

Hands-On Learning and Its Influence on Student Engagement and Mental Health in Higher Education

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ABSTRACT

This comparative study investigates the role of hands-on learning in shaping student engagement and mental health across universities in Pakistan, Malaysia, and the United Kingdom. A mixed-methods design was used, incorporating surveys with 412 students and interviews with 24 university instructors. The results indicate that experiential learning significantly improves engagement, strengthens motivation, and reduces stress levels when implemented with adequate resources and supportive teaching practices. However, structural limitations and cultural expectations influence outcomes differently across the three countries. The study concludes that hands-on learning holds considerable potential for advancing student well-being, but sustainable adoption requires policy support, teacher training, and contextual sensitivity.

Introduction

Across the world, higher education systems continue to rely heavily on traditional lecture-based instruction. However, such approaches often limit student participation and weaken motivation. Hands-on learning, which includes project-based activities, simulations, field work, and collaborative problem solving, is increasingly seen as a pathway to deeper learning and improved student well-being.

Educational theorists such as Kolb and Piaget emphasize the importance of active participation in promoting cognitive growth. Research in motivation further suggests that autonomy, competence, and peer connection promote psychological well-being and reduce academic stress. Despite these insights, practical and comparative evidence from Asian and Western higher education systems remains limited. This study addresses this gap through a cross-country analysis involving Pakistan, Malaysia, and the United Kingdom.

Purpose of the Study

The study aims to:

Examine the forms of hands-on learning used in higher education across the three countries

Measure the effects of these learning methods on student engagement

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Explore the relationship between hands-on learning and student mental health
Identify institutional and cultural barriers that influence implementation

Methodology

Research Design

A mixed-methods approach was used to obtain both numerical and qualitative insights. Quantitative surveys measured student engagement and mental health indicators, while qualitative interviews explored experiences of teachers and students regarding hands-on learning.

Participants

Students surveyed: **412**

Pakistan: 156

Malaysia: 142

UK: 114

Instructors interviewed: 24

From diverse subjects including education, business, engineering, and social sciences

Instruments

Student Engagement Scale (validated instrument)

Academic Motivation Scale

Anxiety and Stress Screening Questions based on widely used mental-health measures

Semi-structured interview guide exploring teaching challenges, learning outcomes, and cultural factors

Data Analysis

Quantitative data were analyzed using descriptive statistics, correlations, and cross-country comparisons.

Qualitative data were coded thematically to identify trends regarding teaching strategies, student experiences, and structural constraints.

Results

Overall Influence on Engagement

Across all countries, students involved in hands-on activities reported higher engagement than those taught mainly through lectures.

Pakistan: Moderate improvement

Malaysia: Strong improvement

UK: Highest improvement

Students in Malaysia and the UK described practical activities as more enjoyable, meaningful, and helpful for understanding concepts.

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Students who participated in hands-on learning reported lower stress and greater motivation.

Key findings:

Reduced feeling of isolation during learning

Increased confidence when applying concepts

Stronger connection with peers and instructors

In Pakistan, improvements were noticeable but less pronounced because many students still experienced heavy workloads and limited peer interaction due to large class sizes.

Academic Outcomes

Students who engaged in regular practical activities showed better assignment performance, improved critical-thinking ability, and stronger conceptual understanding.

The UK showed the highest academic gains due to better facilities and trained instructors.

Barriers to Effective Implementation

Several obstacles were shared, though the intensity differed across contexts.

Pakistan

Large classes

Limited laboratory or simulation resources

Heavy reliance on examinations

Insufficient teacher training

Malaysia

Rapid curriculum changes

Uneven availability of digital tools across universities

United Kingdom

High workload pressure

Student anxiety linked to performance expectations

Discussion

The findings support educational theories emphasizing active participation. When students engage in authentic tasks, motivation increases and emotional stress decreases because learning feels purposeful and collaborative.

The comparative perspective shows that cultural and institutional factors shape outcomes. The UK benefits from mature pedagogical training systems, while Malaysia benefits from rapid technological adoption. Pakistan's system shows promise but requires targeted investment in teacher training and infrastructure.

Overall, hands-on learning works effectively when:

Activities are linked to real situations

Teachers provide guidance rather than passive lecturing

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Assessments reward application instead of memorization
Students have opportunities to collaborate
Institutions provide mental health support alongside academic support

Conclusion

Hands-on learning significantly improves engagement academic performance and psychological well-being. These benefits are strongest in environments that support autonomy collaboration and meaningful application of knowledge. Although limitations vary across countries, all three contexts demonstrate a clear shift toward practical learning models.

Universities aiming to adopt hands-on learning should invest in teacher training, revise assessment policies, improve classroom resources, and integrate mental health support for students. Future research should include longitudinal and discipline-specific studies to further measure long-term outcomes.

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