UDC 374.1
IRSTI 14.15.23

https://doi.org/10.55452/1998-6688-2024-21-1-42-53

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# THE IMPACT OF GAMIFICATION WITH AN EMPHASIS ON EXTERNAL MOTIVATION IN MOOCS FOR STUDENTS IN EMERGING REGIONS FROM AN UNDERPRIVILEGED GROUP: A CASE STUDY OF THE LEVEL UP COURSE BY GAMELAB KBTU AND UNICEF IN KAZAKHSTAN

**Abstract**

This paper examines the impact of gamification and external motivation on the engagement and completion rates of Massive Open Online Courses (MOOCs), with a focus on underprivileged groups in emerging regions. The research centres around the "LEVEL UP" course, a gamified MOOC designed to enhance STEM skills among young women in Kazakhstan, developed by GameLab KBTU in collaboration with UNICEF. Utilizing a combination of quantitative data analysis and literature review, the study investigates the efficacy of gamification strategies in increasing course completion rates, which are traditionally low in MOOCs. The findings indicate that the inclusion of gamification and external motivational elements, such as competitive elements and rewards, can improve completion rates. The LEVEL UP course, for example, achieved a completion rate of 10%, which is higher than the average completion rate of MOOC courses, which 5-8%. However, the study also highlights the complexity of balancing external and internal motivational factors to sustain long-term engagement and deep learning. Limitations encountered, including technical issues and platform constraints, underline the challenges of implementing such strategies effectively. Recommendations for further research include exploring the long-term impact of gamification, the optimal balance of motivational elements, and the customization of gamification to individual learner needs. This paper contributes to the growing body of evidence supporting the use of gamification in education, emphasizing the need for nuanced approaches that enhance both engagement and learning outcomes, particularly in the context of democratizing education for learners worldwide.

**Key words:** gamification, massive open online courses (MOOCs), external motivation, STEM education, underprivileged groups, emerging regions, course completion rates.

## Introduction

The burgeoning utilization of Massive Open Online Courses (MOOCs) has become a transformative vector in disseminating knowledge, especially within underprivileged groups in emerging regions. Such online educational platforms promise a democratization of learning, potentially reaching vast numbers of students. However, a significant challenge emerges in the form of course completion rates; traditional, non-gamified MOOCs see completion rates languishing below 10% [5, 17, 18]. This paper posits gamification, with a focus on external motivation, as a potential solution to enhance student engagement and course completion. This paper will examine the efficacy of gamification with an emphasis on external motivation through the lens of the LEVEL UP project data, evaluating its impact on the completion rate of the course.

**Literature review**

Gamification in Informal Education

Gamification is the application of game design elements in non-game contexts. [1, 2, 3, 4, 13, 20] Research shows that gamification helps to increase students' learning engagement and motivation [1].

The application of gamification in non-formal education, including online platforms, significantly improves student satisfaction, enjoyment of the learning process and intention to participate in future activities, and positively affects knowledge acquisition [2].

Despite the positive results of gamification in MOOCs, the paper also identifies several research gaps, particularly the focus on developed countries [2, 21, 22, 23, 24] and the lack of evidence regarding gamification's effectiveness in developing country contexts. This oversight becomes even more critical considering that learners from developing countries tend to have lower MOOC completion rates [7, 8], highlighting an urgent need for research and targeted interventions to bridge these educational disparities. Additionally, further research is essential to understand how external motivation can be effectively integrated within gamified learning environments. [12]

This paper emphasizes the need for comprehensive research on the effects of gamification on MOOCs for students from underprivileged groups in developing regions. It is particularly important to examine how external motivational factors integrated into gamified MOOCs can influence learning engagement, motivation and academic success.

MOOC as a means of informal education in emerging regions

Massive Open Online Courses (MOOCs) have transformed the landscape of education, offering scalable and accessible learning opportunities worldwide. In emerging regions, MOOCs play a pivotal role in bridging educational gaps and providing informal education to underprivileged groups, facilitating skill development and lifelong learning.

Studies emphasize the importance of digital competencies for the successful completion of MOOCs, highlighting that individuals with higher digital skills are more likely to complete courses. This underscores the digital divide in emerging regions, where limited access to technology and internet connectivity can hinder the effectiveness of MOOCs [5].

The social aspect of MOOCs, including peer interactions and community engagement, is critical for learner retention and success. This dimension is especially significant in emerging regions, where educational resources are scarce, and MOOCs can provide a sense of community and shared learning experience [6].

While MOOCs offer considerable opportunities for informal education in emerging regions, challenges remain in maximizing their impact. There is a need for more targeted research on effective strategies to support learners from underprivileged backgrounds, ensuring that MOOCs are not only accessible but also inclusive and equitable.

This review highlights the complex interplay between technology, social factors, and educational outcomes in the context of MOOCs in emerging regions. By addressing the identified gaps, future research can contribute to the development of more effective, contextually appropriate MOOC offerings that truly democratize education for all learners, regardless of their geographical or socio-economic status.

External motivation in informal education

External motivation, as conceptualized within the framework of Self-Determination Theory (SDT), plays a crucial role in informal education settings, particularly in the context of gamification. Unlike internal motivation, which stems from an individual's internal desires and interests [10], external motivation involves external rewards or pressures [9, 11] that influence an individual's engagement in learning activities [12]. This segment of the literature review focuses on the role of external motivation in enhancing learning experiences and outcomes in informal educational contexts.

A critical examination of gamification practices reveals a common misapplication of motivational strategies, where excessive reliance on external rewards may undermine internal motivation, potentially leading to decreased long-term engagement [13].

Research on gamification design grounded in SDT suggests that while external motivators can be effective in initiating engagement, they should be carefully balanced with strategies that support autonomy, competence, and relatedness to foster internal motivation [12].

Studies have highlighted the nuanced impact of external motivation on learning, indicating that while it can drive initial participation, its effectiveness in sustaining engagement and promoting deep learning is limited. This underscores the importance of integrating external motivators with internal motivational elements [10].

The literature on external motivation in informal education underscores a complex interplay between external rewards and internal desires. While external motivators are effective in drawing learners into educational activities, their potential to detract from the internal value of learning poses a significant challenge. Furthermore, there is a gap in understanding how external motivators can be optimally designed to complement rather than detract from internal motivation, particularly in gamified learning environments.

There is also a need for empirical research focused specifically on the impact of external motivation in informal education settings, such as MOOCs or gamified learning platforms, especially in emerging regions or among underprivileged groups. Such studies could provide deeper insights into how external rewards influence learner engagement and achievement in these contexts.

This review highlights the critical need for a balanced approach to incorporating external motivation in informal education, emphasizing the design of motivational strategies that not only attract learners but also support their internal motivation and foster meaningful engagement with the learning material. By addressing these gaps, future research can contribute to more effective and sustainable educational practices that leverage external motivation to enhance, rather than undermine, the learning experience.

Underprivileged groups and emerging regions

The term “underprivileged groups” refers to social groups that face systemic barriers to accessing resources, opportunities, and rights. These barriers may be related to economic status, race, ethnicity, gender, or place of residence [27]. Women are often included in this category because of historical gender stereotypes and discrimination that limit their access to quality education and professional opportunities, especially in male-dominated fields such as Science, Technology, Engineering, and Mathematics. [28]

The concept of “emerging regions” refers to geographic and economic areas that are on the path to rapid socio-economic development but still face key challenges in education, health, and infrastructure. Kazakhstan, with its rapid economic growth and urbanization, is classified as an emerging region. [25, 26]

Studies aimed at analyzing and improving educational opportunities for underprivileged groups in emerging regions like Kazakhstan are of particular importance. They contribute to the development of strategies and approaches that address the unique challenges and needs of these groups, including women seeking STEM education and professional development. Gamification and digital learning technologies can play a key role in increasing motivation, engagement, and learning success among these groups by providing innovative and accessible pathways for learning and professional development. Such research not only helps to narrow educational and professional gaps, but also supports broader goals of social justice and equal opportunity. [29]

**Research methods**

About online course LEVEL UP

The “LEVEL UP: Introduction to Video Games and Gamification” course, developed by GameLab KBTU in collaboration with UNICEF, forms a component of a global initiative to enhance STEM skills among young women. This educational program in game development and gamification is aligned with the broader mission to foster inclusive educational opportunities. The curriculum,

designed to be accessible to all interested individuals, culminates in a selection process where 50 exemplary participants are chosen to partake in a three-day hackathon at the KBTU campus in Almaty, Kazakhstan. This event focuses on the gamification of the UniSat educational program, another UNICEF endeavor aimed at assembling nanosatellites, further providing participants with a practical application of their learning and an introduction to potential career paths in STEM. The course's lectures, delivered by KBTU faculty and industry experts, provide a comprehensive overview of the gaming industry, game development processes, and the educational potential of gamification, with a particular focus on the UniSat program as the primary object of gamification. Through this course, students are equipped with the tools to create their own games and explore engaging methods of learning, thereby expanding their skills and opening new vocational avenues.

The course was structured in the format of a Massive Open Online Course (MOOC), embodying distinctive characteristics such as the absence of live interaction with instructors, pivoting instead on an online model for content dissemination. This digital pedagogical approach facilitated a broad-reaching, inclusive educational experience, allowing participants from diverse geographical locations to engage with the curriculum at their own pace. Furthermore, the course content was hosted on the Learning Passport platform [31], a digital learning environment developed in collaboration between UNICEF and its partners.

Participants

The research focuses on the impact of gamification, particularly emphasizing external motivation in MOOCs designed for students in emerging regions of Kazakhstan, targeting underprivileged groups, specifically women. This demographic is critically important due to the global underrepresentation of women in STEM (Science, Technology, Engineering, and Mathematics) fields [14, 15], a disparity more pronounced in developing regions of Kazakhstan.

In 2023, the Global Gender Gap Report highlighted that women constitute only 29.2% of the STEM workforce across 146 nations, compared to nearly 50% in non-STEM occupations, underscoring the significant gender gap in these critical fields. This gap is not just a matter of workforce diversity but also reflects broader issues of access, opportunity, and equity in STEM education and careers for women, particularly in developing and emerging economies [14].

The participants for the LEVEL UP course by GameLab KBTU and UNICEF in Kazakhstan, were chosen aiming to address these disparities by engaging young women from underprivileged backgrounds in STEM-related learning through MOOCs. This initiative recognizes the importance of providing equitable access to quality STEM education as a means to empower women and encourage their participation in these fields, thereby contributing to reducing the gender gap.

Despite the fact that the gaming industry is a young and quite progressive industry when it comes to gender equality, even here women face underrepresentation and some barriers that prevent them from being realized in the industry [15]. Studies and reports, including those analyzing the esports industry, highlight the persistent gender disparities, with women often facing barriers to entry and progression [16]. These barriers are not just about access but also involve cultural and societal norms, stereotypes, and a lack of visible role models and mentors for young women aspiring to enter STEM fields.

By focusing on courses for underprivileged young women in Kazakhstan, this research aims to shed light on the specific challenges and opportunities that gamification and external motivational strategies present in informal educational settings. It seeks to understand how these approaches can be tailored to effectively engage and retain female students in STEM courses, thereby contributing to broader efforts to build a more inclusive and diverse STEM workforce.

Particularly, participants from emerging regions are at the heart of this initiative, with an appended table below showcasing the cities of those participants who successfully completed the course, further illustrating the geographic diversity and reach of this program within underprivileged demographics.

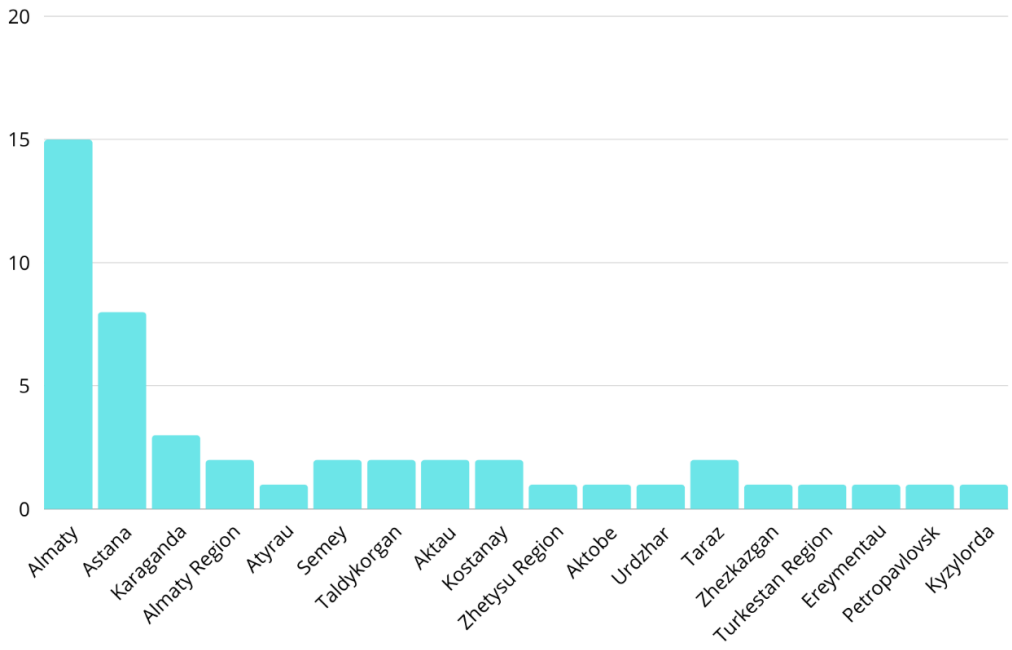


Figure 1 – Cities of participants and the number of participants from each city

Research design

Structure of course

The "LEVEL UP" course is segmented into three distinct parts, each comprising several sections that are further broken down into units or lessons. The structure is as follows:

Part 1 encompasses a general course overview, an in-depth look at the gaming industry, and the foundational elements of game development. Part 2 transitions into the creative aspects, covering the basics of game design, and extends into the practical applications of serious games and gamification. Part 3 is the technical culmination, providing a detailed exploration of the tools and technologies used in the field, alongside alternative methods and practices. The course concludes with a wrap-up in Section 8.

Table 1 – Course structure and topics

| Part 1 | Part 2 | Part 3 |
|---|---|---|
| Section 1 Course overview | Section 4 Game Design Basics | Section 6 Tools and Technologies |
| Section 2 Game Industry | Section 5 Serious Games & Gamification | Section 7 Alternative Techs and Methods |
| Section 3 Game Development | | Section 8 Course wrap up |

For successful course completion, students are required to navigate through all three parts. Assignments within the course are designed to be skippable and self-regulated, offering flexibility to accommodate various learning paces and styles. The entire course content is intended to be completed over a two-month period, allowing for a measured yet consistent progression through the material.

Education cycle

The educational methodology of the "LEVEL UP" course is bifurcated into minor and major educational cycles. The minor cycle is the foundational element, comprising a self-regulated assignment leading to a fully automated quiz, ensuring reinforcement of learned concepts. This is supplemented by a richly illustrated article and concluded with a video lecture, offering a multifaceted

approach to learning. The major cycle encapsulates the minor cycles, culminating in a comprehensive section quiz that integrates all previously encountered quizzes with additional questions to assess cumulative knowledge. The pinnacle of this structure is the project assignment, which is an integral part of the course project, allowing students to apply their knowledge in a practical, project-based context.

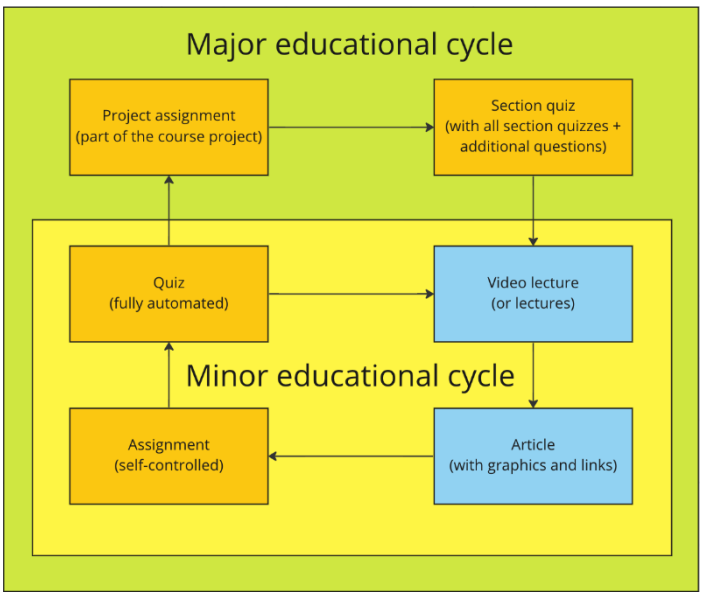


Figure 2 – Education cycle

Elements of gamification

In the “LEVEL UP” course [31], gamification was strategically implemented to enhance engagement through competitive elements, acting as external motivators. The course’s structure incorporated a merit-based selection mechanism where the top 50 performers, as evidenced by their course outcomes and certification, were granted the opportunity to participate in a specialized hackathon. This incentivized participation by offering comprehensive logistical support, including transportation to Almaty, accommodation, and sustenance, thereby removing potential barriers to entry.

The post-course hackathon, centered on the gamification of the UniSat nanosatellite assembly and launch course [32], presented a time-bound challenge to devise innovative project ideas. The competitive environment of the hackathon, characterized by its awarding of the best project proposals, not only provided a platform for the practical application of the course’s teachings but also served as a powerful external incentive, propelling students towards higher achievement and engagement within the educational framework.

Data analysis

Average completion rates of MOOC

The completion rates for MOOCs have been a focal point of educational research, revealing a broad range of outcomes. Studies show that average completion rates for MOOCs without gamification strategies linger between 5% to 8% [5, 17, 18] underscoring the challenge of keeping students engaged through course completion. However, when gamification strategies are applied, a notable increase is observed, with completion rates rising to an average of 14.43% compared to 6.162% in courses lacking these elements [17].

These findings are primarily based on data from developed countries, which may not fully represent the experiences of underprivileged groups in developing regions such as Kazakhstan. Our study targets this demographic, specifically focusing on young women, to assess whether competitive gamification mechanics emphasizing external rewards can influence completion rates differently.

It is imperative to acknowledge that our research was not conducted under uniform conditions. The course utilized to evaluate the impact of gamification, while distinct from others in its content and objectives, adhered to the Massive Open Online Course (MOOC) format, incorporating its specific attributes as detailed in Section 3.1. This context underscores the necessity to consider the unique structural and delivery mechanisms of MOOCs when interpreting the outcomes of our study.

Completion rates of LEVEL UP course

This section investigates the completion rates of the LEVEL UP course [30], focusing on participants' successful course progression. A total of 500 individuals registered for the course, with completion defined as successfully finishing all three parts of the course and obtaining a certification. Particular attention is paid to the distribution of completions across course segments. Out of the 500 participants, only 50 completed all three parts, resulting in a 10% overall completion rate. Further analysis reveals varying completion rates for each segment, with Part 1 showing the highest rate at 13.6%, followed by Part 2 at 10.2%, and Part 3 at 10%.

Comparison of completion rates of course with external motivation with average completion rates of course without external motivation

In the context of examining the impact of gamification strategies on MOOC completion, analyzing the completion rates of the LEVEL UP course where competitive and external motivation elements were applied compared to the average completion rates of courses without these elements reveals visible differences. Based on the data provided, the average completion rates of MOOCs without gamification strategies fluctuate between 5% and 8%, highlighting the difficulty of keeping students engaged until the end of the course. In contrast, the LEVEL UP course demonstrated a completion rate of 10%, a marked improvement.

This increase in completion rate can be attributed to the implementation of gamification mechanics emphasizing external motivation and competition, which is hypothesized to increase the level of engagement and motivation among students. These findings support the assumption that gamification can serve as a powerful tool to increase course completion rates, especially in MOOC contexts where students may feel less motivated due to the lack of direct interaction and support.

However, it is important to keep in mind that these findings on average MOOC completion rates are predominantly based on studies conducted in developed countries and may not fully reflect the experiences of underprivileged groups in emerging regions such as Kazakhstan. Our study targets this demographic, particularly young women, to assess whether competitive gamification mechanics emphasizing external rewards may affect completion rates differently.

In summary, the results point to the benefit of using gamification elements with external motivation in MOOC courses to increase completion rates among participants. This highlights the potential of gamification as a strategy for improving educational outcomes in digital environments, especially for students from emerging regions and underprivileged groups.

**Results**

In conclusion, our research underscores the positive impact of gamification, particularly with competitive elements and a focus on external motivation, on the completion rates of MOOC courses, evidenced by at least a 2% increase. This finding is significant within the broader discourse on educational engagement and retention strategies, especially in emerging regions where MOOCs serve as pivotal platforms for democratizing education. The nuanced application of gamification strategies, while beneficial in enhancing course completion, warrants cautious implementation to avoid undermining internal motivation and learner engagement.

Our investigation into the LEVEL UP course reveals that while external motivators can indeed foster initial engagement, their long-term effectiveness in sustaining participation and deep learning remains limited [12]. This aligns with the literature, suggesting that while external rewards can draw

learners into educational activities, their potential to detract from the internal value of learning poses a significant challenge [9, 13]. Therefore, a balanced approach, integrating both external and internal motivational elements, is essential for designing effective and engaging educational experiences.

Our study highlights the potential of gamification in the setting of emerging regions, offering insights into strategies that could mitigate the digital divide and promote inclusive and equitable learning opportunities. Carefully designed gamification strategies, which consider the specific needs and challenges of learners in emerging regions, can significantly enhance engagement and completion rates.

Looking ahead, the prospects for using gamification and external motivation in education, particularly in emerging regions, are promising. As we continue to explore these methodologies, it is crucial to adopt a nuanced approach that respects the complex interplay between different motivational drivers. Empirical research focused on diverse contexts, especially among underprivileged groups, will be pivotal in refining our understanding of how gamification can best be utilized to support equitable and engaging learning experiences.

Our findings contribute to the growing body of evidence supporting the efficacy of gamification in education. They underscore the need for ongoing research to optimize gamification strategies, ensuring they not only attract but also retain learners, fostering meaningful engagement and enhancing learning outcomes. As the educational landscape continues to evolve, leveraging the potential of gamification and external motivation in a balanced and thoughtful manner will be key to democratizing education and enabling learners worldwide to realize their full potential.

**Discussion**

Limitations

This study was subject to several limitations that may have affected its outcomes and interpretations. First, technical difficulties related to platform authentication impeded some students' access to their accounts, resulting in participant dropout. Moreover, the division of the course into three segments, necessitated by platform constraints, marked a departure from its intended design as a unified course. Additionally, platform-related glitches, including the loss of course progress that required students to repeat sections, contributed to student dissatisfaction and further dropout. Furthermore, a limitation of our analysis was the absence of proprietary data on course completion rates in the absence of gamification strategies. Consequently, we resorted to comparing with the average completion rate observed in similar educational settings.

Recommendation for further research

The findings of this study contribute insights into the potential of gamification and external motivation to enhance engagement and completion rates in MOOCs, particularly for underprivileged groups in emerging regions. However, several avenues for further research have emerged, which are crucial for deepening our understanding of these mechanisms and optimizing their application in informal education settings. These recommendations include:

1. Comparative studies across different regions: While this study focused on underprivileged groups in Kazakhstan, further research should explore the impact of gamification in MOOCs across various geographical and socio-economic contexts. Comparative studies could reveal nuanced understandings of gamification's effectiveness, accounting for cultural differences and varying levels of digital literacy.
2. Longitudinal impact of gamification: Investigate the long-term effects of gamification on learner engagement and educational outcomes. This includes studying the sustainability of external motivation over time and its influence on internal motivation, to determine whether gamified learning leads to lasting interest in the subject matter.
3. Integration of internal and external motivational elements: Future research should explore the optimal balance between internal and external motivational strategies within gamified learning

environments. This involves designing gamification elements that not only attract and retain learners but also foster a deeper engagement with the learning material, promoting meaningful and lasting educational experiences.

4. Customization of gamification elements: Examine how personalized gamification strategies can enhance learning experiences and outcomes. Research could focus on adaptive gamification systems that tailor challenges, rewards, and feedback to individual learner profiles, preferences, and performance levels.

5. Barrier analysis and inclusivity measures: Conduct in-depth analyses of barriers to MOOC completion among underprivileged groups, including gender-specific challenges in STEM fields. Studies should aim to identify and address the specific needs and obstacles faced by these learners, proposing targeted strategies to improve access, inclusivity, and equity.

6. Technological enhancements and platform usability: Given the technical challenges encountered in this study, further research is needed to understand the impact of platform usability on learner engagement and course completion rates. This includes the development and testing of more user-friendly and resilient educational platforms that minimize technical barriers to learning.

7. Impact on career trajectories and skill development: Investigate the long-term career and educational impacts of gamified MOOCs on participants, particularly those from underprivileged groups. This research could assess whether participation in such courses leads to improved employment opportunities, skill development, and increased participation in STEM fields.

8. Psychological and social factors: Explore the psychological and social dimensions of gamification in education, including how social interactions, community building, and peer support within MOOCs influence learning motivation and outcomes. This includes studying the role of gamification in fostering a sense of belonging and community among learners from diverse backgrounds.

By addressing these recommendations, future research can significantly contribute to the development of more effective, engaging, and inclusive educational practices that leverage gamification and external motivation. This will not only enhance learning experiences but also support broader efforts to democratize education and empower learners worldwide.

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# ДАМУШЫ АЙМАҚТАРДАҒЫ ХАЛЫҚТЫҢ АЗ ҚАМТЫЛҒАН ТОПТАРЫНЫҢ СТУДЕНТТЕРІ ҮШІН ЖАОК-ҚА СЫРТҚЫ МОТИВАЦИЯҒА БАҒЫТТАЛҒАН ГЕЙМИФИКАЦИЯНЫҢ ӘСЕРІ: ҚАЗАҚСТАНДАҒЫ GAMELAB KBTU ЖӘНЕ UNICEF-ТІҢ LEVEL UP КУРСЫНА ТАҚЫРЫПТЫҚ ЗЕРТТЕУ

**Андатпа**

Бұл мақалада геймификация және сыртқы мотивацияның жаппай ашық онлайн курстарға (ЖАОК) қатысу және аяқтау көрсеткіштеріне әсері дамушы аймақтардағы аз қамтылған топтарға назар аударыла отырып зерттелді. Зерттеу орталығында STEM саласындағы дағдыларды дамыту мақсатында Қазақстанның жас әйелдеріне арналған ЮНИСЕФ-пен бірлесіп GAMELAB KBTU әзірлеген level up геймификацияланған ЖАОК курсы қарастырылды. Сандық деректерді талдау мен әдебиеттерді шолудың үйлесімін пайдалана отырып, зерттеу ЖАОК-та дәстүрлі түрде төмен курсты аяқтау деңгейін арттырудағы геймификация стратегияларының тиімділігін зерттейді. Зерттеу нәтижелері геймификация және бәсекелестік элементтер мен марапаттар сияқты сыртқы ынталандырушы элементтерді қосу курсты аяқтау көрсеткіштерін жақсартуға мүмкіндік береді деп болжайды. Мысалы, LEVEL UP курсының аяқтау көрсеткіші 10% құрайды, бұл жаппай ашық онлайн курстардың 5–8%-ға тең орташа аяқтау көрсеткішінен жоғары. Дегенмен зерттеу сондай-ақ сыртқы және ішкі мотивациялық факторларды ұзақ мерзімді қызығушылықты және терең оқуды сақтауда теңгерімді ұстаудың күрделілігін атап өтеді. Кездескен шектеулер, соның ішінде техникалық мәселелер мен платформа шектеулері мұндай стратегияларды тиімді жүзеге асырудағы қиындықтарды көрсетеді. Әрі қарайғы зерттеулер үшін ұсыныстар геймификацияның ұзақ мерзімді әсерін, мотивациялық элементтердің оптималды теңгерімін және жеке оқушы қажеттіліктеріне арналған геймификацияны бейімдеуді зерттеуді қамтиды. Бұл мақала білім беруде геймификацияны қолдануды қолдауға арналған дәлелдемелердің көбеюіне үлес қосады, әлем бойынша оқушылар үшін білімді демократиялаудың контекстінде қызығушылық пен оқу нәтижелерін арттыратын күрделі тәсілдерге мұқтаж екенін атап өтеді.

**Тірек сөздер:** геймификация, жаппай ашық онлайн курстар (ЖАОК), сыртқы мотивация, STEM білім беру, аз қамтылған топтар, дамушы аймақтар, курстарды аяқтау көрсеткіштері.

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# ВЛИЯНИЕ ГЕЙМИФИКАЦИИ С АКЦЕНТОМ НА ВНЕШНЮЮ МОТИВАЦИЮ В MOOK ДЛЯ СТУДЕНТОВ В РАЗВИВАЮЩИХСЯ РЕГИОНАХ ИЗ МАЛООБЕСПЕЧЕННЫХ ГРУПП НАСЕЛЕНИЯ: ТЕМАТИЧЕСКОЕ ИССЛЕДОВАНИЕ КУРСА LEVEL UP ОТ GAMELAB KBTU И UNICEF В КАЗАХСТАНЕ

**Аннотация**

В данной статье рассматривается влияние геймификации и внешней мотивации на вовлеченность и уровень завершения массовых открытых онлайн-курсов (МООК) с акцентом на малообеспеченные группы населения в развивающихся регионах. В центре исследования курс LEVEL UP, геймифицированный МООК, разработанный GameLab KBTU в сотрудничестве с ЮНИСЕФ для молодых женщин Казахстана с целью развития навыков в области STEM. Используя сочетание количественного анализа данных и обзора литературы, в исследовании изучается эффективность стратегий геймификации в повышении уровня завершения курса, который традиционно низок в МООК. Результаты показывают, что включение геймификации и внешних мотивирующих элементов, таких как соревновательные элементы и вознаграждения, может улучшить показатели завершения курса. Например, курс LEVEL UP достиг уровня завершения в 10%, что выше среднего уровня завершения курсов МООС, который составляет 5–8%. Однако исследование также подчеркивает сложность баланса внешних и внутренних мотивационных факторов для поддержания долгосрочной вовлеченности и глубокого обучения. Возникшие ограничения, включая технические проблемы и ограничения платформы, подчеркивают трудности эффективной реализации таких стратегий. Рекомендации для дальнейших исследований включают изучение долгосрочного воздействия геймификации, оптимального баланса мотивационных элементов и адаптации геймификации к индивидуальным потребностям учащихся. Данная работа вносит вклад в растущее число фактов, поддерживающих использование геймификации в образовании, подчеркивая необходимость применения нюансированных подходов, которые повышают вовлеченность и результаты обучения, особенно в контексте демократизации образования для учащихся во всем мире.

**Ключевые слова:** геймификация, массовые открытые онлайн-курсы (МООК), внешняя мотивация, STEM образование, малообеспеченные группы, развивающиеся регионы, показатели завершения курсов.