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МАРКЕТИНГОВІ СТРАТЕГІЇ ЯК ЗАСІБ ПОСИЛЕННЯ ОСВІТНІХ ІННОВАЦІЙ

Анотація. У статті аналізується, як маркетингові стратегії впливають на освітні інновації, з прикладом проекту в Харківському художньому коледжі. Проект об'єднує інженерію та художню освіту для розширення студентських горизонтів через вирощування мікрозелені. Використовуючи якісні та кількісні методи, досліджено ставлення студентів і викладачів до нововведень. Результати показують, що маркетингові стратегії і міждисциплінарний підхід збільшують залученість студентів. Оцінюючи ефективність стратегій через обізнаність і задоволеність, дослідження вказує на значення стратегічного підходу для збагачення освіти та створення творчого середовища.

Ключові слова: освітня інновація, маркетингові стратегії, міждисциплінарна освіта, залученість та мотивація студентів, прийняття інновацій.

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MARKETING STRATEGIES AS A MEANS TO ENHANCE EDUCATIONAL INNOVATIONS

Abstract. This article examines how marketing strategies impact educational innovations, using a project at the Kharkiv Art College as an example. The project integrates engineering and art education to expand student horizons through microgreen cultivation. Employing both qualitative and quantitative methods, the attitudes of students and educators towards innovations were explored. Results show that marketing strategies and an interdisciplinary approach increase student engagement. Assessing strategy effectiveness through awareness and satisfaction, the study highlights the importance of a strategic approach to enrich education and create a creative environment.

Keywords educational innovation, marketing strategies, interdisciplinary education, student engagement and motivation, innovation adoption.

Introduction. The modern era demands that education adapts to technological advancements, making innovation a key component rather than just an enhancement. The shift to digital learning, accelerated by the global pandemic, underlines the need for new approaches in education. Educational entities are tasked with not only integrating but also promoting these innovations to ensure they are widely accepted and utilized.

This study is driven by the conviction that innovation is essential for high-quality, accessible education. It aims to explore how marketing strategies can aid in the effective introduction and spread of innovative educational tools and practices, such as remote laboratories. The objective is to identify and propose actionable marketing strategies that educational institutions can adopt to enrich the learning process and boost student involvement.

The **purpose of this article** is to explore and analyze the impact of marketing strategies on enhancing the effectiveness and dissemination of educational innovations. Special attention is given to the study of an interdisciplinary project implemented at the Kharkiv Art College, which illustrates how the integration of engineering, robotics solutions, and biotechnologies with traditional art education can expand the creative and intellectual horizons of students. Through the analysis of this project, we aim to identify the key elements of successful marketing strategies that can be applied to increase the level of adoption and implementation of innovations in the field of education.

Presentation basic material: Focusing on a case study of using microgreen cultivation as an educational tool, this research illustrates how innovation can enhance students' educational experience by enabling the application of theoretical knowledge in practical settings outside conventional classrooms or labs. The research examines marketing strategies that facilitate the broader acceptance and use of innovative educational technologies, with a particular focus on increasing awareness and interest within the educational community and encouraging active engagement from students and teachers.

In the study by Sutrisno and colleagues [4], the impact of education on fostering technological innovation in business is examined. The authors emphasize education's

role not only in equipping individuals with the necessary knowledge and skills for developing new technologies but also in nurturing an innovative mindset and collaborative culture crucial for the innovation process [8]. Utilizing a qualitative literature review from 1999 to 2023, the research highlights how educational institutions can act as platforms for idea and knowledge exchange among stakeholders, facilitating access to resources and opportunities across diverse social strata.

Drucker's [1] explores the importance of innovation and entrepreneurship within the educational sector and its wider impact on society. Drucker discusses how innovation is not just about new inventions but also involves understanding market changes and adapting accordingly. His insights underline the necessity for educational institutions to foster an environment that encourages creativity, risk-taking, and entrepreneurial thinking, which are crucial for the development and implementation of new technologies and methodologies in education.

In "Creating Innovators: How to Educate Young People to Change the World," Vagner [2] explores strategies for developing the skills necessary for innovation in young learners. Wagner emphasizes the role of education in fostering creativity, critical thinking, and the ability to work collaboratively—skills that are essential for driving technological advancements and societal progress. This work serves as a critical resource for educators and policy makers looking to cultivate the next generation of innovators.

In the study by Raziq et al., "Microgreens: A New Potential Crop for Urban and Peri-Urban Areas," [6,3] the authors discuss the significant potential of microgreens as a sustainable food source in urban settings. The research highlights how microgreens can be efficiently grown in small spaces, offering a solution to food production challenges in densely populated areas. This study underscores the importance of innovative agricultural practices in enhancing food security and sustainability in urban environments.

Bridging this research with the realm of educational innovation, our project leverages these insights into microgreen cultivation, utilizing it as a practical tool for

enhancing science education. By incorporating the cultivation of microgreens into the curriculum, we aim to provide students with hands-on learning experiences that underline the importance of sustainable urban agriculture. This approach not only enriches students' understanding of ecological and biological processes but also fosters a deeper appreciation for sustainable living practices.

An essential component of our marketing strategy focused on digital outreach. Recognizing the pervasive influence of digital media in today's society, we leveraged social media platforms, email campaigns, and educational blogs to disseminate information about our innovative educational tools. This digital approach aimed to create a buzz around our project, engaging a broader audience of students, educators, and educational policy-makers.

In addition to digital marketing and feedback collection, we explored partnerships with educational influencers and thought leaders. Collaborating with individuals and organizations that share a commitment to advancing education allowed us to amplify our message and reach an audience well beyond our initial scope. These partnerships were instrumental in providing credibility to our project and in demonstrating the practical value and impact of our innovative educational tools in real-world settings.

Despite the clear potential of distance learning and automated laboratories, the research identifies challenges to their integration and acceptance, such as technical and financial constraints and the need for pedagogical adaptation. The study aims to uncover these barriers and devise marketing strategies to address resistance to change, thereby promoting a more dynamic incorporation of innovations into the educational process.

At the heart of our study is an innovative project implemented at the Kharkiv Art College, which aims to merge engineering and robotics solutions with the realm of biological technologies and urbanization, alongside traditional art education. The initiative, grounded in the cultivation of microgreens through an innovative system, seeks not only to heighten students' interest in specialized disciplines but also to broaden their creative perspectives. This initiative incorporates the development and deployment of an educational tool designed to foster a profound comprehension of the

interconnections among engineering, robotics, biology, information technology, and modern artistic methodologies [5]. This approach mirrors the concepts described in an article on the use of electric fields for optimizing wheat growth, where the authors investigate the impact of electric fields on plant growth and development, specifically wheat, and develop an installation for conducting experiments in a school setting [7]. Thus, our research and the project at the Kharkiv Art College complement each other, showcasing the extensive possibilities of applying scientific knowledge and technologies across various educational fields.



Fig. 1 - Process of Growing Microgreens on an Automated Installation

A distinctive feature of the project is its ability to demonstrate to artists how technologies can be integrated into ecological and urban contexts, thereby expanding the boundaries of traditional art education and stimulating creative searches for new forms and methods of expression. Students are given a unique opportunity to apply theoretical knowledge in practice, experimenting with design, engineering solutions, and biotechnologies to create sustainable and functional art objects in an urban environment.

In the development of design options, students from the environmental design specialties participated with a great desire to create something real and useful. In the initial phase, a range of design and technological solutions aimed at creating an installation was analyzed. This installation would not only serve as an effective tool for growing microgreens but also attract students' attention through innovative design. Special attention was devoted to creating interactive elements, such as LED lighting and laser engraving on an acrylic case, which not only provided high aesthetic appeal to the installation but also stimulated students' interest in observing and participating in the growing process.

This engagement of environmental design students added a valuable dimension to the project, merging the functional aspects of urban biotechnologies with the aesthetics of environmental design. Their enthusiastic involvement underscores the project's interdisciplinary approach, bridging the gap between art, technology, and environmental sustainability. Through this collaborative effort, the project not only achieved its goal of enhancing educational outcomes but also fostered a sense of community and shared purpose among students from different disciplines. This synergy enabled the creation of a learning environment where theoretical knowledge was seamlessly integrated with practical application, fostering innovation and creativity in addressing urban environmental challenges.

Following the development, the installation was integrated into the college's educational process. Students were invited to participate in a series of experiments and project tasks that required the application of knowledge in physics, chemistry, and biology to optimize growing conditions. This allowed students to directly link theoretical knowledge with practical tasks, as well as fostered the development of critical thinking and problem-solving skills.

To assess the impact of the project on students' motivation and engagement, a comprehensive approach was employed, including surveys, observations of the educational process, and analysis of student activity on social media. It was found that participation in the project significantly increased students' interest in the disciplines

studied, which was reflected in improved attendance and active discussion of the project on social media. Many students noted that the project helped them better understand the value and application of scientific knowledge in real life, as well as contributed to the development of their research and analytical skills.

To gauge the success of marketing strategies implemented to popularize this educational innovation, a detailed assessment was undertaken. Indicators such as the level of awareness regarding the innovation, adoption rates among the target demographic, and overall satisfaction were meticulously analyzed. This evaluation employed sophisticated data analysis techniques, including statistical analysis and machine learning, to spot trends and fine-tune marketing approaches in real time.

This methodical juxtaposition of empirical findings from the project's impact on student motivation with an evaluation of marketing strategy efficacy highlights the research's comprehensive scope. By merging these aspects, the study presents insightful observations on the mechanisms of spreading and adopting educational innovations, laying the groundwork for devising more effective and influential strategies in the future.

A practical application of the research is the development and promotion of a microgreen cultivation setup for educational purposes. This initiative demonstrates how practical activities can help students explore biological and ecological concepts, enhancing critical thinking and problem-solving skills. Marketing for this setup included creating instructional content and organizing workshops for teachers, with online surveys and platform analytics revealing strong interest and positive feedback, highlighting the setup's contribution to enriching education.

The project's initial success indicates significant stakeholder interest and positive feedback, with students appreciating the practical application of theoretical knowledge and teachers valuing the integration ease and demonstrative potential of complex concepts. Educational institutions have expressed support for expanding the project, recognizing its potential to enhance educational offerings.

This research contributes to improving education quality by developing and implementing marketing strategies that facilitate the successful introduction and

widespread use of innovations, enriching teaching methods and engaging students more deeply.

Conclusions. The investigation into enhancing educational innovation through marketing strategies reveals a multifaceted landscape where the integration of technological advancements within educational settings significantly contributes to the enrichment of learning experiences. This study, exemplified by the innovative microgreen cultivation project at the Kharkiv Art College, underscores the potential of combining engineering, robotics, and biological technologies with traditional art education to expand students' creative and intellectual horizons.

Key findings from the research highlight the importance of engaging design and interactive elements in capturing students' interest and fostering a more profound connection between theoretical knowledge and practical application. The enthusiastic involvement of students from environmental design specialties further illustrates the power of interdisciplinary approaches in educational innovation, encouraging a fusion of art, science, and technology.

Moreover, the study's methodical employment of both qualitative and quantitative research methodologies to assess the impact of these educational innovations has offered valuable insights into the attitudes and preferences of key stakeholders, including students, educators, and institutional administrators. The analysis of marketing strategies' effectiveness, particularly through indicators such as innovation awareness, adoption rates, and overall satisfaction, demonstrates the critical role of targeted marketing in the successful dissemination and acceptance of educational innovations.

In conclusion, the research firmly establishes that the thoughtful application of marketing strategies in promoting educational innovations can significantly enhance the educational process. By effectively leveraging digital marketing, social media, and engaging content, educational institutions can not only increase the visibility and appeal of their innovative projects but also ensure their relevance and impact on the current and future generations of learners. This study contributes to a growing body of knowledge,

advocating for a more integrated and strategic approach to introducing innovations in education, thereby fostering an environment that nurtures creativity, critical thinking, and a lifelong passion for learning.

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