “E-agent” created by us ensures the organization of the educational process, regardless of time and place, assumes continuous access to the information base. One of the advantages of using this site is that during the learning process, students have access to control the information received, which will speed up the learning process depending on the needs. In other words, the student can choose the level of difficulty, which will initially correspond to the level of his knowledge and at the same time improve it, moving to more complex levels. The ability to choose among available lessons opens up unlimited advantages in learning, which provide freedom and independence to students.

The use of the basics of this method of work is an additional incentive for creating “healthy” competition in the classroom and helps to create comfortable conditions for the learning process, which in turn is an additional source of motivation when completing paired, group or team language assignments.



Screen 2 – Interface and Content of the eEducational Site “E-agent”
Скриншот 2 – «E-agent» білім беру сайтының интерфейсі мен мазмұны
Скриншот 2 – Интерфейс и содержимое образовательного сайта «E-agent»

During the experimental work, we conducted an open lesson in the 6th grade, where we tested all language skills, including reading, listening, writing and speaking, and came to the conclusion that in the group where elements from the educational site “E-agent” were used in the lessons, the level of assimilation of new information in English increased significantly. Specifically, in the control group, the improvement in listening and speaking skills was moderate (approx. 10%), whereas the experimental group showed a dramatic increase of 25-30% in these areas. This comparison proves that the interactive and kinesthetic nature of SMART-technologies addresses the needs of the modern generation more effectively than the traditional approach used in the control group. At the same time, interest and motivation for learning English also increased. According to the students, the lesson was more colorful, bright and exciting. The exercises became more interesting, since the tasks were developed in an unusual way. Thus, our findings were confirmed by the results of the survey, during which we found out that in the experimental group absolutely all students (100% of students) reacted positively to this innovation. The students noted that they felt a big difference between traditional and innovative lessons and argued this by improving their abilities and skills in English. Thus, 93% of students (13 respondents) in the experimental group left feedback that their language level had improved significantly, especially in speaking and listening. The survey results can be viewed in Diagram №3 and Diagram №4.

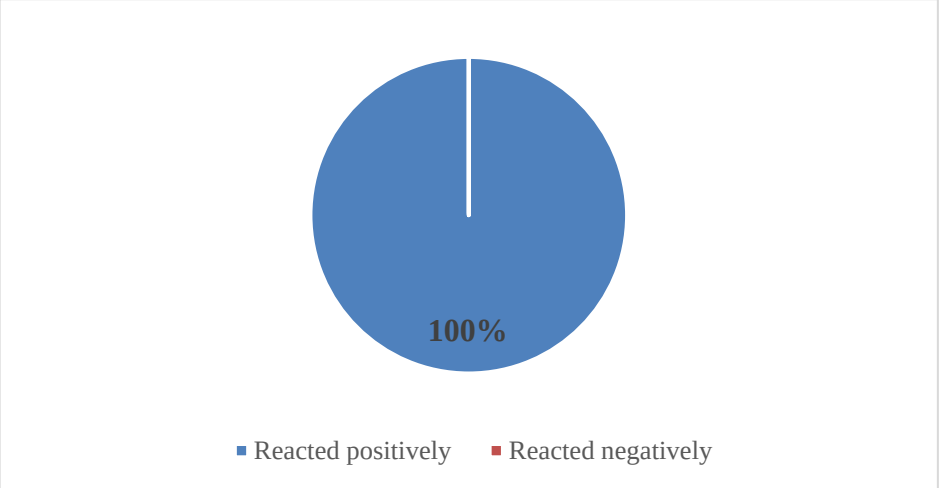


Diagram 3 – Attitude of Students in the Experimental Group Towards the Implemented Educational Site “E-agent”
Диаграмма 3 – Эксперименттік топтағы студенттердің енгізілген «E-agent» білім беру сайтына көзқарасы
Диаграмма 3 – Отношение студентов экспериментальной группы к внедренному образовательному сайту «E-agent»

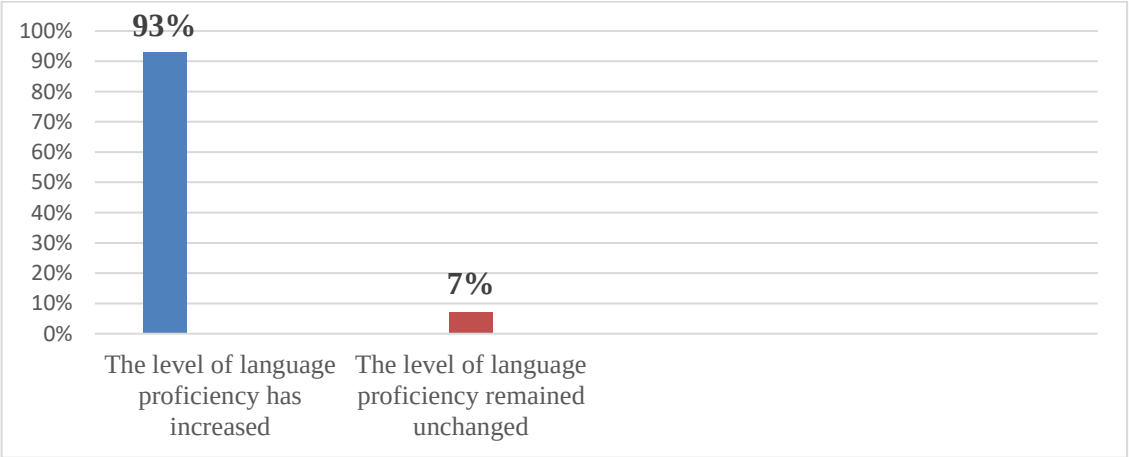


Diagram 4 – Dynamics in the Level of Knowledge and Skills in English After the Introduction of the Educational Site “E-agent”
Диаграмма 4 – «E-agent» білім беру сайты енгізілгеннен кейінгі ағылшын тіліндегі білім мен дағдылар деңгейінің динамикасы
Диаграмма 4 – Динамика уровня знаний и навыков по английскому языку после внедрения образовательного сайта «E-agent»

Survey results confirmed quantitative findings: 100% of students in the experimental group responded positively to the innovation, emphasizing increased motivation and interest in learning English. Moreover, 93% reported that their language level improved significantly, particularly in speaking and listening. Students highlighted that the online resource was clear, engaging, and useful for self-study, and that the lesson format was “more colorful, exciting, and effective” than the traditional one.

The “E-agent” platform, created via Tilda Publishing, provided continuous accessibility to learning materials and allowed learners to choose their level of difficulty. The website contained interactive video exercises, short cartoons with moderate speech tempo, and audiovisual content fostering both logical and creative thinking. Such multimodal learning reduced cognitive overload and increased the authenticity of materials, thereby strengthening comprehension. By allowing self-paced

progression, students developed greater autonomy and responsibility for their learning outcomes.

In contrast, the control group, which studied without digital tools, showed slower progress and reported less motivation. This comparative analysis confirms that the observed improvement in the experimental group can be attributed to the incorporation of SMART-technologies rather than to novelty effects or additional teacher attention.

In conclusion, the research findings demonstrate that the use of SMART-technologies – and particularly the "E-agent" educational platform – significantly improves learning effectiveness. Students not only enhanced their linguistic performance but also developed digital literacy, self-regulation, and motivation. The comparative results between the two groups empirically validate that integrating SMART-learning into English language education provides measurable and sustainable improvements over traditional methods.

Conclusion

The conducted research confirmed that the integration of SMART-technologies into the educational process increases the effectiveness of foreign language learning and enhances students' motivation and engagement. The comparative analysis between the experimental and control groups demonstrated a clear advantage in favor of SMART-learning. Students who worked with the developed digital educational platform "E-agent" showed significantly higher results in all four communicative skills – listening, speaking, reading, and writing – compared to those who studied through traditional methods.

Quantitative data (a 15% overall improvement gap) indicate that the E-agent platform not only supports effective knowledge retention but also helps develop cognitive flexibility, critical thinking, and self-directed learning. The qualitative results from surveys reinforced these findings: students reported greater satisfaction, interest, and confidence in using English for communication. Teachers, in turn, noted that SMART-technologies make the organization of lessons more interactive and provide tools for monitoring individual learner progress.

Thus, integrating SMART-learning into English language education represents a strategic step toward the modernization of teaching practices. It reflects the principles of Education 4.0, which emphasize personalization, flexibility, and digital competence as essential components of contemporary education.

Recommendations

1. Institutional integration: Educational institutions should promote the systematic implementation of SMART-technologies across curricula, ensuring technical infrastructure and teacher training.
2. Teacher professional development: Teachers need continuous digital literacy and pedagogical training to effectively employ SMART tools and maintain a balance between innovation and pedagogy.
3. Curriculum enrichment: The use of platforms like E-agent can be embedded into language courses as supplementary or blended-learning components, promoting individualized learning pathways.
4. Monitoring and evaluation: Systematic assessment of pre- and post-learning data should be conducted to track measurable progress and identify best practices in SMART-education.
5. Further research: Future studies could broaden the sample size, explore long-term effects of SMART-learning, and investigate how adaptive technologies (AI, VR/AR) support students with diverse learning needs.

SMART-technologies have already proven their potential to transform learning from a passive process into an active, personalized, and creative experience. Ensuring balanced, equitable, and pedagogically sound integration of these tools will sustain motivation and improve academic outcomes, guiding Kazakhstan's education system toward a truly SMART and innovative future.

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