

Assessing the Effectiveness of a Game-Based Educational Package for the Tenth-Grade English Language Course on Students' Higher-Order Cognitive Levels

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E d i t o r	R e v i e w e r s
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1. Round 1

1.1. Reviewer 1

Reviewer:

In the Introduction, the sentence “Contemporary educational paradigms emphasize learners’ ability to analyze information, evaluate evidence, solve complex problems, and generate innovative ideas” provides a broad educational rationale, but the manuscript does not sufficiently explain why tenth-grade English language instruction specifically represents an optimal context for fostering higher-order cognition. A more explicit theoretical linkage between second-language acquisition and higher-order cognitive development should be incorporated.

The description of the researcher-developed English language test is insufficient for replication. In the paragraph beginning “The instrument used to assess the dependent variable was a researcher-developed 30-item English language test,” the authors should provide sample items, scoring procedures, score ranges, and examples illustrating how analysis, evaluation, and creation were operationalized.

A major methodological weakness concerns the absence of validity evidence for the researcher-developed instrument. Although item difficulty and discrimination indices are reported, no information is provided regarding content validity, expert

review procedures, construct validity, factor structure, or criterion-related validity. These psychometric properties should be documented before drawing substantive conclusions.

Response: Revised and uploaded the manuscript.

1.2. Reviewer 2

Reviewer:

The paragraph beginning with “Higher-order cognitive skills are commonly conceptualized through the revised Bloom’s Taxonomy” would benefit from a more rigorous conceptual discussion. Analysis, evaluation, and creation are treated as independent outcomes, yet the manuscript does not explain whether they are theoretically distinct constructs or hierarchical dimensions. The authors should clarify the conceptual model guiding the study and justify treating these dimensions separately in the analyses.

The literature review extensively discusses gamification benefits; however, the paragraph beginning “Research has consistently demonstrated the motivational benefits of gamified learning environments” predominantly cites studies related to motivation and engagement rather than higher-order cognition. More empirical studies specifically examining analytical reasoning, evaluative thinking, and creative production should be reviewed to strengthen the theoretical rationale for the study’s dependent variables.

The paragraph beginning “Although previous studies have documented the benefits of gamification...” identifies a research gap but does not clearly articulate the novelty of the proposed educational package. The manuscript should explicitly explain how the present intervention differs from previous game-based English learning programs and what unique contribution it makes to the literature.

In the Methods section, the statement “This study employed a quasi-experimental research design with a pretest–posttest control group structure” appears inconsistent with the subsequent statement that participants were “randomly assigned” to experimental and control groups. If random assignment occurred, the design approaches a randomized controlled trial rather than a purely quasi-experimental design. The authors should clarify the nature and extent of randomization.

The participant selection procedure described in the sentence “From this group, 40 students who scored below 14 out of 20 in each of the three cognitive levels...” raises concerns regarding regression-to-the-mean effects. Selecting only low-performing students may artificially inflate posttest gains. The authors should discuss this issue and explain how threats to internal validity were controlled.

The manuscript reports that the statistical population consisted of all tenth-grade students in Rafsanjan; however, demographic information is entirely absent. Variables such as age, gender distribution, socioeconomic background, prior English proficiency, and school type should be reported because these factors may influence higher-order cognitive performance and intervention responsiveness.

Response: Revised and uploaded the manuscript.

2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.