

Inclusive Participation in Technology-Enhanced Classrooms: Evidence from Secondary Education in the UAE

Research Overview This study investigates how technology-enhanced gamification shapes inclusive participation, psychological safety, and student voice in Grade 9 Arabic and Islamic Studies classrooms in Abu Dhabi. Drawing on survey data from 575 students across 17 schools, it connects local classroom innovation in an Arab-region context with global debates about equitable participation in digitally supported learning environments.

Purpose of Study As schools worldwide adopt digital tools to enhance classroom interaction, a critical challenge shared across educational systems is ensuring that technology-supported participation is genuinely inclusive extending beyond the most confident or academically visible learners. Gamification is consistently associated with higher motivation and engagement in the international literature, yet evidence on whether gamified classroom tools foster psychologically safe and equitable participation across diverse learners remains limited, particularly outside Western and STEM-focused contexts.

This study addresses that gap by examining students' perceptions of ClassPoint-supported gamification in Grade 9 Arabic and Islamic Studies classrooms in Abu Dhabi, United Arab Emirates. The UAE context is significant for global education research: it represents a rapidly digitalising school system rooted in distinctive cultural and linguistic traditions, where participation norms, language identity, and pedagogical values intersect in ways that differ meaningfully from contexts that dominate the existing literature. The study investigates three research questions: how students perceive the influence of gamified instruction on engagement and motivation; how they perceive its influence on confidence and psychological safety; and how they perceive inclusion and equitable opportunities for participation.

In alignment with the conference theme of bridging cultures and co-creating knowledge, this study positions the UAE classroom as a site of local innovation with wider relevance to global conversations about technology, equity, learner voice, and culturally responsive educational change. It argues that local evidence from under-researched contexts is not merely supplementary to global knowledge — it is constitutive of it.

Research Methods The study adopted a quantitative, cross-sectional survey design. Data were collected from 575 Grade 9 native Arabic-speaking students across 17 schools in Abu Dhabi following a four-month implementation period in which ClassPoint was systematically integrated into Arabic and Islamic Studies instruction. The tool was embedded within regular classroom routines through live quizzes, interactive questioning, instant feedback mechanisms, and multiple student response modes — functioning as a classroom-supported technology integration model within teacher-led instruction rather than as a standalone digital activity.

A self-report questionnaire measured students' perceptions across three domains: engagement and motivation, confidence and psychological safety, and inclusion and equitable participation. Responses were collected anonymously using a five-point Likert scale. Internal consistency was strong across all domains (Cronbach's $\alpha = .98, .93, \text{ and } .84$ respectively). Data were analysed using descriptive statistics, response distribution analysis, Spearman's rank-order correlations, and the Friedman nonparametric test.

Results and Discussion Findings showed positive perceptions across all three domains, with engagement and motivation receiving the strongest endorsement ($M = 1.83$), followed by confidence and psychological safety ($M = 1.87$), and inclusion and equitable participation ($M = 2.10$). Response distribution analysis revealed that 83.0% of students agreed or strongly agreed that gamification enhanced engagement, 80.9% reported positive perceptions of confidence and psychological safety, and 71.3% responded positively regarding inclusion — with notably higher neutral responses in this domain than in the others.

Correlation analysis confirmed a very strong positive association between engagement and confidence, and strong positive associations between inclusion and the other two domains. The Friedman test revealed statistically significant differences across the three domains, with engagement ranked highest, followed by confidence and psychological safety, and then inclusion and equitable participation.

These findings carry implications that extend well beyond the UAE context. Most importantly, they demonstrate that engagement does not automatically guarantee inclusion: while gamified instruction was widely experienced as motivating and confidence-building, greater variability in inclusion perceptions indicates that equitable participation requires intentional pedagogical design, skilled teacher facilitation, and deliberate attention to classroom norms. This finding resonates with global debates about the risks of mistaking visible participation for meaningful participation in digitally enhanced learning environments.

The study contributes to international education research in three ways. First, it provides empirical evidence from an underrepresented Arab-region context, broadening the geographic and cultural base of research on technology-enhanced learning. Second, it extends the field's attention from surface-level engagement metrics toward the deeper constructs of psychological safety, confidence, and student voice. Third, it illustrates how local pedagogical innovations in culturally situated classrooms can both inform and challenge prevailing global frameworks for inclusive digital education.

Keywords Gamification, inclusive participation, psychological safety, student voice, technology-enhanced learning