

Luis Fernando González-Beltrán
(Organizador)

Educação no Século XXI:

Perspectivas
Contemporâneas
sobre
Ensino-Aprendizagem

VOL IX



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PRÓLOGO

Los procesos de enseñanza y aprendizaje se desarrollan actualmente en escenarios caracterizados por una creciente diversidad estudiantil, nuevas formas de producción y acceso al conocimiento, transformaciones tecnológicas aceleradas y demandas profesionales cada vez más complejas. En este contexto, las instituciones educativas enfrentan el desafío de promover aprendizajes significativos e inclusivos y, al mismo tiempo, desarrollar prácticas pedagógicas capaces de incluir dimensiones cognitivas, motivacionales, sociales, corporales y tecnológicas.

El volumen *Educação no século XXI: Perspectivas Contemporâneas sobre Ensino-Aprendizagem IX* reúne investigaciones que permiten aproximarse a estos desafíos desde diferentes perspectivas. Sus contenidos destacan el análisis de los procesos de aprendizaje y acompañamiento de los estudiantes, las estrategias y metodologías utilizadas en distintos contextos formativos y las oportunidades y tensiones derivadas de la transformación digital y del creciente uso de la inteligencia artificial en la educación.

La obra se organiza en tres ejes temáticos. El primero, **Aprendizaje, Inclusión y Desarrollo del Estudiante**, concentra la atención en los sujetos que aprenden y en las condiciones necesarias para favorecer trayectorias educativas más equitativas y significativas. Los capítulos exploran la diversidad del estudiantado y las prácticas de acompañamiento universitario, la construcción de entornos neuroinclusivos en la educación superior, el desarrollo de estrategias de aprendizaje autorregulado, la relación entre interés situacional, motivación y permanencia académica, las competencias cognitivas necesarias para afrontar las exigencias del aprendizaje universitario y el papel del cuerpo y de la cognición incorporada en la construcción de aprendizajes significativos. En conjunto, estas investigaciones muestran que aprender es un proceso multidimensional que requiere atender tanto a las capacidades cognitivas como a las diferencias individuales, las motivaciones y las condiciones institucionales. Con ello se pueden estudiar, explicar y resolver problemas como los bajos desempeños en lectura y matemáticas en la prueba PISA 2025, la correlación negativa entre procrastinación y aprendizaje autorregulado, y el creciente abandono escolar.

El segundo eje, **Prácticas Pedagógicas y Formación Profesional**, muestra un sólido equilibrio al reunir experiencias y estudios centrados en las estrategias mediante las cuales la enseñanza se concreta en contextos educativos y profesionales diversos. La alfabetización académica y el aprendizaje de lenguas extranjeras, la creación de materiales por parte de los propios estudiantes, las estrategias para la enseñanza de las artes visuales, la formación deportiva en edades tempranas y el aprendizaje basado

en retos y procesos de mejora continua muestran distintas posibilidades de innovación metodológica. Más allá de sus particularidades disciplinares, estos trabajos comparten la búsqueda de experiencias educativas capaces de promover participación, autonomía, motivación y desarrollo de competencias.

El tercer eje, **Tecnologías, Inteligencia Artificial e Innovación en la Educación Superior**, aborda uno de los campos que actualmente experimenta transformaciones más aceleradas. Los capítulos analizan la relación entre experiencia digital y uso académico de herramientas de inteligencia artificial, la necesidad de una formación crítica frente a los sistemas generativos, los retos y oportunidades de la articulación entre aprendizaje presencial y virtual, las nuevas competencias profesionales demandadas por la transformación tecnológica, el empleo de Design Thinking y simulaciones gamificadas como arquitecturas de aprendizaje, el desarrollo de chatbots educativos con arquitecturas de recuperación de información y apoyo socioemocional para la tutoría universitaria, y las posibilidades de la inteligencia artificial aplicada a la formación docente y a la simulación clínica.

La tecnología, en estos estudios, no se reduce a un fin en sí misma, sino a un elemento que modifica las formas de aprender, enseñar y ejercer profesionalmente. Su incorporación educativa exige, por ello, reflexión pedagógica, desarrollo de nuevas competencias, análisis crítico y capacidad para reconocer tanto sus posibilidades como sus límites.

Los tres ejes que componen este volumen convergen en una misma preocupación: comprender cómo ofrecer experiencias educativas pertinentes ante estudiantes, contextos y formas de conocimiento que están cambiando rápidamente. Inclusión, autorregulación, innovación pedagógica, formación profesional, cultura digital e inteligencia artificial forman parte de un escenario en el que la educación debe seguir colocando en el centro los procesos humanos de aprendizaje, pensamiento y construcción de conocimiento.

Esperamos que los trabajos reunidos en esta obra contribuyan al intercambio académico y profesional y estimulen nuevas investigaciones, experiencias y propuestas capaces de responder de manera crítica, creativa e inclusiva a los desafíos educativos del siglo XXI.

Dr. Luis Fernando González Beltrán

Universidad Nacional Autónoma de México (UNAM)

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TOWARD AN EFFECTIVE YEAR-LONG TOEIC METHODOLOGY: LEARNER-CREATED MATERIALS, MOTIVATION, AND COGNITIVE ENGAGEMENT

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ABSTRACT: This exploratory mixed-methods study examines students' perceptions of a two-semester university TOEIC course in Japan that combined explicit test preparation with learner-created TOEIC materials. Drawing on Self-Determination Theory, metacognitive self-regulated learning, self-efficacy, and Bloom's taxonomy, the study analyses end-of-course questionnaire data from eleven students to consider how learner-created materials may support a more active and reflective year-long TOEIC methodology. The study focuses on three questions: how students perceived the course and its learner-created materials; what benefits and problems they identified in relation to vocabulary learning, grammar awareness, TOEIC pattern recognition, engagement, confidence, and perceived capability; and what classroom conditions appeared to make learner-created materials more or less useful. Descriptive quantitative findings indicated that students perceived

the strongest benefits in vocabulary retention, contextualised vocabulary use, grammar understanding, noticing TOEIC language patterns, and overall English development. Motivation, confidence, engagement, ownership, and responsibility were evaluated more moderately and showed greater variation. Qualitative responses suggested that learner-created materials were most valuable when they required students to analyse vocabulary, grammar, question structure, distractors, and answer logic. However, passive answer-checking, uneven task difficulty, weak TOEIC alignment, insufficient scaffolding, and over-reliance on AI reduced the perceived value of the activity. The study argues that learner-created materials can deepen TOEIC learning when they are embedded within a guided cycle of modelling, creation, peer use, explanation, feedback, revision, and reflection.

KEYWORDS: TOEIC pedagogy; learner-created materials; self-efficacy; metacognitive self-regulated learning; active and reflective learning.

1. INTRODUCTION

In many Japanese university EFL contexts, TOEIC instruction often emphasises test familiarity, vocabulary acquisition, grammar review, and repeated practice with multiple-choice items (Kamiya, 2024; Stringer

& Jordan, 2025). While these approaches can help students become familiar with the test format, they may also reproduce teacher-centred routines in which students complete exercises, receive explanations, and check answers passively (Amar, 2021; Lee & Eronen, 2025). This is a particular concern in year-long TOEIC courses, where repeated test practice alone may not be sufficient to sustain active and reflective engagement with language learning (Oga-Baldwin et al., 2022; Yabukoshi, 2024; Yang, 2024).

In response to this issue, the present study examines a two-semester university TOEIC course in which students not only completed exercises from a TOEIC coursebook, but also created TOEIC-themed materials for classroom use. These tasks were intended to help students move beyond answer selection by requiring them to select vocabulary, consider grammar and question structure, create answer choices, explain reasoning, and reflect on peer responses. This exploratory mixed-methods study analyses end-of-course questionnaire data to identify how students perceived the course and which methodological features may be useful for designing a more active and reflective year-long TOEIC methodology.

2. LITERATURE REVIEW

2.1. WASHBACK AND TOEIC INSTRUCTION

Standardised English tests can exert strong washback on classroom practice. Washback refers to the influence that tests have on teaching and learning, including the content teachers prioritise, the skills students practise, and the ways in which success is measured. In language testing research, this influence has often been discussed in relation to curriculum narrowing, teacher behaviour, learner psychology, and the prioritisation of test-oriented routines over broader language development (Cheng, 2005; Newfields, 2005). In Japan, this issue is particularly relevant because English education has often been shaped by examination-oriented learning, and recent work continues to question whether receptive-skill testing alone can adequately represent wider English proficiency (Kamiya, 2024; Paxton et al., 2022).

TOEIC occupies a distinctive position within Japanese university English education. Although it is not generally a university entrance examination, it is widely treated as a practical measure of English ability for employment, institutional benchmarking, and student self-improvement (IIBC, 2025a; IIBC, 2025b; Kawabata, 2024). Its clear format and measurable scores can provide students with a concrete learning goal. However, the same clarity can also narrow classroom practice if instruction becomes dominated by repeated item practice, vocabulary memorisation, grammar review, timed

exercises, and answer-checking routines (Allen & Tahara, 2021; Kamino & Hooper, 2024). Previous TOEIC-related research has suggested that direct test preparation does not automatically produce uniform score gains and that TOEIC washback can influence curriculum design, class placement, and teacher perceptions (Newfields, 2005; Robb & Ercanbrack, 1999; Shimomura, 2016).

Test-focused practice remains useful because familiarity with TOEIC item types, timing, vocabulary, grammar, listening demands, and reading strategies can support students' preparation, especially when score improvement is an important goal (Yabukoshi, 2024). However, a year-long TOEIC course requires more than repeated practice alone. If students spend two semesters mainly answering multiple-choice questions and receiving teacher explanations, the course may become efficient in a narrow test-preparation sense but limited as a sustained language-learning methodology. For this reason, a year-long TOEIC course needs to retain the practical benefits of test preparation while also supporting learner engagement, autonomy, reflection, and continued improvement beyond the classroom (Amar, 2021; Kamino & Hooper, 2024; Oga-Baldwin et al., 2022; Yabukoshi, 2024).

2.2. SELF-DETERMINATION THEORY AND MOTIVATION

It is necessary to consider not only whether students are motivated, but also the quality of that motivation. In Self-Determination Theory (SDT), intrinsic motivation refers to engaging in an activity because it is interesting, enjoyable, or satisfying in itself, while extrinsic motivation refers to engagement driven by outcomes outside the activity, such as grades, scores, employment, graduation, or institutional expectations (Noels et al., 2000; Ryan & Deci, 2000; Ryan & Deci, 2017). SDT explains motivation through the satisfaction or frustration of three basic psychological needs: autonomy, competence, and relatedness (McEown & Oga-Baldwin, 2019; Ryan & Deci, 2017). Autonomy refers to learners' sense of choice, ownership, or personal reason for learning; competence refers to their sense that they are capable of improving and succeeding; and relatedness refers to feeling connected, supported, and respected within the classroom. In the Japanese EFL context, SDT-based research has shown that motivation cannot be separated from students' perceptions of classroom support, confidence, and opportunities to participate meaningfully in learning (Oga-Baldwin, 2020; Kamino & Hooper, 2024).

This framework is particularly relevant to year-long TOEIC instruction because test preparation can easily remain externally driven. Students may recognise the practical value of TOEIC but still engage mainly through obligation, score pressure, or teacher direction.

However, SDT does not treat all extrinsic motivation as the same. It distinguishes between controlled forms of extrinsic motivation and more autonomous forms, such as identified regulation, where learners understand the personal value of an activity and connect it to their own goals (Noels et al., 2000; Ryan & Deci, 2000; Ryan & Deci, 2017). In TOEIC learning, this distinction is important because students may not find test preparation intrinsically enjoyable, but they may still engage more meaningfully when they understand its relevance to their own academic, professional, or personal goals. In Japanese tertiary EFL contexts, research has suggested that more autonomous motivation is closely connected to classroom support, perceived competence, opportunities for meaningful participation, and positive teacher-student or peer relationships (Kamino & Hooper, 2024; McEown & Oga-Baldwin, 2019; Oga-Baldwin, 2020).

Learner-created TOEIC materials may support this shift by giving students a more active role in the learning process. When students select vocabulary, design questions, create answer choices, explain reasoning, and consider how classmates will use their materials, they are no longer only responding to teacher-selected test items. If students experience this process as interesting, challenging, or personally meaningful, material creation may support elements of intrinsic motivation. However, because TOEIC study is often score-oriented, learner-created materials may more realistically support autonomous extrinsic motivation by helping students see personal value in the task, experience competence through successful question design, and connect their work to peer learning. Previous research on student-generated learning activities suggests that such tasks can encourage learners to take a more active role in constructing and evaluating learning materials when sufficient guidance is provided (Hofstee, 2025; Yu & Wu, 2020). In this study, SDT therefore provides a useful lens for examining whether learner-created materials contributed to motivation, ownership, responsibility, and engagement.

2.3. METACOGNITION AND REFLECTIVE TOEIC LEARNING

Motivation alone does not necessarily lead to sustained engagement unless students know how to plan, monitor, and regulate their own learning (Sasaki & Takeuchi, 2024). Metacognition refers to learners' awareness and control of their own cognitive processes, while self-regulated learning involves setting goals, selecting strategies, monitoring performance, and reflecting on outcomes (Flavell, 1979; Pintrich & De Groot, 1990; Zimmerman, 2000). Zimmerman's model is particularly useful here because it views learning as a cyclical process of forethought, performance, and self-reflection rather than simple task completion (Zimmerman, 2000; Panadero, 2017; Yabukoshi, 2023). In

TOEIC instruction, this suggests that students need to do more than practise listening and reading questions; they also need to set goals, notice errors, evaluate progress, and adjust their study strategies over time.

This is especially relevant in Japanese EFL contexts, where earlier English learning has often been associated with grammar explanation, vocabulary memorisation, teacher-fronted instruction, and answer checking. Such practices may support linguistic knowledge, but they do not always require learners to reflect on how they learn or why particular errors occur. Recent studies therefore suggest that metacognitive self-regulated learning strategies should be explicitly supported through course design rather than left for students to develop alone (Sasaki & Takeuchi, 2024; Ueno et al., 2025; Yang et al., 2025). In TOEIC-related research, metacognitive vocabulary strategies have been linked to TOEIC scores, while self-regulated listening strategies have been organised around planning, monitoring, and evaluating independent practice (Mizumoto & Takeuchi, 2009; Yabukoshi, 2024). Learner-created TOEIC materials may support this process because students must select target language, create distractors, explain answers, review peer responses, and consider why particular mistakes occur. In this study, metacognition therefore provides a lens for examining whether material creation encouraged students to move beyond answer checking towards more reflective and strategic TOEIC learning.

2.4. SELF-EFFICACY

Self-efficacy is also relevant to TOEIC instruction because learners' beliefs about their ability to complete test-related tasks may affect effort, persistence, and willingness to engage with difficult items. In TOEIC classes, students may experience low scores, unfamiliar vocabulary, complex grammar, dense reading passages, time pressure, and fast listening input as repeated evidence of what they cannot yet do. If preparation is organised mainly around answering questions, checking scores, and correcting mistakes, students may become aware of their weaknesses without necessarily developing a stronger belief that they can improve.

Bandura's theory of self-efficacy suggests that learners' beliefs about their capability influence whether they attempt a task, how much effort they invest, and how long they persist when difficulties arise. A central source of self-efficacy is mastery experience, or repeated experiences of successful performance that help learners believe they can handle similar tasks in the future (Bandura, 1997). In TOEIC-related contexts, previous research has shown that reading self-efficacy is associated with TOEIC reading performance among Japanese university students, and that confidence

can develop when learners understand question types, recognise vocabulary and grammar patterns, and experience improvement during TOEIC preparation (Burrows, 2016; Hong & Phan, 2020).

Learner-created TOEIC materials may therefore provide smaller mastery experiences when students identify target language points, create questions, explain correct answers, and revise their work through feedback. Rather than simply receiving evidence that an answer is right or wrong, students can experience themselves as capable of understanding how TOEIC items are constructed. In this study, self-efficacy therefore provides a lens for examining whether learner-created materials contributed to students' confidence, perceived progress, and sense of mastery.

2.5. BLOOM'S TAXONOMY AND HIGHER-ORDER THINKING IN TOEIC LEARNING

Bloom's taxonomy, particularly in its revised form, provides a useful framework for distinguishing between lower-order and higher-order cognitive demands in language learning. The revised taxonomy organises cognitive processes as remembering, understanding, applying, analysing, evaluating, and creating, with the later stages more closely associated with judgement, transfer, and production rather than simple retention (Anderson & Krathwohl, 2001; Krathwohl, 2002). This framework is relevant to TOEIC instruction because conventional test preparation often involves remembering vocabulary, understanding grammar explanations, and applying test-taking strategies to multiple-choice questions. These processes are necessary, but they may not be sufficient for sustaining engagement across a full academic year or for developing learners' ability to think strategically about language and task design (Anderson & Krathwohl, 2001; Haga, 2018; Krathwohl, 2002).

In Japanese EFL contexts, classroom interaction has often been shaped by teacher questioning, answer checking, and exam-oriented routines. Previous research suggests that lower-order questions tend to dominate classroom discourse and that students may need explicit support to practise higher-order questioning in English (Sano, 2014; Takeda, 2018). This is relevant to learner-created TOEIC materials because creating a TOEIC-style item requires more than selecting a correct answer. For example, when students create a Part 5 grammar question, they must identify the target grammar point, evaluate possible distractors, judge difficulty, and produce an item that is clear, accurate, and appropriately TOEIC-like. Similarly, creating reading or listening questions requires attention to text structure, vocabulary load, ambiguity, inferencing, and learner accessibility.

Learner-created TOEIC materials can therefore provide opportunities for students to move from lower-order test response towards higher-order task construction. Previous research has shown that explicit training with Bloom’s taxonomy can help Japanese university EFL students generate more cognitively demanding questions, while research on student-generated activities suggests that such tasks can encourage learners to construct, evaluate, and revise learning materials when sufficient guidance is provided (Haga, 2018; Hofstee, 2025; Maplethorpe et al., 2022; Yu & Wu, 2020). In this study, Bloom’s taxonomy provides a lens for examining whether learner-created TOEIC tasks encouraged students to analyse vocabulary and grammar, evaluate answer choices, explain reasoning, and create materials for peer use.

Table 1. Summary of theoretical framework.

Construct	Relevance to the present study
Washback and TOEIC instruction	Explains why TOEIC classes may become narrow, repetitive, and teacher-centred, creating the need for a broader year-long methodology.
Motivation / Self-Determination Theory	Helps examine whether learner-created TOEIC materials support autonomy, competence, relatedness, and more meaningful engagement.
Metacognition / Self-regulated learning	Explains the need for students to plan, monitor, evaluate, and adjust their TOEIC learning strategies.
Self-efficacy	Helps examine whether learner-created materials build confidence through visible progress and mastery experiences.
Bloom’s taxonomy / Higher-order thinking	Provides a framework for understanding how TOEIC learning can move from remembering and applying towards analysing, evaluating, and creating.

3. LEARNER-CREATED MATERIALS

Learner-created materials may be valuable in TOEIC instruction because creating a TOEIC-style item requires students to engage with the test at a structural level. To design vocabulary, grammar, listening, or reading tasks, students need to understand the target format, select an appropriate language focus, create a meaningful context, write plausible distractors, and judge whether the item is clear, accurate, and appropriately difficult. This process encourages students to think about why TOEIC items work, rather than simply whether they can answer them correctly. Research on student-generated questions supports this view, suggesting that such activities can contribute to reading comprehension, language development, creativity, and perceived understanding when students are actively involved in constructing learning tasks (Maplethorpe et al., 2022; Yu et al., 2023).

However, the value of learner-created materials depends heavily on guidance. If students are simply asked to “make TOEIC questions”, they may produce items that are too simple, unclear, linguistically inaccurate, or poorly aligned with the target skill. Previous research with Japanese university EFL students has shown that student-generated materials can be viewed positively, but that clear guidance, feedback, and task criteria are needed to maintain quality (Hofstee, 2025). Similarly, research on student-generated grammar questions indicates that scaffold design can affect the usefulness and quality of students’ questions (Lin & Yu, 2025). Learner-created TOEIC tasks should therefore be treated as a guided process involving models, criteria, peer use, explanation, feedback, revision, and reflection, rather than as a one-off creative activity.

In the present course, students first worked with TOEIC-style materials from coursebook units and practice tests, focusing not only on answer practice but also on why answers were correct or incorrect and how distractors functioned. Approximately once every two weeks, they then created their own TOEIC-themed materials, which classmates completed in class. This was followed by discussion of answers, explanation of reasoning, clarification of confusing points, and reflection on what had been learned. The activity was therefore intended to connect test preparation with peer teaching, error analysis, collaborative evaluation, and higher-order thinking. In this sense, learner-created materials were not separate from TOEIC preparation, but a way of deepening it by encouraging students to notice, analyse, explain, revise, and create within a TOEIC-focused framework.

4. RESEARCH FOCUS

Although TOEIC instruction often focuses on language mechanics and test-taking strategies, the literature reviewed above suggests that learner-created materials may help students engage more actively with vocabulary, grammar, question structure, and answer logic when sufficient guidance is provided. This exploratory study examines end-of-course questionnaire data from a two-semester TOEIC course to identify how students perceived the course design and which features may inform a more active and reflective year-long TOEIC methodology. The study is guided by the following research questions:

RQ1. How did students perceive the two-semester TOEIC course and its learner-created materials?

RQ2. What benefits and problems did students identify in relation to vocabulary learning, grammar awareness, TOEIC pattern recognition, engagement, confidence, and perceived capability?

RQ3. What classroom conditions appeared to make learner-created TOEIC materials more or less useful for active and reflective TOEIC learning?

5. METHODOLOGY

5.1. RESEARCH DESIGN

This study employed an exploratory mixed-methods design to examine students' perceptions of a two-semester university TOEIC course. The study was guided by several related theoretical lenses: Self-Determination Theory, including intrinsic and extrinsic motivation, metacognitive self-regulated learning, self-efficacy, and Bloom's taxonomy. Quantitative data were used to identify broad patterns in student perceptions, while qualitative responses provided further insight into students' experiences of learner-created materials, peer use, confidence, error awareness, engagement, and task difficulty. As this was an exploratory classroom-based study, the questionnaire was designed to capture students' perceptions rather than to function as a validated psychological measurement instrument.

5.2. CONTEXT AND PARTICIPANTS

The study was conducted in a university TOEIC course taught over two semesters. The course combined textbook-based TOEIC preparation, teacher explanation, digital tools such as Quizlet and Kahoot, test practice, and learner-created TOEIC-themed materials. Participants were eleven third-year students at a private university in Tokyo who had recently returned from a study abroad programme. The group consisted of six male and five female students. Mean TOEIC scores increased from 584.5 before the course to 654.3 at the end of the course; however, these scores are used only to contextualise the study and not to make causal claims about improvement.

5.3. INSTRUMENT AND DATA ANALYSIS

Data were collected through an end-of-course questionnaire that included background information, Likert-scale course evaluation items, project-specific items, open-ended reflective questions, and a checkbox item asking students to identify helpful aspects of the project. The questionnaire examined students' perceptions of the overall TOEIC course and the learner-created materials project, including motivation, confidence, ownership, responsibility, vocabulary retention, grammar understanding, TOEIC pattern awareness, engagement, and perceived learning.

Quantitative responses were analysed descriptively using means and standard deviations. Agreement items were coded from 1 to 6, with strongly disagree coded as 1 and strongly agree coded as 6; satisfaction items were coded from very unsatisfied (1) to very satisfied (6). Qualitative responses were analysed thematically. Five themes were identified: active engagement through task creation and practice; vocabulary, grammar, and TOEIC pattern awareness; confidence through clearer understanding; the mixed value of peer-created materials; and reduced engagement during passive or insufficiently scaffolded activities. Quantitative and qualitative findings were then integrated in the discussion to identify which course features appeared most useful or problematic.

5.4. ETHICAL CONSIDERATIONS

At the beginning of the course in April 2025, students were informed of the purpose of the classroom-based research, the nature of the learner-created materials activities, and the intended use of questionnaire responses. Participation was voluntary and did not affect course grades or credits. Questionnaire data were collected during the final two classes of the course. No names, student numbers, or other directly identifying information were included in the research dataset. Because responses could not be linked to individual students after submission, withdrawal was possible only before questionnaire submission.

6. RESULTS

The results are organised around three areas: students' overall perceptions of the two-semester TOEIC course and learner-created materials; the perceived benefits and problems of the materials; and the classroom conditions that appeared to make learner-created TOEIC materials more or less useful for active and reflective TOEIC learning.

6.1. QUANTITATIVE FINDINGS

6.1.1. Overall perceptions of the course

Overall course evaluation items were generally positive (refer to Appendix 1). Students rated the pacing of the lessons most favourably, $M = 4.82$, $SD = 0.75$. The amount of TOEIC practice provided in class was also rated highly, $M = 4.73$, $SD = 0.65$. The combined item on teacher explanation clarity and lesson engagement received the same mean score, $M = 4.73$, $SD = 0.65$. Kahoot was also evaluated positively, $M = 4.64$, $SD = 0.81$. General satisfaction with the TOEIC classes was moderately positive, $M = 4.27$,

SD = 0.90. Preparation for the TOEIC format and the usefulness of activities for improving TOEIC skills both produced means of $M = 4.18$, $SD = 0.98$. The textbook item received the lowest mean among the general course items, $M = 3.82$, $SD = 1.17$, suggesting a more mixed perception of its relevance to TOEIC preparation.

Taken together, these results suggest that students generally viewed the course as organised, appropriately paced, and useful for TOEIC practice. However, the lower score for textbook relevance indicates that not all course components were perceived as equally effective.

6.1.2. Perceived effects of learner-created materials

The learner-created materials items showed a more differentiated pattern. The strongest responses were found in items related to language awareness and perceived language development. Students responded positively to the statement that creating materials helped them understand sentence structure or grammar more clearly, $M = 4.60$, $SD = 0.84$. They also responded positively to the statement that creating materials helped them remember vocabulary better, $M = 4.55$, $SD = 0.69$, and helped improve their overall English ability, $M = 4.55$, $SD = 0.69$. Items relating to noticing TOEIC language patterns and using vocabulary in context also received positive means of $M = 4.45$, $SD = 0.82$.

By contrast, motivation, confidence, and engagement were less consistent. The items “Creating TOEIC-themed materials made me more motivated to learn TOEIC” and “Creating TOEIC-themed materials increased my confidence in TOEIC learning” both produced means of $M = 3.91$, $SD = 1.22$. The item “Lessons using student-created materials were more engaging than normal teacher-led TOEIC lessons” produced the lowest mean among the learner-created materials items, $M = 3.73$, $SD = 1.49$. This indicates that students did not experience learner-created materials as consistently more motivating, confidence-building, or engaging than other forms of TOEIC instruction.

Ownership and responsibility were evaluated moderately positively. Students rated ownership of learning at $M = 4.00$, $SD = 1.00$, and responsibility because classmates used their materials at $M = 4.00$, $SD = 1.18$. These results suggest that students recognised some value in producing materials for peer use, although the responses were not as strong as those for vocabulary, grammar, and language awareness.

The negatively framed item, “Student-created materials were confusing or less effective than teacher materials,” also requires attention. This item received $M = 4.00$, $SD = 1.26$. Since agreement with this item indicates a perceived weakness, this result suggests that several students found peer-created materials confusing or less effective than teacher-produced materials. This does not negate the positive responses to other

project items, but it does show that student-created materials were not perceived as uniformly effective.

6.2. QUALITATIVE FINDINGS

6.2.1. Active engagement through creating and practising TOEIC tasks

Several students described feeling engaged when TOEIC learning involved active participation. One student reported feeling most engaged when making their own TOEIC questions because the task required careful thought about vocabulary and grammar. This comment suggests that the act of creating materials was engaging when it required students to make decisions about language and question design. However, learner-created materials were not the only source of engagement. Other students described being engaged by listening practice, Kahoot, quiz-based competition, homework, and test practice. These comments suggest that students responded positively to active TOEIC learning more broadly, especially when tasks required concentration, competition, practice, or visible progress. Therefore, the qualitative findings indicate that engagement depended less on whether the activity was student-created or teacher-led, and more on whether the activity required meaningful participation.

6.2.2. Vocabulary, grammar, and noticing TOEIC patterns

A second theme concerned vocabulary learning, grammar awareness, and noticing TOEIC language patterns. Several students commented that creating or using materials helped them understand words, remember vocabulary, or recognise the structure of TOEIC questions. One student wrote that they understood how to use words through the project. Another stated that selecting unfamiliar words helped them learn more vocabulary. A further student explained that creating a Part 5 question helped them understand why answers were wrong. These comments help explain why the quantitative items related to vocabulary retention, vocabulary in context, grammar understanding, and noticing TOEIC patterns received some of the strongest responses. The qualitative data suggest that students valued the project when it helped them move beyond memorising isolated answers and instead think about how vocabulary and grammar functioned within TOEIC-style questions.

6.2.3. Confidence through clearer understanding

A third theme concerned confidence. Several students linked increased confidence to clearer understanding of TOEIC questions or vocabulary. One student reported that

their confidence increased because they understood TOEIC questions better by making the questions themselves. Another student stated that creating TOEIC questions helped them understand the structure of the questions better and gave them confidence. A further student wrote that creating a vocabulary list increased their confidence. However, confidence did not increase for all students. One student stated that their confidence had not changed, while another suggested that the project had only a limited effect because they had used AI to produce documents, although the process still helped them remember some vocabulary. These comments help explain why the quantitative confidence item was positive but more variable than the vocabulary and grammar items. Confidence appeared to increase when students experienced clearer understanding or visible progress, but this was not consistent across all participants.

6.2.4. Peer-created materials: useful but quality-dependent

A fourth theme concerned the mixed value of peer-created materials. Some students found classmates' materials useful when they were clear and well organised. For example, one student stated that a classmate's grammar materials were helpful because they included a clear chart comparing similar verb tenses. This suggests that peer-created materials could support learning when they provided accessible explanations and useful organisation. However, the usefulness of peer-created materials depended strongly on quality. Some students reported that materials were too simple, unclear, or less effective than teacher-produced materials. One student stated that they felt bored when working on simple materials because the questions were too easy. Another comment suggested that student-created materials needed more explanation time so that students could understand them better. These responses help explain why the negatively framed quantitative item on student-created materials being confusing or less effective received a relatively high mean. The qualitative data suggest that students did not reject peer-created materials, but they did recognise problems when those materials lacked clarity, difficulty, or sufficient explanation.

6.2.5. Reduced engagement during insufficiently scaffolded activities

A fifth theme concerned moments of low engagement. Students reported feeling less engaged when lessons became passive, overly long, too easy, or weakly connected to their learning needs. One student stated that they felt least engaged when the class only checked answers without discussion. Another student reported lower engagement during long explanations. A further student felt bored when working on simple materials

because the questions were too easy. These comments suggest that low engagement was associated with passive answer-checking, limited discussion, insufficient challenge, and lack of interaction. They also help explain why the quantitative engagement item showed greater variation than the vocabulary and grammar items. Student-created materials did not automatically make lessons more engaging. They were more effective when they required active thought, discussion, explanation, and appropriate challenge.

6.2.6 Need for clearer scaffolding, TOEIC alignment, and AI-use rules

Several students suggested ways to improve the project. One student wanted more explanation time so that students could understand the materials better. Another suggested making the project simpler. Another comment stated that the course should be more closely aligned with the actual TOEIC test. These responses indicate that some students saw value in the project but wanted clearer structure, stronger support, and a more visible connection to TOEIC preparation.

AI use also appeared as a complicating factor. One student commented that some student-created materials appeared to have been copied and pasted from ChatGPT. Another student reported using AI to make documents and stated that, although the effect was limited, they remembered some of the content, such as vocabulary. These comments raise the possibility that AI use reduced the learning value of the task when it appeared to replace students' own thinking or material construction. At the same time, the comments also suggest that AI use did not make the activity entirely meaningless, since one student still reported some vocabulary benefit. The issue, therefore, was not simply whether AI was used, but how it was used and whether students remained responsible for the main cognitive work.

7. DISCUSSION

The findings suggest that the project had pedagogical value, but not in a simple or uniform way. The strongest evidence was found in students' perceptions of vocabulary learning, grammar awareness, contextualised language use, and noticing TOEIC language patterns. By contrast, motivation, confidence, engagement, ownership, and responsibility were positive but more moderate and variable. This suggests that learner-created TOEIC materials should not be understood as automatically motivating, confidence-building or effective. Rather, their value depends on the extent to which they are clearly scaffolded, appropriately challenging, connected to TOEIC demands, and used in ways that require genuine analysis, explanation, reflection, and revision.

7.1. RQ1. STUDENTS' PERCEPTIONS OF THE TWO-SEMESTER TOEIC COURSE AND ITS LEARNER-CREATED MATERIALS

Students generally perceived the two-semester TOEIC course positively. From an SDT perspective, the findings appear to indicate stronger support for competence than for autonomy or relatedness. Students evaluated lesson pacing, TOEIC practice, teacher explanation, and classroom activities positively, suggesting that the course was perceived as structured, manageable, and useful for TOEIC preparation. These features are important because TOEIC instruction can easily become dominated by repeated item practice and answer-checking routines. The findings suggest that students valued explicit TOEIC preparation when it was organised clearly and supported by varied classroom activities.

Students' perceptions of learner-created TOEIC materials were more mixed. Autonomy and relatedness were less visible in the general course structure but became more relevant in the learner-created materials project. Creating materials for classmates gave students some responsibility for content, question design, and peer learning. However, the findings also show that autonomy and relatedness did not develop automatically in terms of motivation, engagement, ownership, and responsibility. Some students responded more positively when activities were active, useful, appropriately challenging, and clearly connected to TOEIC improvement. Others were less engaged when materials were too simple, unclear, or insufficiently explained. A year-long TOEIC methodology should therefore retain structured teacher support while giving students more opportunities to make decisions, explain learning points to peers, revise their work, and reflect on progress.

7.2. RQ2. WHAT BENEFITS AND PROBLEMS DID STUDENTS IDENTIFY IN RELATION TO VOCABULARY LEARNING, GRAMMAR AWARENESS, TOEIC PATTERN RECOGNITION, ENGAGEMENT, CONFIDENCE, AND PERCEIVED CAPABILITY?

The clearest benefits of learner-created materials concerned vocabulary retention, vocabulary in context, grammar understanding, TOEIC pattern awareness, and perceived overall English improvement. These results suggest that students perceived the project as most useful when it helped them understand how TOEIC language works. This finding aligns closely with research on metacognitive and self-regulated learning, which emphasises planning, monitoring, evaluating, and adjusting learning strategies over time (Zimmerman, 2000; Sasaki & Takeuchi, 2024; Yabukoshi, 2024). Creating TOEIC

materials can require students to select target vocabulary or grammar, consider possible mistakes, design answer choices, and judge whether a question is clear and appropriate. These processes involve more than completing TOEIC items; they require students to think about the structure and logic of the task itself.

The qualitative findings support this interpretation. Students reported that creating questions helped them understand why answers were wrong, recognise question structure, and learn unfamiliar vocabulary. These comments suggest that learner-created materials encouraged students to monitor their own understanding and analyse the reasons behind errors. This is particularly important because one student specifically identified answer-checking without discussion as a moment of low engagement, suggesting that feedback limited to correct or incorrect answers may reduce the reflective value of TOEIC practice. The present findings suggest that learner-created materials may help shift attention from answer outcomes to learning processes.

The confidence-related findings can also be interpreted through self-efficacy. TOEIC preparation often draws students' attention to errors, low scores, and gaps in vocabulary or grammar knowledge. While this feedback can be useful, it may also reinforce negative views of students' English ability if it is not balanced with visible evidence of progress. In this study, the quantitative confidence item was moderately positive but not as strong as the vocabulary and grammar items. Some students reported increased confidence when they understood TOEIC question structure more clearly or created vocabulary lists that helped them remember content. These experiences can be interpreted as small mastery experiences, which Bandura identifies as a central source of self-efficacy (Bandura, 1997).

At the same time, confidence remained uneven across students. Some students reported no change in confidence, and AI use appeared to complicate the relationship between task completion and perceived progress. If students rely heavily on AI, they may complete the visible product without necessarily experiencing the full cognitive process of constructing the task themselves. This may weaken the confidence-building value of the task. For learner-created materials to support confidence, students need achievable but challenging tasks, clear feedback, visible progress markers, and opportunities to revise successfully.

The findings also suggest that learner-created materials may help move TOEIC learning beyond lower-order test response, but this potential is not automatic. Traditional TOEIC preparation often involves remembering vocabulary, understanding grammar explanations, and applying strategies to multiple-choice questions. These

are necessary processes, but they do not always require students to analyse why an item works, evaluate the quality of answer choices, or create new test-like materials. By contrast, when students create TOEIC-style questions, they may need to analyse the target language point, evaluate distractors, judge difficulty, and create a question that is clear and answerable. This connects directly to the higher-order stages of Bloom's revised taxonomy: analysing, evaluating, and creating (Anderson & Krathwohl, 2001; Krathwohl, 2002).

However, the benefits of learner-created materials were not consistent. Motivation and engagement were mixed. Some students were engaged when creating or using peer materials, while others were bored by overly simple materials or disengaged by passive answer-checking. Some students also found peer-created materials confusing or less effective than teacher-produced materials. These findings suggest that learner-created materials became more useful when they involved active creation, useful peer interaction, appropriate difficulty, clear explanation, and visible relevance to TOEIC learning.

7.3. RQ3. WHAT CLASSROOM CONDITIONS APPEARED TO MAKE LEARNER-CREATED TOEIC MATERIALS MORE OR LESS USEFUL FOR ACTIVE AND REFLECTIVE TOEIC LEARNING?

The metacognitive, confidence-building, and higher-order value of the project depended strongly on task design. When students only checked answers without discussion, when materials were too simple or unclear, or when students perceived materials as copied from ChatGPT, the opportunity for reflective learning may have been weakened. Therefore, learner-created materials should include explicit reflection stages. Students need to explain why they chose particular vocabulary or grammar points, why distractors are plausible, what errors they expect classmates to make, and what they learned from revising their materials.

The findings suggest that learner-created TOEIC materials were most useful when they were embedded in a guided learning cycle. Useful conditions included clear models, appropriate difficulty, TOEIC alignment, explanation of answer logic, peer use, feedback, and opportunities for revision. These conditions helped students move beyond passive answer checking and encouraged them to think more actively about vocabulary, grammar, question structure, and distractors.

AI use also complicated the meaning of learner-created materials. If materials were generated by AI, the activity did not necessarily require genuine analysis, evaluation,

or creation. At the same time, AI use did not make the activity entirely meaningless, since one student still reported some vocabulary benefit. The issue, therefore, was not simply whether AI was used, but how it was used and whether students remained responsible for the main cognitive work. Students may use AI to check grammar, wording, or clarity, but they should not use it to generate complete TOEIC tasks without their own analysis. To preserve the reflective value of the activity, students should be required to provide item rationales, distractor explanations, difficulty judgements, peer feedback, and revision.

Overall, these findings suggest that learner-created materials should not be treated as inherently motivating or effective. Rather, they are useful when they require students to analyse, explain, revise, and reflect. A year-long TOEIC methodology should therefore combine explicit test preparation with guided learner-created tasks, peer use, feedback, revision, reflection, and responsible AI-use guidelines.

7.4. OVERALL INTERPRETATION

Overall, the findings suggest that learner-created TOEIC materials had pedagogical value, but that this value was uneven and depended on task design. The strongest findings concerned vocabulary retention, contextualised vocabulary use, grammar understanding, TOEIC pattern awareness, and perceived overall English development. By contrast, motivation, confidence, engagement, ownership, and responsibility were more moderate and variable. The qualitative findings help explain this pattern: students valued the project when it required active thinking about vocabulary, grammar, question structure, distractors, and answer logic, but its value was reduced by passive answer-checking, uneven difficulty, weak TOEIC alignment, insufficient explanation, and over-reliance on AI.

The contribution of this study is therefore practical and methodological rather than causal. The findings do not show that learner-created materials automatically improve TOEIC learning, motivation, confidence, or higher-order thinking. Rather, they suggest that carefully scaffolded learner-created tasks may be a useful component of TOEIC instruction when combined with explicit test preparation, teacher support, peer interaction, feedback, revision, reflection, and responsible AI-use rules.

Table 2. Integrated summary of quantitative and qualitative findings by research question.

Theoret-ical focus	Quantitative pattern	Qualitative pattern	Discussion interpretation
RQ1. How did students perceive the two-semester TOEIC course and its learner-created materials?			
Self-Determ-ination Theory; motivation; competence support	Overall course evaluation items were generally positive. Lesson pacing received the highest mean, $M = 4.82$, followed by amount of TOEIC practice, $M = 4.73$, and teacher explanation/lesson engagement, $M = 4.73$. General satisfaction was moderately positive, $M = 4.27$.	Students reported engagement during active TOEIC-related tasks such as listening practice, Kahoot, quiz-based activities, and test practice. However, some students reported lower engagement during passive answer-checking or long explanations.	The course appeared to support competence most clearly through structure, pacing, explanation, and repeated TOEIC practice. However, motivation depended on whether activities were active, useful, and appropriately challenging. Autonomy and relatedness were less visible in the general course design and became more relevant in the learner-generated materials project.
RQ2. What benefits and problems did students identify in relation to vocabulary learning, grammar awareness, TOEIC pattern recognition, engagement, confidence, and perceived capability?			
Vocabulary, grammar, TOEIC pattern recognition, engagement, confidence, and perceived capability	The strongest results were related to vocabulary retention, $M = 4.55$; contextualised vocabulary use, $M = 4.45$; grammar understanding, $M = 4.60$; noticing TOEIC patterns, $M = 4.45$; and perceived overall English development, $M = 4.55$. Motivation and confidence were moderate and variable, both $M = 3.91$. Engagement was lower and more variable, $M = 3.73$.	Students reported that creating materials helped them understand vocabulary use, learn unfamiliar words, recognise question structure, and understand why answers were wrong. Confidence increased for some students through clearer understanding, but not for all. Problems included confusing, overly simple, or less effective peer-created materials.	The clearest benefits concerned language awareness and reflective understanding of TOEIC items. Self-efficacy/perceived capability appeared to improve only when students experienced visible progress or small mastery moments. Engagement and confidence were not automatic and depended on task quality and students' own involvement.
RQ3. What classroom conditions appeared to make learner-created TOEIC materials more or less useful for active and reflective TOEIC learning?			
Scaffolding, TOEIC alignment, explanation, feedback, revision, and AI-use rules	The quantitative pattern showed strong perceived benefits for vocabulary and grammar, but also an important caution: the item "Student-created materials were confusing or less effective than teacher materials" received $M = 4.00$, $SD = 1.26$. This indicates that quality and clarity were significant issues.	Students wanted more explanation time, clearer scaffolding, stronger TOEIC alignment, and better difficulty calibration. Passive answer-checking, long explanations, overly easy materials, and perceived copying from ChatGPT reduced engagement and perceived usefulness.	Learner-created TOEIC materials were most useful when embedded in a guided cycle of modelling, creation, peer use, explanation, feedback, revision, and reflection. AI use should be guided so that students remain responsible for selecting language, explaining answer logic, judging distractors, and reflecting on learning.

8. PEDAGOGICAL IMPLICATIONS AND RECOMMENDATIONS

The findings suggest that learner-created TOEIC materials should remain part of a year-long TOEIC course, but only as a carefully guided activity. The strongest perceived benefits were related to vocabulary retention, grammar awareness, contextualised language use, and noticing TOEIC patterns. However, students also identified weaknesses, including unclear or overly simple materials, insufficient explanation, weak TOEIC alignment, passive answer-checking, and inappropriate reliance on AI.

A revised methodology should therefore combine explicit TOEIC preparation with structured opportunities for students to create, explain, evaluate, revise, and reflect on TOEIC-style tasks. First, students should be given clear models of effective TOEIC-style questions before creating their own materials. These models should show how to select a target language point, create a meaningful context, design plausible distractors, judge difficulty, and explain answer logic. Second, the course should follow a staged two-semester structure. The first semester should provide stronger teacher support through TOEIC format awareness, vocabulary and grammar development, guided item analysis, and small-scale material creation. The second semester can gradually increase peer completion, explanation, feedback, comparison, revision, and independent production. Third, feedback and revision should become central. Students should explain their target language point, justify the correct answer, explain distractor logic, identify likely errors, and revise unclear or overly simple items. This would strengthen the metacognitive and self-efficacy value of the task. Fourth, passive answer-checking should be reduced. Teacher explanation remains important, but it should lead into pair comparison, peer teaching, discussion of common errors, student explanation of answer logic, or revision of weak items. Finally, AI use should be guided rather than banned. Students may use AI to check grammar, wording, or clarity, but they should not use it to generate complete TOEIC tasks without their own analysis. To preserve the cognitive value of the activity, students should submit a short rationale explaining what they created, why the correct answer is correct, why the distractors are plausible, and what they learned.

9. LIMITATIONS

This study has several limitations. First, the sample size was small, with data collected from eleven students in a single university TOEIC course. The findings therefore cannot be generalised to all Japanese university TOEIC contexts. Second, the data were based on students' self-reported perceptions at the end of the course. Although these responses provide useful insight into how students experienced the course, they do

not directly show changes in learning, motivation, self-efficacy, or higher-order thinking. Third, the questionnaire was designed for this exploratory classroom-based study and was not a validated psychological measurement instrument. The findings should therefore be interpreted as descriptive and exploratory rather than as evidence of measured psychological change. Fourth, the TOEIC score increase reported in the course context should be treated cautiously. Many factors may have influenced students' scores, including previous study abroad experience, textbook practice, teacher explanation, homework, test familiarity, and individual study outside class. The score increase is therefore used only to contextualise the course and should not be interpreted as evidence that learner-created materials caused improvement. Fifth, the qualitative analysis was conducted within the practical constraints of a classroom-based study. Although themes were identified from students' open-ended responses, the analysis was not supported by multiple coders or inter-rater reliability checks. Finally, AI use was not fully controlled during the course. Some students' comments suggested that ChatGPT or other AI tools may have influenced the creation of materials. This makes it difficult to determine how much of the learning value came from students' own analysis and material design. These limitations mean that the findings should be understood as a cautious starting point for improving year-long TOEIC methodology rather than as conclusive evidence of effectiveness.

10. CONCLUSION

This exploratory mixed-methods study examined students' perceptions of a two-semester university TOEIC course that combined explicit TOEIC preparation with learner-created materials. The aim was not to prove the causal effectiveness of a fixed intervention, but to identify a more theoretically grounded direction for designing a year-long TOEIC methodology.

Overall, the findings suggest that learner-created TOEIC materials can be valuable when they are carefully guided. Their strongest contribution was not that they made TOEIC study more enjoyable in a general sense, but that they encouraged students to think more carefully about vocabulary, grammar, question structure, distractors, and answer logic. However, motivation, confidence, engagement, ownership, and responsibility were more variable, and the value of the activity was weakened by poor scaffolding, passive answer-checking, uneven difficulty, weak TOEIC alignment, insufficient explanation, and excessive reliance on AI.

The contribution of this study is therefore practical and methodological rather than causal: it suggests that TOEIC instruction should combine explicit test preparation with

guided learner-created tasks, peer use, feedback, revision, reflection, and responsible AI-use guidelines. Future research should examine these processes with larger samples, validated measures, analysis of student-created materials, and longitudinal tracking of learners' question design, reflection, confidence, and TOEIC performance.

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APPENDICES

Appendix 1. Summary of quantitative findings.

Area	Item	M	SD	Summary interpretation
Motivation	Creating TOEIC-themed materials made me more motivated to learn TOEIC	3.91	1.22	Moderately positive, but variable across students
Self-efficacy	Creating TOEIC-themed materials increased my confidence in TOEIC learning	3.91	1.22	Moderately positive, but not consistent for all students
Engagement	Lessons using student-created materials were more engaging than normal teacher-led TOEIC lessons	3.73	1.49	Lowest mean and highest variation, suggesting uneven engagement
Autonomy	I felt ownership of my learning while making my materials	4	1	Moderately positive, suggesting some sense of learner ownership
Responsibility / relatedness	I felt responsible because classmates used my materials	4	1.18	Moderately positive, suggesting some peer accountability
Metacognitive awareness	Creating materials helped me notice patterns in TOEIC language	4.45	0.82	Positive; students perceived benefits in noticing vocabulary, grammar, and structure
Vocabulary learning	Creating materials helped me remember vocabulary better	4.55	0.69	Strong positive response; one of the clearest perceived benefits
Contextualised vocabulary use	Creating materials helped me use vocabulary in context	4.45	0.82	Positive; suggests movement beyond isolated memorisation
Grammar awareness	Creating materials helped me understand sentence structure/grammar more clearly	4.6	0.84	Strongest mean score; indicates perceived grammar/structure benefits
Overall English development	The project helped improve my overall English ability	4.55	0.69	Strong positive response, though still perception-based
Limitation / quality concern	Student-created materials were confusing or less effective than teacher materials	4	1.26	Important caution: several students perceived peer-created

Scale: 1 = Strongly disagree, 6 = Strongly agree.

Appendix 2. Summary of qualitative findings.

Theme / code	Freq.	Representative example from student responses	Summary interpretation
Active engagement through creating TOEIC materials	1	"I felt most engaged when I made my own TOEIC questions because I had to think carefully about vocabulary and grammar."	Creating TOEIC-style materials encouraged active thinking when students had to make decisions about vocabulary, grammar, and question design.
Active engagement through other TOEIC practice	2	Students referred to listening practice, Kahoot, quiz-style activities, or test practice as engaging.	Engagement was not limited to learner-generated materials; students also valued active, interactive, or test-relevant practice.
Vocabulary learning and retention	2	Students reported that making materials or vocabulary lists helped them remember words more effectively.	Vocabulary was one of the clearest perceived benefits of the project, especially when students selected, organised, or reused words themselves.
Contextualised vocabulary use	1	One student reported that the project helped them understand how to use words.	The project appeared to support vocabulary learning beyond isolated memorisation by encouraging students to think about usage in context.
Grammar awareness / sentence structure	2	A student reported that a classmate's grammar chart comparing similar verb tenses was helpful.	Peer-created materials were useful when they clarified grammar patterns or sentence structures in an organised way.
Error awareness and answer logic	1	"Creating materials helped me understand mistakes. For example, making a Part 5 question helped me learn why answers are wrong."	Creating questions helped some students move beyond answer-checking towards understanding why particular answers were correct or incorrect.
Confidence through clearer understanding	3	"My confidence increased because I understood TOEIC questions better by making them myself."	Confidence appeared to increase when students experienced clearer understanding, visible progress, or a small sense of mastery.
No or limited confidence change	2	One student wrote that confidence was "Not changed"; another reported only "few good effect" because AI was used.	Self-efficacy gains were uneven. Creating materials did not automatically increase confidence for all students.
Usefulness of peer-created materials	1	"Using my classmate's grammar materials was very helpful."	Peer-created materials could support learning when they were clear, accurate, and well organised.
Peer-created materials as less effective or frustrating	2	One student stated that some student-created materials appeared to be copied from ChatGPT and were "less effective."	Student-created materials were not automatically viewed as effective. Quality, authenticity, and clarity were important concerns.

Theme / code	Freq.	Representative example from student responses	Summary interpretation
Low engagement during passive answer-checking	1	"I felt least engaged when we only checked answers without discussion."	Passive answer-checking reduced engagement and limited the value of both teacher-led and learner-generated activities.
Low engagement during long explanations	1	One student reported lower engagement during long explanations.	Teacher explanation remained useful, but overly long explanation stages risked reducing active participation.
Low engagement due to overly easy materials	1	"When I worked on simple materials, I felt bored because the questions were too easy."	Student-created materials needed better difficulty calibration. Tasks that were too easy reduced cognitive challenge and engagement.
Need for more explanation / scaffolding	2	"I want more explanation time so students can understand materials better."	Students needed clearer explanation, modelling, and support to use peer-created materials effectively.
Need for stronger TOEIC alignment	1	"I would like the class to be more closely aligned with the actual TOEIC test."	Some students wanted a clearer connection between course tasks and authentic TOEIC demands.
Difficulty balance between vocabulary and test practice	1	One student commented that vocabulary was difficult, but practice questions were easier than the actual TOEIC.	The course needed better alignment between vocabulary level, question difficulty, and TOEIC score-improvement goals.
AI use as a complicating factor	2	One student reported using AI to make documents; another felt some peer materials were copied from ChatGPT.	AI use may reduce the learning value of learner-generated materials if it replaces students' own analysis, evaluation, and creation.

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