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Letter to Editor

Gamification in Nurse Training: Turning Skill Development into an Engaging Competition

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Dear Editor

As nursing burnout reaches crisis levels with U.S. turnover rates exceeding 20% annually, innovative retention strategies are urgently needed. This letter is intended primarily for nursing educators and training managers in hospitals and academic settings, though it may also inform policymakers designing workforce development programs. Gamification has shown promise, but its competitive elements, particularly leaderboards, warrant scrutiny for their psychological impact on an already stressed workforce. Below, we examine the evidence, risks, and practical solutions, including a proposed framework for ethical implementation (1).

Evidence of Benefits: Short-Term Gains in Competence and Engagement

Leaderboards rank nurses by performance metrics (e.g., quiz scores, simulation times), tapping into social comparison theory to drive engagement. A 2025 randomized trial found that gamified workshops with leaderboards improved evidence-based practice competence by 18% compared with traditional methods, with participants achieving an average post-test score of 85% versus 72% in the control group. In novice-focused simulations, leaderboard use yielded 25% higher skill retention in CPR tasks at 1-month follow-up, alongside a 15% increase in self-reported engagement scores (4). Platforms like Moodle (with gamification plugins) and Kahoot enable real-time leaderboards and allow toggling between individual and group views. These tools have demonstrated quantifiable impacts, such as a 22% rise in quiz completion rates in Kahoot-based sessions (2).

Psychological Risks: Anxiety, Demotivation, and Variable Effects by Experience

However, this boost comes at a cost: low-ranked nurses reported heightened anxiety and reduced self-efficacy, echoing self-determination theory's warning that extrinsic ranking can undermine intrinsic motivation. In the aforementioned trial, bottom-quartile participants experienced a 12% drop in self-efficacy scores post-intervention. The effect varies by experience. Novices thrive on visible progress, as noted above. Seasoned nurses, however, often view public ranking as infantilizing; 62% in a recent survey preferred collaborative badges to avoid perceived judgment, reporting 18% lower satisfaction with competitive formats (3).

Case Study: Implementation at a U.S. Urban

Hospital. At a 500-bed urban hospital in Chicago (2024 pilot), a gamified training program using Kahoot leaderboards for infection control modules involved 150 nurses. Initial competence scores rose by 20%, but turnover among low-ranked novices increased by 8% within 3 months due to anxiety. Switching to opt-in, anonymized boards reduced reported stress by 28% and sustained competence gains, with 85% participation rates. This highlights the need for adaptive designs to prevent negative competition (4).

Long-Term Considerations: Beyond Initial Boosts

While short-term metrics show promise, long-term evaluations remain limited. A 12-month follow-up in one simulation study revealed that individual leaderboard gains in skill retention faded to 10% above baseline by month 6, compared to 20% for team-based formats. Future research should track burnout (e.g., Maslach Burnout Inventory scores) and competence over 1–2 years to assess durability (2).

Practical Strategies to Mitigate Negative Competition and Ensure Equity

To reduce risks:

- **Anonymize rankings**: Use avatars or codes to prevent personal identification.
- **Opt-in participation**: Allow nurses to choose visibility, increasing uptake by 30% in pilots (6).
- **Balance individual and team metrics**: Pair personal scores with group averages to foster collaboration.
- **Equity safeguards**: Adjust for shift length, patient load, or experience level using algorithmic normalization (e.g., z-scores in Moodle plugins).
- **Feedback integration**: Provide private coaching for low performers, reducing anxiety by 25% in trials (5).

These steps minimize "competition toxicity" while promoting fair engagement.

Proposed Framework: Adaptive Gamification Design for Nursing Education

We propose the SAFE Framework for leaderboard integration:

1. Screen for Context: Assess user experience level and unit stress via pre-surveys.
2. Adapt Mechanics: Offer anonymized, opt-in, and hybrid (individual/team) views.
3. Foster Intrinsic Motivation: Combine rankings with badges, narratives, and mastery goals.
4. Evaluate Holistically: Measure competence, burnout, satisfaction, and long-term retention quarterly.

Pilot this in high-turnover units, tracking metrics such as a 15% reduction in anxiety scores alongside competence gains (3).

Conclusion

Educators and managers must redesign leaderboards to protect psychological safety while preserving motivational gains. By adopting adaptive models, practical mitigations, and the SAFE Framework, gamification can truly support rather than strain our nursing workforce. Longitudinal pilots are essential to confirm sustained benefits.

Conflict of Interest

There are no conflicts of interest.

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