



Research Article

THE EFFECT OF CUSTOMIZED ONLINE DELIVERY OF FORMATIVE ASSESSMENT TASKS ON PRIMARY STUDENTS' ENGAGEMENT IN ENGLISH LANGUAGE LEARNING

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Received 19th July 2026; Accepted 25th August 2026; Published online 22nd September 2026

Abstract

This study examined the extent to which the customized online delivery of formative assessment tasks enhanced Grade 5 students' engagement in English language learning in United Arab Emirates (UAE) public-school English as a Foreign Language (EFL) classrooms. A quasi-experimental pre-test/post-test design with a non-equivalent control group was implemented across four public schools in Dubai, involving 158 Grade 5 students (78 experimental, 80 control) and four English teachers over a ten-week term. The experimental group received formative assessment tasks delivered through a unified digital platform that supported interactive responses, real-time monitoring, feedback, and documentation, while the control group continued the schools' usual, non-customized formative assessment practices. Students' engagement was measured using the Panorama Student Survey, linguistically and contextually adapted for Grade 5 EFL learners, across four domains: Pedagogical Effectiveness, Classroom Rigorous Expectations, Subject Valuing, and Classroom Learning Strategies. Because Shapiro-Wilk tests indicated non-normal distributions across all four scales ($p < .001$), Mann-Whitney U tests were used to compare engagement outcomes between groups. Results showed that the experimental group reported significantly higher engagement than the control group on 14 of the 20 survey items (effect sizes $r = .15-.27$), with the largest differences observed for clarity of presentation, teacher awareness of student understanding, and comfort asking questions. The composite Overall Engagement Score was also significantly higher in the experimental group ($U = 1794.00$, $p < .001$, $r = .37$), a moderate effect. Items relating to classroom management and general interest in and valuing of English did not differ significantly between groups. These findings suggest that the customized online delivery of formative assessment tasks enhances students' immediate, task-specific engagement more consistently than their broader dispositional engagement with English as a subject.

Keywords: Customized online delivery, Formative assessment, Student engagement, Panorama Student Survey, Primary EFL, UAE.

INTRODUCTION

Assessment plays a central role in supporting learning by showing what learners know and guiding instructional choices [1]. Formative assessment, or Assessment for Learning, takes place during instruction and aims to improve learning through continuous feedback and instructional adjustment [2]. Effective use of formative assessment nevertheless remains limited in practice, as teachers often struggle to provide timely, individualized feedback because of workload pressures and curriculum demands [3, 4]. In this study, customization refers to the way formative assessment tasks are delivered, paced, monitored, supported through feedback, and documented in response to learners' needs, rather than to changes in the prescribed curriculum. This form of customization is particularly important in primary English language classrooms because students differ in their proficiency, confidence, response speed, and support needs [2, 5, 6]. The online delivery of formative assessment tasks offers a possible way to address these challenges when digital features and functionalities are used to support feedback, monitoring, documentation, and instructional adjustment [7]. Some studies show positive effects of digital formative assessment on engagement and participation, particularly when digital tools allow real-time response collection and make students' thinking visible to teachers [8, 9]. Yet the link between digital features and functionalities and students' engagement has not

been fully examined in primary English as a Foreign Language (EFL) learning contexts. To confirm the relevance of this problem in the UAE public-school context, an exploratory diagnostic study surveyed 90 Cycle 2 English teachers across 18 public schools in Dubai. Findings showed that 81% of teachers considered customization important for supporting language learning, while 49% indicated that suitable digital tools for customization were not readily available, and 52% identified lack of time for customizing assessments as a major barrier. This study addresses this gap by investigating the customized online delivery of formative assessment tasks within a unified digital delivery environment and examining the extent to which this delivery enhances primary students' engagement in English language learning. Specifically, this study responds to the following research question: To what extent does the customized online delivery of formative assessment tasks enhance primary students' engagement in English language learning?

MATERIALS AND METHODS

Research Design

This study adopted a quasi-experimental pre-test/post-test design with a non-equivalent control group using intact classes [10], embedded within a broader mixed-methods, pragmatist design [11]. True randomization of individual participants was not feasible because of administrative constraints; therefore, intact Grade 5 sections were assigned to either the experimental or control condition. Baseline equivalence

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between groups was examined using pre-test comparisons, and normality was tested prior to inferential analysis; where normality was violated, non-parametric techniques were used.

Participants

The student sample consisted of 158 Grade 5 students drawn from four selected Cycle 2 public schools in Dubai, United Arab Emirates. Students participated in either the experimental group ($n = 78$) or the control group ($n = 80$) using existing intact classroom groupings. The overall gender distribution included 95 females (60%) and 63 males (40%), with comparable distributions across the experimental (47 females, 31 males) and control (48 females, 32 males) groups. Four English language teachers, one from each participating school, implemented the intervention, teaching both the experimental and control sections of their school to minimize teacher-effect bias.

Intervention and Control Conditions

The experimental group received formative assessment tasks delivered through customized online features and functionalities, with Pear Deck serving as the main delivery platform and Edpuzzle embedded for video-based tasks. These features enabled student response production, real-time response visibility, participation monitoring, pacing, feedback, and documentation of students' work. Both the experimental and control groups followed the same units from the UAE Ministry of Education Grade 5 English curriculum during the ten-week intervention period; the difference between groups lay only in the mode of formative assessment delivery, monitoring, feedback, and documentation. The control group continued using the schools' usual digital platforms (the Learning Management System and Alef), which did not include the same structured integration of interactive response features, real-time monitoring, or documentation used in the experimental condition.

Instrument: Panorama Student Survey

Students' engagement was measured using the Panorama Student Survey, administered as a post-intervention instrument. The survey was adapted from the original validated scales developed by Panorama Education in collaboration with researchers from the Harvard Graduate School of Education, and is widely used across K–12 settings to assess students' learning experiences, instructional quality, and classroom climate [12]. The adapted version used in this study consisted of 20 self-report items across four domains:

Pedagogical Effectiveness (7 items), Classroom Rigorous Expectations (5 items), Subject Valuing (4 items), and Classroom Learning Strategies (3 items retained after reliability analysis). Each item used a 5-point Likert scale (1 = Not at all/Almost never, 5 = Extremely/Almost always), with higher scores indicating higher engagement. The original Panorama scales report internal consistency reliability ranging between $\alpha = 0.68$ and $\alpha = 0.78$ [12]. For this study, selected items were adapted linguistically and contextually to ensure clarity for Grade 5 EFL learners in the UAE (for example, replacing 'this class' with 'English' to align items with the study subject), and visual support was added to help students interpret the 5-point Likert scale.

Data Analysis

Statistical analyses were conducted using IBM SPSS Statistics, Version 27. Prior to inferential testing, the Kolmogorov–Smirnov and Shapiro–Wilk tests were used to assess the distribution of the Panorama Survey scale scores. Because these tests indicated violations of the normality assumption across all four scales ($p < .001$), the Mann–Whitney U test was used to compare engagement scores between the experimental and control groups rather than parametric alternatives. Effect sizes were calculated using Rosenthal's r formula ($r = Z/\sqrt{N}$) and interpreted according to Cohen's benchmarks: small ($r = .10-.29$), medium ($r = .30-.49$), and large ($r \geq .50$) [13]. The level of significance was set at $\alpha = .05$.

RESULTS

Reliability and Normality

Internal consistency reliability of the four Panorama Survey domains was acceptable to good: Pedagogical Effectiveness ($\alpha = .870$, 7 items), Classroom Rigorous Expectations ($\alpha = .840$, 5 items), Subject Valuing ($\alpha = .716$, 4 items), and Classroom Learning Strategies ($\alpha = .746$, 3 items). Shapiro–Wilk tests indicated that all four engagement-related scales were not normally distributed across the overall sample and within both groups (all $p < .001$; Table 1), confirming the appropriateness of the non-parametric Mann–Whitney U test for the between-group comparisons that follow.

Group Comparisons on Panorama Survey Items

A series of Mann–Whitney U tests compared control and experimental students' responses across all 20 Panorama Survey items (Table 2).

Table 1. Shapiro–Wilk Normality Test Results for the Panorama Survey Scales (N = 158)

Scale	Group	N	Mean	SD	W	p
Pedagogical Effectiveness	Control	80	3.96	0.88	.917	< .001
Pedagogical Effectiveness	Experimental	78	4.51	0.63	.779	< .001
Classroom Rigorous Expectations	Control	80	3.83	0.94	.926	< .001
Classroom Rigorous Expectations	Experimental	78	4.36	0.75	.819	< .001
Subject Valuing	Control	80	4.13	0.78	.888	< .001
Subject Valuing	Experimental	78	4.51	0.71	.732	< .001
Classroom Learning Strategies	Control	80	4.11	0.75	.910	< .001
Classroom Learning Strategies	Experimental	78	4.50	0.65	.757	< .001
Overall Engagement Score	Control	80	3.99	0.74	.937	< .001
Overall Engagement Score	Experimental	78	4.47	0.62	.814	< .001

Table 2. Mann–Whitney U Test Results Across the 20 Panorama Survey Items

Panorama Survey item (abridged)	U	Z	Effect size r	p
Making sure students do not get out of control	3799	-1.592	.117	.111
Making what you are learning interesting	3408	-2.752	.202	.006
Teaching in the way you learn best	3318	-3.062	.225	.002
Telling whether or not you understand a topic	3184	-3.303	.242	.001
Presenting information clearly	3139	-3.615	.265	< .0001
Comfort asking the teacher questions	3241	-3.250	.238	.001
Overall amount learned from the teacher	3725	-1.879	.138	.060
Teacher asks you to explain your answers	3824	-1.422	.104	.155
Teacher encourages you to keep trying	3398	-2.771	.203	.006
Teacher encourages you to do your best	3364	-2.841	.208	.004
Teacher checks you understand the material	3461	-2.513	.184	.012
Teacher's expectations of you	3654	-2.040	.150	.041
Interest in things learned in English	3447	-1.671	.123	.095
Connecting ideas from English to daily life	3401	-2.779	.204	.005
Importance of doing well in English	4147	-.566	.042	.571
Usefulness of English in the future	3438	-2.987	.219	.003
Trying a different way when stuck	3488	-2.448	.179	.014
Confidence finding a good way to do the work	3630	-2.179	.160	.029
Thinking about the best approach before a challenging task	3783	-1.606	.118	.108
Overall ability to figure out how to learn	3370	-2.321	.170	.020

The results indicated that 14 of the 20 items showed statistically significant differences ($p < .05$), consistently favouring the experimental group. Effect sizes, calculated using Rosenthal's r , ranged from small to medium ($r = .15-.27$), with the largest effects observed for clarity of presentation ($r = .27$), teacher awareness of student understanding ($r = .24$), and student comfort in asking questions ($r = .24$). Six items did not differ significantly between groups, including classroom management, overall amount learned, interest in English, and importance of doing well in English.

Overall Engagement Score

To provide an overall comparison of engagement between groups, a Mann–Whitney U test was conducted on the composite Overall Engagement Score, calculated as the mean of all 20 Panorama Survey items. The results indicated a statistically significant difference between the experimental group ($M = 4.47$, $SD = 0.62$) and the control group ($M = 3.99$, $SD = 0.74$), $U = 1794.00$, $Z = -4.62$, $p < .001$, $r = .37$. This moderate effect size indicates that the experimental group reported meaningfully higher overall engagement than the control group following the customized online delivery of formative assessment tasks [13].

DISCUSSION

This study examined the extent to which the customized online delivery of formative assessment tasks enhanced primary students' engagement in learning English, measured through students' self-reported responses to the Panorama Student Survey. These responses provided evidence related primarily to students' affective engagement and perceived classroom experience. The Mann–Whitney U test on the composite Overall Engagement Score indicated a statistically significant difference between the experimental and control groups ($U = 1794.00$, $Z = -4.62$, $p < .001$, $r = .37$), representing a moderate difference in favour of the experimental group, with 14 of 20 items significantly favouring the experimental group. From the perspective of Learning-Oriented Assessment, the interactive prompts and response-based activities functioned as learning tasks through which students demonstrated their understanding while teachers collected evidence, provided feedback, and planned follow-up support [14, 15].

Engagement was therefore supported not merely by responding digitally, but by students' active involvement in an assessment process connected to ongoing learning. These findings are consistent with prior research showing that seventh-grade students receiving technology lessons through Pear Deck demonstrated stronger engagement than students receiving conventional instruction [16], and with evidence of greater participation and motivation among primary EFL learners using gamified formative assessment tools [17].

A closer examination of the engagement findings suggests that the intervention was not associated with equal differences across all dimensions. The strongest differences between the experimental and control groups were concentrated in students' perceptions of instructional quality, teacher responsiveness, and classroom participation, such as clarity of presentation ($r = .27$, $p < .0001$), teacher awareness of understanding ($r = .24$, $p = .001$), and comfort asking questions ($r = .24$, $p = .001$). In contrast, items such as how important it is to do well in English ($p = .571$) and how interesting English is as a subject overall ($p = .095$) did not differ significantly between groups, suggesting that the intervention was not associated with a substantial difference in students' deeper, more dispositional orientations toward the subject. One plausible explanation is that the ten-week intervention primarily customized the delivery, pacing, monitoring, feedback, and documentation of existing curriculum activities; these changes directly influenced students' immediate classroom experiences but were not specifically designed to alter more enduring beliefs about the value of English as a subject, which may develop through cumulative learning experiences extending beyond the intervention period [18].

The features and functionalities used to customize the online delivery of formative assessment tasks appeared to make classroom participation more visible and interactive. Specifically, the anonymous response display feature and student-paced mode may have lowered participation pressure and increased students' comfort in responding, reflected in the significant Panorama items for comfort asking questions and clarity of presentation. These findings should be interpreted in light of some limitations. The affective dimension of engagement was measured through students' self-reported responses to the Panorama Student Survey; while this instrument provided valuable insight into students' perceptions

of classroom experience, motivation, and instructional support, self-report measures are inherently subject to response bias, social desirability, and individual interpretation. In addition, the comparative analyses reported here indicate association rather than causality regarding the underlying mechanisms of engagement.

Conclusion

This study examined the extent to which the customized online delivery of formative assessment tasks enhanced primary students' engagement in English language learning. The Panorama Student Survey results showed that the experimental group reported significantly higher engagement on most items, with an overall moderate engagement difference in favour of the experimental group. However, items relating to classroom management and students' general interest in and valuing of English did not differ significantly between groups, suggesting that the intervention influenced students' immediate, task-specific engagement more than their broader dispositional engagement with the subject. The study concludes that the customized online delivery of formative assessment tasks can enhance primary students' engagement with instruction and classroom participation, but that this engagement should not be assumed to extend uniformly to students' deeper valuing of the subject. Future research should examine whether sustained implementation over a longer period is associated with change in students' broader dispositional engagement with English language learning.

Acknowledgements

The author would like to express sincere appreciation to Professor Nehme Safa for his guidance and academic support throughout the doctoral research from which this study was developed. The author also extends gratitude to the participating schools, teachers, and students whose cooperation made this research possible.

Statement of Competing Interests

The authors have no competing interests.

List of Abbreviations

EFL: English as a Foreign Language; UAE: United Arab Emirates.

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