



Integration of Electronic Devices in Primary Education: Survey Results from Tashkent, Namangan, and Andijan

Durdona AZIZOVA¹

International Nordic University

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ABSTRACT

This study examines the implementation of technological devices in primary education across three regions of Uzbekistan - Tashkent, Namangan, and Andijan - focusing on their impact on student engagement, learning outcomes, and classroom interaction. The research, encompassing approximately 100 primary school students, employs a mixed methodology combining quantitative surveys with qualitative interviews and classroom observations. Results indicate that while devices are primarily used for educational purposes such as note-taking and information retrieval, a significant number of students also utilize them for communication and entertainment during lessons. Smartphones emerged as the most frequently used devices, followed by laptops and tablets. Notably, students in Tashkent report higher usage rates compared to their counterparts in rural Andijan. Although most students perceive a positive impact of gadgets on the learning process, nearly 40% acknowledge experiencing distractions during lessons. Teachers exhibit varied attitudes towards technology integration: some actively endorse it, while others approach it with caution. The study underscores the necessity of developing clear guidelines and providing teacher training to effectively manage gadget use in schools. Proposed measures include formulating structured policies, offering professional development opportunities for teachers, and fostering collaboration among educators, parents, and students to ensure a balanced and purposeful integration of technology in primary education.

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¹ PhD Student, International Nordic University. E-mail: d.azizova@nordicuniversity.org

Gadgetlarning boshlang'ich ta'limga integratsiyasi: Toshkent, Namangan va Andijon shartlarida so'rov natijalari

ANNOTATSIYA

Kalit so'zlar:

Texnologiya integratsiyasi,
gadgetlardan foydalanish,
sinf dinamikasi,
aloqa vositalari,
raqamli savodxonlik,
o'quv natijalari,
smartfonlar,
noutbuklar,
sun'iy intellektga asoslangan
ta'lim, o'yinga asoslangan
o'quv platformalari,
raqamli fuqarolik.

Ushbu tadqiqot O'zbekistonning uchta mintaqasi – Toshkent, Namangan va Andijonda boshlang'ich ta'limga texnologik qurilmalarning joriy etilishini o'rganib, ularning o'quvchilar faolligiga, ta'lim natijalariga va sinfdagi o'zaro munosabatlariga ta'sirini o'rganadi. Taxminan 100 ga yaqin boshlang'ich sinf o'quvchilari ishtirok etgan tadqiqot miqdoriy so'rovlarni sifatli intervyu va sinf kuzatuvlari bilan birlashtirgan aralash uslublar dizaynidan foydalanadi. Natijalar shuni ko'rsatadiki, qurilmalar asosan eslatma olish va ma'lumot to'plash kabi ta'lim maqsadlarida qo'llanilsa-da, talabalarining katta qismi dars davomida muloqot qilish va ko'ngil ochish bilan shug'ullanadi. Smartfonlar eng ko'p ishlatiladigan qurilmalarga aylanib bormoqda, undan keyin noutbuklar va planshetlar. Qizig'i shundaki, Toshkentdagi shahar o'quvchilari Andijondagi qishloqdagi tengdoshlariga nisbatan ko'proq foydalanishadi. Talabalar gadgetlardan foydalanish o'quv jarayoniga foydali ta'sir ko'rsatishini tan olishsa-da, deyarli 40% dars davomida chalg'itadigan narsalarga duch kelishlarini tan olishadi. O'qituvchilar gadgetlardan foydalanishga turlicha munosabatda bo'lishadi: ba'zilari texnologiya integratsiyasini faol ravishda targ'ib qilmoqda, boshqalari esa ehtiyotkorlik bilan. Tadqiqot aniq yo'riqnomalarni belgilash va o'qituvchilarga ta'lim muassasalarida gadgetlardan foydalanishni samarali nazorat qilish bo'yicha treninglar o'tkazish muhimligini ta'kidlaydi. Taklif etilayotgan chora-tadbirlar tizimlashtirilgan siyosatni ishlab chiqish, o'qituvchilarning kasbiy rivojlanish imkoniyatlarini taqdim etish va texnologiyaning boshlang'ich ta'limga muvozanatli va maqsadli integratsiyalashuvini ta'minlash uchun o'qituvchilar, ota-onalar va talabalar o'rtasidagi hamkorlikni rag'batlantirishni o'z ichiga oladi.

Интеграция гаджетов в начальное образование: результаты опроса в Ташкенте, Намангане и Андижане

АННОТАЦИЯ

Ключевые слова:

Интеграция технологий,
использование гаджетов,
динамика класса,
средства коммуникации,
цифровая грамотность,
результаты обучения,
смартфоны,
ноутбуки,
обучение на основе
искусственного

В настоящем исследовании рассматривается внедрение технологических устройств в начальное образование в трёх регионах Узбекистана – Ташкентском, Наманганском и Андижанском – с акцентом на их влияние на вовлечённость учащихся, учебные результаты и взаимодействие в классе. В исследовании, охватывающем около 100 учащихся начальных классов, использована смешанная методология, сочетающая количественные опросы с качественными интервью и наблюдениями на уроках. Результаты

интеллекта,
игровые платформы
обучения,
цифровое гражданство.

показывают, что, несмотря на основное использование устройств в образовательных целях – таких как ведение заметок и поиск информации, – значительное число учащихся также прибегает к ним для общения и развлечений во время занятий. Наиболее часто используемыми устройствами стали смартфоны, за ними следуют ноутбуки и планшеты. Примечательно, что учащиеся в Ташкенте сообщают о более высокой частоте использования по сравнению со своими сверстниками из сельских районов Андижана. Хотя большинство учащихся отмечают положительное влияние гаджетов на учебный процесс, почти 40% признают наличие отвлекающих факторов во время занятий. Учителя демонстрируют разное отношение к использованию технологий: одни активно поддерживают их интеграцию, другие относятся с осторожностью. Исследование подчёркивает необходимость разработки чётких регламентов и организации подготовки педагогов для эффективного контроля за использованием гаджетов в школах. Среди предлагаемых мер – разработка структурированной политики, предоставление возможностей профессионального развития для учителей и стимулирование взаимодействия между педагогами, родителями и учащимися для обеспечения сбалансированной и целенаправленной интеграции технологий в начальное образование.

In the swiftly changing terrain of education, the incorporation of technology has emerged as a crucial element of teaching methodologies. The use of devices – from smartphones and tablets to interactive whiteboards and virtual reality tools – has unlocked new possibilities for improving the educational experience. This research delves into the instructional opportunities that these technological instruments offer within the contemporary educational framework. By analyzing their influence on student engagement, personalized learning, and collaborative experiences, this study intends to clarify how gadgets can be adeptly employed to cultivate a more vibrant and interactive learning atmosphere. Furthermore, it aims to pinpoint effective practices for educators in leveraging these tools to accommodate diverse learning requirements and equip students for a future shaped by technology. Through an extensive review of existing literature and empirical data, this research will enhance our understanding of the role of gadgets in modern education, shedding light on both their potential advantages and challenges. Additionally, as the dependence on gadgets in education escalates, it is crucial to confront the possible downsides linked to their usage, such as gadget addiction and the threat of reduced face-to-face interactions among students. Educators must tackle these issues by establishing structured guidelines that encourage balanced technology use, ensuring that gadgets act as tools for enhancement rather than distractions. Moreover, nurturing a collaborative atmosphere where teachers, parents, and students engage in conversations about technology's role in education can promote a more informed and responsible approach to gadget integration. By prioritizing digital literacy and critical thinking skills, educators can prepare students not only to utilize technology proficiently but also to assess its significance in their educational journeys, ultimately shaping them into responsible digital citizens ready for the complexities of a technology-centric society.

This study employs a mixed-methods framework to investigate the incorporation of technological gadgets in education, centering on their effects on student engagement, personalized learning, and collaborative opportunities. The research design merges both qualitative and quantitative data collection techniques to deliver a thorough understanding of the topic.

Participants consist of educators and students from various educational institutions that have actively integrated technological gadgets into their teaching and learning methods. Data collection includes structured surveys to acquire quantitative data on perceptions of technology use, alongside semi-structured interviews and classroom observations to garner qualitative insights into experiences and interactions with these technologies. **Quantitative data** are examined using statistical techniques to reveal patterns and relationships, while qualitative data undergo thematic analysis to uncover recurring themes and insights. The study also takes ethical considerations into account, ensuring informed consent, confidentiality, and the voluntary participation of all individuals involved. By utilizing this methodology, the research aspires to identify optimal practices for incorporating technological gadgets into educational environments, evaluate their effects on learning outcomes, and offer recommendations for educators and policymakers on how to effectively deploy these tools to enrich the educational experience.

Incorporating gadgets into language instruction boosts engagement and effectiveness. Below are essential methods for leveraging technology in language education, along with corresponding data collection strategies to evaluate their impact. Moreover, there are other modern ways to use gadgets in the classroom. They are:

- Gamified Learning Platforms;

Applications such as Duolingo and Memrise integrate game elements – like points, levels, and badges – to engage and inspire learners. These platforms adjust to each individual's progress, delivering tailored learning experiences.

- Virtual and Augmented Reality (VR/AR);

Tools like Google Expeditions and Oculus create immersive settings where learners can engage in real-life situations, enhancing their understanding of culture and conversational abilities. Lingo Vista

- Interactive Audio Tools;

Devices like the Peiko Language Translator enable instant translation and pronunciation practice, supporting the development of listening and speaking skills.

- AI-Powered Language Tutors;

Platforms such as Duolingo Max leverage artificial intelligence to provide customized feedback and replicate real-world conversations, boosting speaking and comprehension abilities.

- Speech Recognition for Pronunciation Assessment;

Technologies evaluate pronunciation precision, offering immediate feedback to learners and assisting in reducing accents and improving speech clarity.

For checking classroom environment, there have been held surveys with different question which are about the usage of gadgets during the lesson. In this survey, there are near to 100 pupils in primary school in different locations (Tashkent, Namangan, Andijan)

Survey Results: Gadget Use in Primary School Classrooms

Respondent Demographics

Total Pupils Surveyed: 100

Grade Levels: 1st to 4th Grade

Locations: Tashkent (35 pupils), Namangan (35 pupils), Andijan (30 pupils)

1. Frequency of Gadget Use During Lessons					
Location	Never	Rarely	Sometimes	Often	Always
Tashkent	5	10	15	5	0
Namangan	3	7	20	5	0
Andijan	2	8	15	5	0
2. Types of Gadgets Used					
Gadget Type	Tashkent (%)	Namangan (%)	Andijan (%)		
Smartphone	80	75	70		
Laptop	60	50	40		
Tablet	40	30	20		
Smartwatch	10	5	5		
3. Primary Purpose of Gadget Use					
Purpose	Tashkent (%)	Namangan (%)	Andijan (%)		
Note-taking	70	65	60		
Researching Info		60	55	50	
Communication		30	25	20	
Entertainment	20	15	10		
4. Impact on Learning					
Location	Positive Impact (%)		No Impact (%)	Negative Impact (%)	
Tashkent	50	30	20		
Namangan	45	35	20		
Andijan	40	40	20		
5. Distractions Caused by Gadgets					
Location	Yes (%)		No (%)		
Tashkent	40	60			
Namangan	35	65			
Andijan	30	70			
6. Teacher's Stance on Gadget Use					
Location	Supportive (%)		Neutral (%)	Opposed (%)	
Tashkent	50	30	20		
Namangan	45	35	20		
Andijan	40	40	20		
7. Suggestions for Better Utilization					
Suggestion	Tashkent (%)	Namangan (%)	Andijan (%)		
Interactive Learning Apps		70	65	60	
Collaboration Tools	60		55	50	
Usage Guidelines		50	45	40	
Limiting Usage Time	40		35	30	

The survey offers significant insights regarding the present landscape of gadget utilization in primary school classrooms throughout Uzbekistan. Although technology presents a variety of advantages for enriching learning experiences, its assimilation should be considered carefully and strategically. Through the application of the suggested strategies, educators and policymakers can tap into the power of digital tools to enhance educational results while addressing potential risks.

The survey indicated that a considerable number of students reported occasionally using gadgets during their lessons. Smartphones emerged as the most frequently utilized devices in all areas, followed by laptops and tablets. The frequency of usage differed, with urban students in Tashkent indicating higher rates of usage compared to their rural peers in Andijan.

Students mainly employed gadgets for educational purposes, including note-taking and information research. Nonetheless, a significant portion also mentioned using gadgets for communication and entertainment during lessons, highlighting the necessity for improved management and guidelines concerning gadget use in classrooms. Most students recognized a positive influence of gadget use on their learning experiences. They noted that gadgets enabled easier access to information, increased engagement through interactive content, and facilitated personalized learning.

The results emphasize the necessity for a balanced approach to the integration of technology in primary education. While gadgets can act as effective tools for enhancing learning, their usage must be meticulously managed to avoid distractions and ensure that educational goals are achieved.

In conclusion, the comprehensive survey that was meticulously carried out among a diverse group of nearly 100 primary school pupils hailing from various regions including Tashkent, Namangan, and Andijan offers a wealth of invaluable insights into the prevailing trends and patterns surrounding the usage of gadgets within the educational environment of classrooms. The compelling findings from this investigation suggest that, although there is a notable increase in the use of gadgets for various educational purposes, the successful integration of these technological tools into the learning process necessitates a thoughtful and strategic approach in order to fully capitalize on their advantages while simultaneously mitigating any potential distractions that may arise.

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