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MAKTABGACHA VA MAKTAB TA'LIMI VAZIRLIGI

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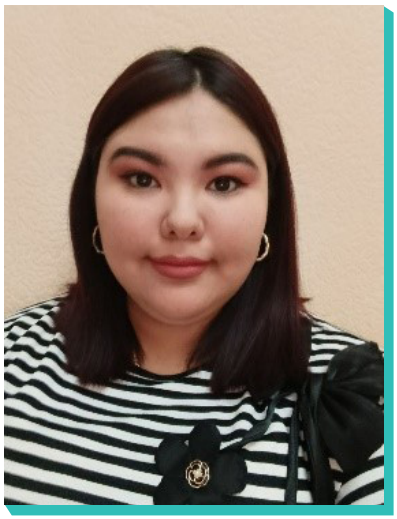

DEVELOPING STUDENT'S CRITICAL SKILLS THROUGH TECHNOLOGY-ENHANCED ENGLISH LESSONS

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Abstract: This study explores the role of technology-enhanced instruction in developing students' critical-thinking skills during English-language lessons. The research draws upon pedagogical theories, critical-thinking frameworks, and digital-learning tools to determine how interactive technologies can promote analytical, evaluative, and reflective thinking. Data were collected through classroom observations, teacher interviews, and student surveys in secondary-school settings. The results indicate that technology, when purposefully integrated with pedagogical strategies, significantly enhances student engagement and critical-thinking outcomes.

Key words: critical thinking, educational technology, English-language teaching, interactive learning, secondary education.

Annotatsiya: Ushbu tadqiqot ingliz tili darslarida texnologiyalar bilan boyitilgan ta'limning o'quvchilarning tanqidiy fikrlash qobiliyatini rivojlantirishdagi rolini o'rganadi. Tadqiqot pedagogik nazariyalar, tanqidiy fikrlash modellari va raqamli o'quv vositalariga asoslanib, interaktiv texnologiyalar qanday qilib tahliliy, baholovchi va reflektiv fikrlashni rivojlantirishi mumkinligini aniqlashga qaratilgan. Ma'lumotlar o'rta maktab sharoitida dars jarayonlarini kuzatish, o'qituvchilar bilan suhbatlar va o'quvchilar o'rtasida so'rovnomalar o'tkazish orqali to'plandi. Natijalar shuni ko'rsatadiki, texnologiyalar maqsadli tarzda pedagogik strategiyalar bilan uyg'unlashtirilganda, o'quvchilarning darsga jalb qilinishi va tanqidiy fikrlash ko'nikmalarining rivojlanishiga sezilarli darajada ijobiy ta'sir ko'rsatadi.

Kalit so'zlar: tanqidiy fikrlash, ta'lim texnologiyalari, ingliz tilini o'qitish, interaktiv o'rganish, o'rta ta'lim.

Аннотация: В данном исследовании рассматривается роль технологий, используемых в образовательном процессе, в развитии навыков критического мышления у учащихся на уроках английского языка. Исследование опирается на педагогические теории, модели критического мышления и цифровые образовательные инструменты, чтобы определить, каким образом интерактивные технологии способствуют развитию аналитического, оценочного и рефлексивного мышления. Данные были собраны посредством наблюдений за учебными занятиями, интервью с преподавателями и анкетирования учащихся в условиях средней школы. Результаты показывают, что технологии, целенаправленно интегрированные с педагогическими стратегиями, значительно повышают вовлечённость учащихся и уровень развития критического мышления.

Ключевые слова: критическое мышление, образовательные технологии, преподавание английского языка, интерактивное обучение, среднее образование.

INTRODUCTION

In the 21st century, critical thinking has become a core competency in education. As globalization increases the demand for effective communication and analytical reasoning, English-language lessons provide a unique context for nurturing these skills. However, traditional methods often fail to engage students in deep thinking. The integration of technology in the English classroom opens new opportunities for active learning, collaboration, and problem-solving. This study investigates how technology-enhanced English lessons can foster critical thinking among secondary-school students.

LITERATURE REVIEW

Xue Yin, M. Rashid Bin Mohd Saad & Huzaina Binti Abdul Halim (2024). This quasi-experimental study developed a Technology-Enhanced Social Learning model in Chinese EFL classrooms, integrating Paul & Elder's critical-thinking standards into a 14-week intervention. Compared with a control group, participants in

the TSL group showed significant gains in both general critical-thinking dispositions and subject-specific critical thinking in written English, demonstrating that purposeful social-learning technologies can substantially boost analytical and evaluative skills in language learners.

Ruth Swart (2017) using a classroom response system and online discussion forums, this mixed-methods study examined undergraduate students' engagement with explicitly aligned critical-thinking instruction. Students reported positive perceptions of both technologies, valuing varied modes of participation and noting enhanced ability to apply and evaluate course content–an approach readily transferable to English-language pedagogy.

RESEARCH METHODOLOGY

Research Design: A qualitative, case-study approach was used to examine how technology-supported instruction influences students' critical thinking in English classes.

In the context of critical thinking, a research design helps answer key questions such as:

How does critical thinking develop in students?

What teaching methods or tools influence it?

What role do technology and the curriculum play?

Purpose of the Research Design in Critical Thinking Studies

The purpose of a research design in a study on critical thinking is to:

Clearly define the variables involved (e.g., critical-thinking skills, teaching methods, student engagement).

Choose a methodology suitable for measuring complex cognitive abilities.

Ensure reliability, validity, and objectivity in assessing thinking patterns.

Participants: The study involved three English teachers and sixty students from two secondary schools in Uzbekistan. Students were in Grades 8 and 9, aged 14–15. Data Collection Tools.

Classroom Observations: Ten English lessons using multimedia and digital platforms were observed. Semi-structured interviews with teachers on the effectiveness of digital methods. Student questionnaires to measure perception and engagement.

Data Analysis: The data collected throughout the study were subjected to a comprehensive thematic analysis to explore how different components of critical thinking–namely analysis, inference, explanation, and self-regulation–emerged and developed during technology-enhanced English-language instruction.

Thematic analysis was chosen as the primary method for qualitative data interpretation due to its flexibility and effectiveness in identifying, analyzing, and reporting patterns (themes) within rich textual data. It allowed the researcher to systematically code the data and uncover repeated ideas, concepts, and meanings that aligned with the core elements of critical thinking defined by frameworks such as Facione's Critical Thinking Skills Model and Paul and Elder's intellectual standards.

ANALYSIS AND RESULTS

The analysis of classroom observations demonstrated a notable increase in student engagement during English-language lessons that incorporated digital tools such as Padlet, Quizlet, and Edmodo. Compared with traditional instruction, technology-enhanced lessons created a more interactive, student-centered learning environment where learners were actively involved in the educational process rather than passive recipients of information.

Active Participation and Motivation: During lessons that utilized digital platforms, students displayed a higher level of participation. This was evident in their increased willingness to respond to teacher prompts, volunteer for tasks, and engage in group discussions. For example, in activities conducted through Padlet, students eagerly contributed to collaborative brainstorming sessions, shared opinions, and responded to peers' ideas in real time. The visual and interactive nature of the platform provided an inclusive space where even less-confident students felt comfortable expressing their thoughts.

The use of Quizlet for vocabulary and grammar revision transformed routine tasks into gamified experiences, fostering healthy competition and motivation. Observers noted that students appeared more enthusiastic and focused when engaging with game-based quizzes compared with paper-based drills. This increase in motivation was linked to the immediate feedback and achievement-tracking features provided by the platform.

In summary, the incorporation of platforms such as Padlet, Quizlet, and Edmodo significantly enhanced student engagement across cognitive, behavioral, and emotional domains. By offering interactive, flexible, and collaborative learning experiences, these digital tools supported not only higher levels of participation but also laid the groundwork for the development of critical thinking skills.

Thinking Skills Development: The majority of students (85 %) reported that digital tools helped them better understand texts, analyze arguments, and develop their own viewpoints. Teachers confirmed that activities such as online debates, multimedia presentations, and peer assessments encouraged reflective thinking.

Teacher Reflections: Teachers highlighted that technology was most effective when used with specific goals–such as prompting learners to compare ideas, evaluate sources, or reflect on their own writing. They also noted the importance of scaffolding digital tasks to guide students toward deeper learning.

The findings of this study strongly align with the principles of constructivist learning theories, which emphasize learner-centered environments where students actively construct knowledge through experience, exploration, and reflection. In this context, technology was not merely a supplementary teaching tool but served as both a medium and a catalyst for developing critical thinking skills. When integrated purposefully into instruction, digital platforms such as Padlet, Quizlet, and Edmodo provided dynamic learning spaces that promoted inquiry, collaboration, and reflection–the core components of critical thinking.

Consistent with constructivist pedagogy, students were given opportunities to engage actively with content, interact with peers, and express their reasoning in both oral and written formats. These activities enabled learners to move beyond rote memorization and surface-level understanding to more complex cognitive processes such as analysis, inference, explanation, and self-regulation. For instance, collaborative tasks and peer-feedback exercises required students to evaluate others' ideas, revise their own understanding, and justify their opinions using evidence–behaviors that reflect higher-order thinking.

These results corroborate earlier research in the field. As noted by Johnson (2022), interactive tools can significantly increase cognitive engagement by making learning more participatory and relevant. Similarly, Lee and Kim (2021) emphasized that digital platforms, when used with thoughtful pedagogical intent, encourage students to become active participants in their own learning and foster a classroom culture that values questioning, reflection, and critical inquiry.

However, despite these promising outcomes, the study also revealed several practical challenges that may hinder the effective implementation of technology-enhanced instruction. One key issue is the need for ongoing professional development. Teachers must be equipped not only with technical skills but also with pedagogical strategies that allow them to integrate technology meaningfully into lesson planning and assessment. Without sufficient training, educators may use digital tools in ways that replicate traditional methods, thereby limiting their transformative potential.

Another significant concern is the variability in technological infrastructure across educational institutions. The success of digital learning strategies depends heavily on reliable internet access, up-to-date devices, and technical support. In schools where these resources are lacking, students may be excluded from fully participating in technology-driven lessons, leading to unequal learning experiences and widening the digital divide.

Moreover, the effectiveness of technology in promoting critical thinking is contingent upon how it is used. Simply introducing digital tools into the classroom does not automatically result in deeper learning. It is the instructional design–the quality of tasks, the level of student autonomy, and the opportunities for dialogue and reflection–that ultimately determines whether critical thinking is nurtured.

CONCLUSION AND RECOMMENDATIONS

The findings of this study underscore the significant role that technology-enhanced English-language instruction can play in fostering critical-thinking skills among secondary-school students. As the demands of 21st-century education shift toward deeper cognitive engagement and the cultivation of higher-order thinking skills, the integration of digital tools into language learning emerges as a timely and effective pedagogical strategy.

When technology is purposefully integrated–aligned with clear instructional objectives and appropriate pedagogical frameworks–it serves not only to facilitate language acquisition but also to create opportunities for learners to engage in inquiry-based learning, analytical reasoning, and independent thought. Tools such as Padlet, Edmodo, and Quizlet, when used in conjunction with collaborative tasks, problem-solving activities, and reflective exercises, provide students with the space to explore, question, justify, and refine their ideas–core components of critical thinking.

The study's results confirm that interactive, student-centered technologies enhance classroom participation, promote intellectual curiosity, and encourage learners to take ownership of their learning process. These outcomes are particularly valuable in the context of English-language instruction, where students must not only understand linguistic structures but also use the language to interpret information, argue viewpoints, and communicate complex ideas.

However, the research also highlights the need for intentional planning and systemic support. Technology alone is not a guarantee of improved thinking or engagement; its effectiveness depends on how it is embedded

into the curriculum, the quality of teacher facilitation, and the availability of reliable infrastructure. Therefore, investments in teacher training, technological resources, and equitable access are essential to maximize the benefits of digital learning environments.

Looking ahead, future research should investigate the long-term effects of technology-integrated instruction on the development of critical thinking, particularly across diverse educational settings. Longitudinal studies could provide insights into how these skills evolve over time and how digital learning tools influence sustained intellectual growth. Additionally, comparative studies across age groups, linguistic backgrounds, and subject areas could help refine best practices and inform broader educational policies.

In conclusion, the thoughtful application of educational technology in English-language teaching holds great promise for cultivating critical, reflective, and autonomous learners. As schools continue to adapt to digital innovations, a balanced, research-informed approach is key to ensuring that technology serves not just as a tool for instruction but as a catalyst for transformative learning.

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