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EMOTIONAL WELL-BEING AS A KEY SUCCESS FACTOR FOR SUSTAINABLE DEVELOPMENT OF EDUCATION

In today's academic landscape, prestigious universities like Massachusetts Institute of Technology (MIT), Berkeley, and Brown increasingly integrate mindfulness practices into university life for students and faculty alike. In our fast-paced world, inundated with information, we often find ourselves caught in a cycle of constant motion, inadvertently missing out on meaningful moments and navigating through life on autopilot. Recognizing the significance of cherishing each moment, all stakeholders within the educational sphere must embrace mindfulness, relaxation, and stress-reduction techniques to facilitate effective teaching and learning experiences. Educators equipped with these skills can guide students toward academic success and personal fulfillment. To do this, we conducted a study at Kazakh National Research Technical University named after K. I. Satpayev to understand how relevant the introduction of mindfulness and support for mental well-being will be for Kazakhstan's engineering and technical education. As a result of our research, we discovered that students need to cultivate self-awareness within the educational environment. Educators must acknowledge the impact of institutional settings on students' independence and critical thinking. Furthermore, modern students place high value on independence and freedom of choice, but they often lack the necessary awareness to make informed decisions about their educational and professional futures. The results obtained will form the basis for the formation of a national model of engineering education within the framework of a scientific project.

Keywords: *mindfulness, wellbeing, education, engineering education, sustainable development, stress reduction, educational process.*

Кілт сөздер: *зейін, психикалық саулық, білім беру, инженерлік білім, тұрақты даму, стрессті азайту, оқу процесі.*

Ключевые слова: *осознанность, ментальное благополучие, образование, инженерное образование, устойчивое развитие, снижение стресса, учебный процесс.*

Introduction. Sustainability is the most important agenda of our time. Sustainability is significant in all aspects from science to manufacturing. More powerful wording is «sustainable development». Sustainable development is a concept that, depending on the context, includes different forms of synergy of many factors, steps, strategies, interactions, and contributions.

Instilling skills for sustainable development is necessary at every stage of a human life. One of the most pivotal and important stages in the development of human nature and personality is higher education.

In the social and humanitarian areas of bachelor studies, the importance of sustainable personal development in the learning process is highlighted very well. However, the importance of social learning is often overlooked in technical and engineering education. Nevertheless, technical systems and production have a significant impact on various aspects of human life, including moral, social, environmental, etc. This leads to the emergence of new areas of research, such as the analysis of scientific and technological progress, technological assessments, and issues of engineering ethics [1].

It is important to note that graduates who studied engineering and technical specialties work in production in large industries of the country, the sustainable development of which is a competitive advantage of the economy of a successful country.

Engineering and technical education is more focused on the development of hard skills, so students are often faced with the need to maintain a stable level of mental well-being.

Emotional well-being is now widely recognized as a crucial factor in education. It plays a significant role in ensuring the successful and sustainable development of the educational process. This review explores various aspects of emotional well-being and its impact on educational achievement and overall student development.

Emotional well-being is closely linked to students' academic success. Research indicates that high levels of emotional well-being contribute to improved cognitive functioning and academic motivation. There is ample evidence suggesting that positive emotions lead to better learning and improved academic performance [2].

Emotional well-being also plays a critical role in students' personal development. It fosters the development of positive self-esteem, self-regulation skills, and the ability to resist stress. For example, mindfulness practice helps students develop emotional stability and enhance their interpersonal relationships [3].

The term mental well-being is quite new for developing countries. Nevertheless, in post-Soviet countries and Kazakhstan it is confidently gaining popularity and relevance.

At the same time, global deglobalization caused by the COVID-19 pandemic has led to significant changes in the field of education. Many educational institutions have switched to remote learning, which has caused increased stress for both students and teachers. The online learning format has created a disconnect between students and teachers, causing anxiety and uncertainty. Despite the end of the pandemic, online learning has not completely left the life of modern educational institutions. And now we live in the era of hybrid learning. Where teachers face several challenges, including loss of control over the learning process and the need to adapt to new technologies.

Instability in world politics only increases stress levels. Which in turn leads to decreased productivity and a general deterioration in quality of life. Nowadays, both students and teachers are in dire need of knowledge about mindfulness-based stress reduction.

Having acquired such skills during university years, many graduates can use them in the long term, independently maintaining their mental well-being [4].

Emotional well-being is a crucial factor in successful and sustainable educational development. Implementing programs to support emotional well-being can significantly enhance students' academic and personal achievements. It is important to continuously research and develop methods to improve students' emotional well-being.

This article is aimed at better understanding the need for knowledge on mental well-being and stress management based on mindfulness for the sustainable development of the personality of each graduate of a bachelor's degree in engineering and technical specialties.

Literature review. A huge problem teachers face in today's classrooms is that students are physically in the classroom but not mentally present. The modern student has difficulty maintaining concentration for several hours in a row. In the era of TikTok and fast-paced content, attention spans have dropped dramatically. Students have changed the way they perceive information, but, unfortunately, educational institutions continue to convey information to them using old methods. One channel transmits information, the second does not perceive it. There is a break.

Moreover, students often lack conscious choices. Especially in choosing majors, friends, extracurricular activities, etc. Due to information overload, such decisions are often made unconsciously, as a result of the majority effect, and over the years, many students begin to regret their choice.

At the same time, with all their experience, teachers cannot always meet the needs of their students. Information overload causes problems with concentration and attention, which affects students and teachers. Therefore, it is necessary to work with both participants in the communication process, both with the student and with the teacher.

In recent years, the concept of pedagogical partnership has become popular in higher education. This concept includes a smooth move from teacher-oriented pedagogy to pedagogy focused on the joint interaction of student and teacher [5].

In this point of view the concept of «a teacher» becomes broader and includes a facilitator, a mentor, a coach, and a friend. At the same time, the student acts for the teacher as a discoverer and introduces him to his world. In such interaction, more trusting, safe, respectful relationships are born, which contribute to the development of innovation and progressive discoveries.

Teachers have a key role in supporting students' emotional well-being. Pedagogical approaches that provide emotional support and create a supportive learning environment can significantly enhance students' emotional well-being. Research emphasizes the importance of teacher training in emotional intelligence and mindfulness [6].

In recent years, many educational institutions have introduced programs aimed at developing mindfulness and emotional well-being. Such programs have had a positive impact on students' emotional states and academic achievements. For instance, research indicates that mindfulness programs help reduce stress and anxiety among college students [7].

Institutions now need to proactively update their «learn how to learn» policies to create better educational experiences for students and teachers. Teachers are more stressed than ever and cannot keep students' attention and effectively teach them new knowledge [8].

Recognizing the importance of supporting mental well-being and developing mindfulness, many universities around the world have already launched mindfulness-based stress management courses. For example, there is a program at the University of California at Los Angeles (Mindful UCLA). The university has a Mindfulness Center on campus, which provides students, faculty and staff with the opportunity to participate in mindfulness practices and courses, including mindfulness-based stress management (MBSR) [9].

Oxford University offers its students and teachers mindfulness practices, which include meditation, yoga, tai chi and other relaxation techniques. At the university, MBSR was included in the curriculum for medical students [10].

Harvard University has a Mindfulness and Yoga Center on its campus, which provides a wide range of mindfulness practices for students, teachers and university staff. As part of the program, you can attend mindfulness courses, participate in meditation and other practices [11].

The University of Berkeley offers mindfulness practices for its students and faculty, including courses, meditations and other relaxation techniques. As part of the program, the university also provides access to a mindfulness application so that students can continue their practice off campus [12].

Brown University has been offering mindfulness courses (MBSR) to its students since 2013. In these courses, students learn to develop awareness, resilience, concentration, and improve their emotional stability. 90% of students who completed this course noted an improvement in their psychological well-being, and 40% of them became more actively involved in university life [13].

MIT, the Massachusetts Institute of Technology successfully uses mindfulness techniques to enhance the learning process and the overall well-being of students and teachers. In addition to the courses «Introduction to Mindfulness» and Mindfulness within the framework of arts courses, there is also the MindHandHeart Initiative: aimed at supporting the physical and mental health of students and teachers [14].

Main part. Following the benchmarks set by leading universities worldwide, we also decided to implement fundamental training in mindfulness and well-being techniques at KazNRTU named after Satbayev. Undergraduate students in engineering, along with faculty members, were invited to participate in this training. This new initiative was positively received by the community, attracting 48 participants.

Over the course of three days, participants engaged in self-exploration, delving into their thoughts, tracking their emotions, and noting their sensations. Together with the participants, we identified what worries and stresses them both during their bachelor's studies and prior to that. To gather this information, we utilized techniques such as freewriting, brainstorming, group work, interviews, and observation. Subsequently, we analyzed the collected data. We clustered the responses, found logical interrelations, compared observations, opinions, and facts, and identified the following insights.

Firstly, students need to understand themselves within the educational space. They must learn to recognize their place and role in the educational process, which requires them to move away from the conventional mechanisms dictated by external attitudes and authorities.

Secondly, educators must be aware of the powerful influence of educational settings and institutional environments. Previous education and parental attitudes are often focused not on the student's individuality but on external authorities and trends, which diminishes students' independence and critical thinking.

Thirdly, modern students highly value independence and freedom of choice. Even when asked, «What do you want to become?» students respond, «A good person». Today's students strive for postmodern independence, yet they lack the awareness to make informed decisions about their educational and professional paths.

Students also feel a lack of attention and involvement. There is an issue with students' lack of concentration and full engagement in learning, partly due to the teaching methods employed.

It is also crucial for students to interact with teachers. The education system and teaching approaches are often outdated, necessitating that teachers update their methods and create conditions for more effective interaction with students.

Teachers need to modernize their pedagogical and educational approaches. There is a need to refresh pedagogical methods, including the introduction of mindfulness and awareness practices, to help students improve in decision-making and attention management.

The role of the teacher is now more important than ever. Teachers must demonstrate a willingness to change, interact, and explore, working with students as equals to create teaching partnerships.

Simultaneously, despite all this flexibility, it is essential not to lose sight of the personal responsibility of students. It is crucial to enhance students' awareness to increase their personal and collective responsibility and ability to solve problems independently.

The insights gained emphasize the necessity for profound changes in higher education, focusing on student awareness, critical thinking, and personal responsibility, as well as modern approaches to pedagogy and teacher-student interactions.

Such changes will help students navigate the educational process better, make independent decisions, and effectively handle challenges. This requires not only that teachers update their methods but also that they are willing to engage in continuous learning and adaptation to create an environment conducive to the comprehensive development of students.

Implementing mindfulness and well-being techniques in the educational process can be a significant step toward creating more harmonious and effective learning. This will enable students not only to manage academic workloads better but also to develop skills that will be valuable in their future professional endeavors and personal lives.

Awareness of the importance of internal states and emotions, the ability to manage attention, and the capability to make informed decisions are becoming key aspects of successful learning and personal growth. Therefore, introducing such practices into the educational process at KazNRTU named after Satbayev can serve as an example for other educational institutions aiming to improve the quality of education and create a more supportive environment for both students and faculty.

Through our analysis, we also found that students need a more personalized approach to education. Individual consultations and support from faculty can significantly enhance student engagement and satisfaction, which, in turn, positively impacts their academic performance.

It is important to note that this initiative received broad support from both students and faculty. This indicates the academic community's readiness for change and openness to new methods of teaching and interaction.

The implementation of mindfulness and well-being techniques in the educational process at KazNRTU named after Satbayev represents an essential step towards creating a more effective and harmonious education system. This requires efforts and a willingness to change from all participants in the educational process, but ultimately brings significant positive outcomes, contributing to the holistic development of students and improving the overall quality of education.

Conclusions. Based on the insights obtained, we have formulated the following recommendations for improving higher education for engineering and technology professions.

1. The education system needs not only mindful students, but also mindfulness teachers who use best practices in education. Who can provide mindfulness-based stress reduction education. There is also a need for integration of mindfulness into various disciplines and educational processes. Such skills will help in the long term to manage stress and better absorb and transmit information. This requires the development of a strategy for introducing mindfulness into education.

2. It is necessary to gradually move to partner pedagogy, where both students and teachers will be equally involved.

3. It is important to inform both students and teachers to encourage empathic behavior in both parties. With complete or sufficient information, participants will engage and interact better and more.

These steps will promote resilience and self-care as important skills for teachers and students. The use of mindfulness is important not only as a tool for improving the educational process, but also for preventing diseases. By introducing awareness and support for mental well-being into universities, we will launch a process of conscious exploration of the roles of teacher and student in the educational process. Which in turn will bear fruit in the form of successful graduates, innovative projects and a steadily developing economy of the country.

This study provides a good basis for future research in engineering and technical education to improve teaching methods and stakeholder interactions in academic and educational environments. Each author contributed equally to this study and paper.

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REFERENCES

8. Afroogh S., Esmalian A., Donaldson J.P., Mostafavi A. Empathic Design in Engineering Education and Practice: An Approach for Achieving Inclusive and Effective Community Resilience. *Sustainability*. – 2021. – 13(7). – P. 4060. – DOI: 10.3390/su13074060.
9. Ivanova A.I. Emotional well-being of students and its influence on educational activities // *Bulletin of psychology and pedagogy*. – 2020. – No. 4. – P. 45-52.
10. Kuznetsova M.S. The role of teachers in maintaining the emotional well-being of students // *Education and Society*. – 2022. – No. 1. – P. 37-44.
11. Hobbs C., Jelbert S., Santos L.R. et al. Long-term analysis of a psychoeducational course on university students' mental well-being. *High Educ* – 2024. – DOI: 10.1007/s10734-024-01202-4.
12. Hill J., Healey R.L., West H., Déry Ch. Pedagogic partnership in higher education: encountering emotion in learning and enhancing student wellbeing, *Journal of Geography in Higher Education*. – 2019. – DOI: 10.1080/03098265.2019.1661366.
13. Brown K.W., Ryan R.M. The Benefits of Being Present: Mindfulness and Its Role in Psychological Well-being // *Journal of Personality and Social Psychology*. – 2003. – Vol. 84, No. 4. – P. 822-848.
14. Kuyken W., Weare K., et al. Effectiveness of the Mindfulness in Schools Programme: Non-randomised controlled feasibility study // *The British Journal of Psychiatry*. – 2013. – Vol. 203, No. 2. – P. 126-131.
15. Hue M., Lau N. Promoting well-being and preventing burnout in teacher education: a pilot study of a mindfulness-based programme for pre-service teachers in Hong Kong, *Teacher Development*. – 19:3. – P. 381-401. – 2015. – DOI: 10.1080/13664530.2015.1049748.
16. The Semel Healthy Campus Initiative Center at UCLA [Electronic resource]. – URL: <https://mindwell.healthy.ucla.edu/>
17. Oxford Mindfulness for Students [Electronic resource]. – URL: <https://www.oxfordmindfulness.org/find-a-course-student/>.
18. Center for Wellness and Health Promotion Harvard University Health Services [Electronic resource]. – URL: <https://wellness.huhs.harvard.edu/group-classes>.
19. Berkeley University Health Services [Electronic resource]. – URL: <https://uhs.berkeley.edu/facstaff/employee-assistance/workshops>.
20. BWell Health Promotion Health and Wellness Brown University [Electronic resource]. – URL: <https://www.brown.edu/campus-life/health/services/promotion/general-healthemotional-%20wellbeing/mindfulness>.
21. MIT Health [Electronic resource]. – URL: <https://health.mit.edu/community/wellness/mindfulness>.

REFERENCES

1. Afroogh S., Esmalian A., Donaldson J.P., Mostafavi A. Empathic Design in Engineering Education and Practice: An Approach for Achieving Inclusive and Effective Community Resilience. *Sustainability*. – 2021. – 13(7). – P. 4060. – DOI: 10.3390/su13074060.
2. Ivanova A.I. Emotional well-being of students and its influence on educational activities // *Bulletin of psychology and pedagogy*. – 2020. – No. 4. – P. 45-52.
3. Kuznetsova M.S. The role of teachers in maintaining the emotional well-being of students // *Education and Society*. – 2022. – No. 1. – P. 37-44.
4. Hobbs C., Jelbert S., Santos L.R. et al. Long-term analysis of a psychoeducational course on university students' mental well-being. *High Educ* – 2024. – DOI: 10.1007/s10734-024-01202-4.
5. Hill J., Healey R.L., West H., Déry Ch. Pedagogic partnership in higher education: encountering emotion in learning and enhancing student wellbeing, *Journal of Geography in Higher Education*. – 2019. – DOI: 10.1080/03098265.2019.1661366.
6. Brown K.W., Ryan R.M. The Benefits of Being Present: Mindfulness and Its Role in Psychological Well-being // *Journal of Personality and Social Psychology*. – 2003. – Vol. 84, No. 4. – P. 822-848.
7. Kuyken W., Weare K., et al. Effectiveness of the Mindfulness in Schools Programme: Non-randomised controlled feasibility study // *The British Journal of Psychiatry*. – 2013. – Vol. 203, No. 2. – P. 126-131.
8. Hue M., Lau N. Promoting well-being and preventing burnout in teacher education: a pilot study of a mindfulness-based programme for pre-service teachers in Hong Kong, *Teacher Development*. – 19:3. – P. 381-401. – 2015. – DOI: 10.1080/13664530.2015.1049748.

9. The Semel Healthy Campus Initiative Center at UCLA [Electronic resource]. – URL: <https://mindwell.healthy.ucla.edu/>
10. Oxford Mindfulness for Students [Electronic resource]. – URL: <https://www.oxfordmindfulness.org/find-a-course-student/>.
11. Center for Wellness and Health Promotion Harvard University Health Services [Electronic resource]. – URL: <https://wellness.huhs.harvard.edu/group-classes>.
12. Berkeley University Health Services [Electronic resource]. – URL: <https://uhs.berkeley.edu/facstaff/employee-assistance/workshops>.
13. BWell Health Promotion Health and Wellness Brown University [Electronic resource]. – URL: <https://www.brown.edu/campus-life/health/services/promotion/general-healthemotional-%20wellbeing/mindfulness>.
14. MIT Health [Electronic resource]. – URL: <https://health.mit.edu/community/wellness/mindfulness>.

Киізбаева Ж., Турегельдинова А, Амралинова Б., Нургалиева Ж.Е.

ЭМОЦИОНАЛЬНАЯ САМОПОМОЩЬ КАК КЛЮЧЕВОЙ ФАКТОР УСПЕХА УСТОЙЧИВОГО РАЗВИТИЯ ОБРАЗОВАНИЯ

Аннотация

Бүгінгі академиялық ортада Массачусетс технологиялық институты, Беркли және Браун сияқты беделді университеттер студенттер мен оқытушылар үшін университет өміріне зейін тәжірибесін көбірек енгізуде. Ақпаратқа толы қарқынды дамып келе жатқан әлемімізде біз жиі тұрақты қозғалыс циклінде боламыз, байқаусызда маңызды сәттерді жіберіп аламыз және автопилотта өмір бойы қозғаламыз. Әрбір сәтті құрметтеудің маңыздылығын мойындай отырып, білім беру саласындағы барлық мүдделі тараптар тиімді оқыту мен оқуды ынталандыру үшін зейін, релаксация және стрессті азайту әдістерін қолдануы керек. Осы дағдыларды меңгерген тәрбиешілер студенттерге оқуда және жеке орындауда табысқа жетуге көмектесе алады. Ол үшін біз Қ.И.Сәтбаев атындағы Қазақ ұлттық зерттеу техникалық университетте қазақстандық инженерлік-техникалық білім беруде зейінділік пен психикалық саулықты қолдаудың қаншалықты өзекті болатынын түсіну үшін зерттеу жүргіздік. Зерттеу нәтижелері бойынша біз білімімізді жақсартуға көмектесетін ұсыныстар жасадық. Біз өз зерттеулеріміз арқылы оқушылардың білім беру ортасында өзін-өзі тануы қажет екенін анықтадық. Педагогтар институционалдық ортаның оқушылардың дербестігі мен сыни ойлауына әсерін тануы керек. Сонымен қатар, бүгінгі студенттер тәуелсіздік пен таңдау еркіндігін жоғары бағалайды, бірақ олардың білім беру және кәсіби болашағы туралы саналы шешім қабылдауға қажетті хабардарлықтары жиі жетіспейді. Алынған нәтижелер ғылыми жоба аясында инженерлік білім берудің ұлттық моделін қалыптастыруға негіз болады.

Киізбаева Ж., Турегельдинова А, Амралинова Б., Нургалиева Ж.Е.

ЭМОЦИОНАЛЬНОЕ БЛАГОПОЛУЧИЕ КАК КЛЮЧЕВОЙ ФАКТОР УСПЕХА УСТОЙЧИВОГО РАЗВИТИЯ ОБРАЗОВАНИЯ

Аннотация

В сегодняшней академической среде престижные вузы, такие как Массачусетский технологический институт, Беркли и Браун, все чаще интегрируют практики осознанности в университетскую жизнь как для студентов, так и для преподавателей. В нашем быстро меняющемся мире, наводненном информацией, мы часто оказываемся в цикле постоянного движения, непреднамеренно упуская значимые моменты и перемещаясь по жизни на автопилоте. Признавая важность бережного отношения к каждому моменту, все заинтересованные стороны в образовательной сфере должны использовать методы осознанности, релаксации и снижения стресса, чтобы способствовать эффективному преподаванию и обучению. Преподаватели, обладающие этими навыками, могут помочь учащимся добиться успехов в учебе и личной реализации. Для этого мы провели исследование в Казахском национальном исследовательском техническом университете имени К. И. Сәтбаева, чтобы понять, насколько актуальным будет внедрение осознанности и поддержки психического благополучия для казахстанского инженерно-технического образования. В результате нашего исследования мы выявили, что учащимся необходимо развивать самосознание в образовательной среде. Педагоги должны признать влияние институциональной среды на независимость и критическое мышление учащихся. Более того, современные студенты высоко ценят независимость и свободу выбора, но им часто не хватает необходимой осведомленности для принятия обоснованных решений относительно своего образовательного и профессионального будущего. Полученные результаты лягут в основу для формирования национальной модели инженерного образования в рамках научного проекта.