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Research Article

Designing an Interactive E-Book for Basic Grammar Course Using Book Creator: A Needs-based Framework

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ABSTRACT

This study aims to develop an interactive prototype of e-book using *Book Creator* application. It employed initial stages of Research and Development (R&D) because the stages of implementation and evaluation are intended to be conducted in a future study. Fourty first-semester students in the English education study program at Halu Oleo University were asked to fill in a questionnaire on the basis of needs analysis. As a result, it was found that students considered grammar as the most important aspect to learn, assuming that parts of speech are fundamental to understanding English sentence construction. Meanwhile, students still found difficulties particularly on conjunctions account for 57.5% and prepositions (42.5%) respectively; a total of 92.5% wish to possess a specific book on parts of speech and expect some features such as simple explanations, examples for exercises which could be facilitated through videos or digital interactive activities in learning media. Based on these findings, an interactive prototype of e-book was developed, completed with examples, illustrations, YouTube videos, and interactive exercises using Wordwall, Quizizz, Kahoot, and Edpuzzle. These products are expected to serve as an innovative alternative for basic grammar learning and to support technology-based English language teaching transformation.

Keywords: *ADDIE, Basic grammar, Book creator, Interactive e-book, Parts of speech*

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INTRODUCTION

Higher education English curricula expext the students to acquire a wide range of language competencies, from receptive skills to productive ones. Understanding the foundational elements of language, especially structure and grammar, becomes a necessary precondition in order to accomplish this. Grammar serves as a framework that helps students comprehend and create effective texts and utterances. As a result, students must have a firm grasp of English grammar before beginning more complex skills. Without a strong understanding of grammar, students often struggle to construct sentences accurately and logically (Febriani, 2022; Marjokorpi, 2023).

One of the courses that must be pursued by English Department students of *Universitas Halu Oleo*, *Indonesia* is *Basic Grammar*. It serves as an initial provision for students to acquire correct language structures before progressing to more advanced levels. However, based on interviews with first-semester students of the academic year 2025/2026, it was found that most of them still lack mastery of basic grammar. They even get difficulty to proceed simple sentences. This condition is further exacerbated by the fact that the *Basic Grammar* course does not yet have a supplementary systematic textbook.

"This study aims at designing interactive e-book for Basic Grammar course using Book Creator"

To address these challenges, improving students' grammar mastery requires learning media that are not only systematic but also aligned with current digital learning habits as the students are digital native. In the recent digital era, the demand for innovative learning media has become increasingly urgent. Today's students tend to be more interested in learning resources that are interactive, visual, and easily accessible through digital devices (Susilawati et al., 2021; Szymkowiak et al., 2021). Interactive e-books provide one solution towards overcoming the challenges associated with traditional printed media. There are multimedia elements, like audio and video, animations and interactive quizzes that provide students with much more enjoyable learning experiences. Furthermore, they are flexible and can be accessed by students in any place and at any time. Therefore, developing a prototype of an interactive e-book based on a needs analysis of students in the basic grammar course is an alternative choice in the solution for the absence textbook of *basic grammar* course. One of the platforms to create e-book is Book Creator which allows the users to create interactive multimedia e-books. This app is available on https://bookcreator.com and enables the users to creatively develop learning resources that are easy to create without a need for complex programming knowledge. Book Creator also has quizzes, pictures, video and voice recording available for adding content to enhance grammar learning (Afiyattena et al., 2022). Through this app, it is possible to present grammar content in a more communicative and contextualized way. This is why

Book Creator has a good fit to enhance the quality of the Basic Grammar instruction that is yet not accompanied by any prescribed text book.

Several previous researches reported that interactive e-books enhance students' learning achievement. For instance, (Kamila et al., 2024) find that interactive digital media can improve students' grammar concepts knowledge. Developing media using Book Creator application provides more meaningful learning because it adjusted to several learning styles (Agasi & Desyandri, 2022). This result suggests that there are a necessity and an opportunity to design an interactive e-book that corresponds with the educational context in Indonesia tertiary education.

This study aims to fill the gap by designing a prototype of interactive e-book. It is anticipated that the interactive e-book prototype created using Book Creator will make theoretical and practical contributions. By investigating how interactive elements (such as integrated explanations, examples, and practice exercises) improve grammar comprehension and lessen cognitive overload, this study may theoretically expand the principles of multimedia learning. It may also provide insights into how TPACK-informed design can improve the alignment between technology, pedagogy, and grammar content. The e-book is expected to enhance the quality of both classroom and independent learning by facilitating students' understanding of grammatical concepts, offering immediate and engaging practice opportunities, and allowing lecturers to adopt more innovative and adaptable teaching methods. This study aims to foster a more fun engaging learning experience, while providing a practical model for the development of digital learning media. This study was guided by research questions: "*What are first-semester EFL students' needs (necessities, lacks, and wants) for learning parts of speech in a basic grammar course, and how can those needs be translated into the design specifications of an interactive e-book prototype developed using book creator?*".

LITERATURE REVIEW

CTML and the Theory of Cognitive Load

This research is firmly based on the Cognitive Theory of Multimedia Learning (CTML) and Cognitive Load Theory (CLT). CTML elucidates the mechanisms by which learners derive meaning from verbal and visual stimuli via dual channels, constrained working-memory capacity, and active processing (Mayer, 2021). CLT builds on CTML by saying how teaching materials should handle intrinsic load and cut down on superfluous load to keep working memory from getting too full when learning (Sweller, 2020; Sweller et al., 2011).

CTML and CLT together explain why certain design choices were made for an interactive grammar e-book. These choices include breaking up the content into smaller chunks, pointing out important form-meaning links, combining examples with explanations, and only using multimedia (audio, visuals, short videos) when it adds to the explanation rather than making it more complicated. According to this theoretical framework, interactive and multimodal e-book prompts (text, audio, video, quizzes) may alleviate perceived cognitive load and increase student engagement when they serve an educational goal (Chen & Tsai, 2025; Yorganci, 2022). However, the same multimedia

components may become detrimental if they provide redundancy or superfluous features that increase extraneous cognitive strain (Sweller, 2020).

Dual Coding and multimodal representation

Dual Coding Theory, a related idea, backs up multimodal representation by suggesting that there are linked verbal and nonverbal systems for processing information (Paivio, 2014). Recent research in vocabulary and language acquisition underscores that effectively synchronized visual-verbal coordination can enhance retention and understanding, especially when multimodal input is meticulously crafted to prevent distraction (Li et al., 2022; Pellicer-Sánchez, 2022). In practical terms, abstract grammar rules and parts-of-speech distinctions are anticipated to be acquired more effectively when succinct verbal explanations are harmonized with appropriately aligned visual cues, contextualized examples, and prompt practice opportunities, contingent upon these elements reducing divided attention and redundancy.

Teaching Grammar

From an applied linguistics standpoint, the e-book design corresponds with concepts of taught second language acquisition, notably concentration on form and noticing (Chen et al., 2023; Şanal et al., 2025). Focus on form combines communication that focuses on message with timely attention to language form (Doughty & Williams, 1998). The noticing hypothesis posits that learners must consciously recognize pertinent linguistic elements for input to transform into intake (Schmidt, 1990). Evidence syntheses indicate that instructed—frequently explicit—interventions can produce significant advancements in L2 development (Norris & Ortega, 2000). Additionally, meta-analytic updates persist in endorsing the efficacy of both implicit and explicit instruction, while underscoring the significance of task and measurement conditions (Goo et al., 2015).

These viewpoints encourage interactive projects that compel learners to focus on form-meaning-use linkages (e.g., recognizing pieces of speech in context), obtain feedback, and subsequently reapply target forms in novel settings. In theory, putting examples, exercises, and instant feedback into an interactive e-book can help students quickly test their grammar ideas and improve their learning during practice.

Interactive e-books compared to regular books

Previous studies in educational technology indicate that interactive e-books can enhance engagement and learning results relative to conventional materials, provided that interactivity is pedagogically significant (O'Bannon et al., 2017). In language acquisition, meta-analytic findings demonstrate that e-books—particularly interactive formats—correlate with enhanced motivation, more stimulating learning settings, and superior educational outcomes compared to printed texts or non-interactive e-books (Listanto et al., 2025).

However, these advantages are not guaranteed: inadequately planned interactivity or multimedia can elevate unnecessary cognitive burden, hence impairing comprehension and memory (Sweller, 2020). This shows that design decisions should be based on theory, not on new technology. Empirical evidence indicates that cloud-based grammar e-books for

first-semester students enhance learning results, since multimedia elements, adaptive navigation, and planned activities render grammar sessions more engaging and comprehensible (Jaya et al., 2024). Likewise, interactive e-book modules that offer progressive practice—from concept introduction and structured exercises to guided production—have been associated with elevated post-test scores (Arjona & Lamanilao-Agdana, 2025). In conclusion, interactivity should not be seen as a cosmetic feature, but as a teaching tool that helps students learn.

Digital resources for teaching grammar

In technology-assisted language learning, digital technologies can aid language development across various situations, however the results differ according on the type of technology, pedagogical approach, and evaluation methods (Alavi et al., 2022; Alharbi, 2023; Muñoz-Basols et al., 2023). Digital environments are particularly beneficial for grammar acquisition when they offer scaffolded practice, opportunities for recurrent retrieval, and prompt feedback that aids learners in identifying and correcting morphosyntactic problems (Fauziah et al., 2025; Liu & Hwang, 2024; Teng et al., 2022)
Interaction design is important. A systematic study of web-based language learning from 2015 to 2025 shows that elements like rapid feedback, scaffolded activities, and formative tests that keep people coming back are always beneficial (Aprilia & Nasekhah, 2025). This implies that interactive e-books are most efficacious when they incorporate adaptive practice and rule-specific feedback (e.g., tense/aspect, subject–verb agreement), rather than merely digitizing static text.

ADDIE and Book Creator frameworks

Methodologically, the development of interactive e-books is typically documented via Research and Development (R&D) methodologies, often implemented through the ADDIE framework (Analyze, Design, Develop, Implement, Evaluate) as a practical instructional design cycle (Branch, 2009; Fadhil et al., 2025; Mulyadi et al., 2019). Book Creator is a popular no-code authoring tool that lets designers put together text, images, audio, video, hyperlinks, embeds, and simple quizzes into one e-book. This makes it easy to quickly create and improve prototypes. From the platform side, Book Creator also has features that make it easier for people to work together (like read-aloud and speech-to-text) and features that make it easier for people to notice things (like finding grammar faults in other people's work).

Research shows that Book Creator can help with unit design, page layout, multimedia integration, and built-in feedback for systematic practice (Fauziah et al., 2025). At the school level, language modules based on Book Creator have been linked to more student participation and familiarity with task-based activities. This suggests that they are good for teaching language in a way that is both communicative and contextualized (Muhisom et al., 2023). In the realm of grammar, research on the creation of Basic English Grammar e-books indicates that multimedia elements and interactive navigation might improve perceived involvement and facilitate repeated access to rules and exercises (Jaya et al., 2024). However, a lot of Book Creator research still focus more on how possible and satisfying it is for users than on how well specific multimedia and interaction aspects work

in theory. The current study fortifies the design rationale by explicitly correlating Book Creator affordances with CTML/CLT principles and SLA-informed grammar learning mechanisms (emphasizing form and awareness), while anchoring content decisions in a requirements analysis for Basic Grammar students.

The literature indicates that interactive e-books can facilitate grammar acquisition when their functionalities are carefully linked with evidence-based pedagogical approaches and known theories of taught second language acquisition (SLA). Nonetheless, in higher education EFL settings, there is a scarcity of research that (a) contrasts interactive e-books with traditional grammar resources, (b) addresses enduring challenges in parts of speech through feedback-intensive practice, and (c) records a clear, theory-informed design methodology utilizing Book Creator within an R&D/ADDIE framework. This work fills these gaps by creating and explaining a theory-based interactive e-book prototype for Basic Grammar.

METHOD

Research Design

This study aims at developing an interactive e-book for Basic Grammar course. It combined quantitative and qualitative research method within a design-based research paradigm. The quantitative nature of the research design lied in the analysis stage (e.g., questionnaire data), while the qualitative processes involved in the design and development stages (e.g., material development and content selection). More specifically, it adopted an R&D approach informed by the ADDIE framework (Branch, 2009), but the present study was limited to the first three phases (Analysis–Design–Development). This model was chosen because it provides a systematic framework for designing learning media. The analysis stage identified first-year students' needs regarding basic grammar. The design stage focused on structuring the prototype of e-book, the development stage produced the initial product, the Implementation and Evaluation phases (try-out, usability testing, and effectiveness evaluation) are planned for subsequent research. Through these stages, the e-book development is expected to produce a valid, practical, and effective product to replace the currently unavailable textbook but, this study is limited to three first stages only. However, this study is limited to the first three stages only, namely analysis, design, and development.

Participants

This study involved forty first-semester English Department students of Universitas Halu Oleo pursuing basic grammar course in the academic year 2025/2026. They were chosen due to the designed textbook is addressed for students at Basic Grammar course. All participants provided informed consent, ensuring transparency regarding the study's goals, methods, and their rights to privacy and voluntary participation.

Data Collection

The data collection technique in this study was a needs-analysis questionnaire designed to identify students' perceptions of the grammar textbook they require. The questionnaire was

developed based on the three main components of learning needs, namely necessities, lacks, and wants. Necessities describe the students' objective needs in mastering grammar for academic and communicative purposes, lacks describe the gap between the students' current grammar ability and the expected level of competence and wants describe the students' subjective preferences regarding methods, media, and approaches to learning grammar.

The questionnaire consisted of Likert-scale items, open-ended questions, and checkbox-type items. They consisted of 11 items covering four key aspects: (1) English learning experiences and knowledge of Parts of Speech, (2) difficulties in understanding grammar materials, (3) needs and preferences for learning media, and (4) suggestions for textbook development. The items were derived from the necessities, lacks, wants-framework. First, an item pool was generated from literature review, then items were drafted to represent the three dimensions of needs analysis. Content validity of the questionnaire was administered through expert review and the wording of the questionnaire was revised based on the result of the review.

The questionnaire was distributed for around a week via Google Forms to students enrolled in the Basic Grammar course. A total of 40 English Education students completed the questionnaire. The students completed the questionnaire in person and were free to fill in at any time. The responses were used as the basis for developing textbook content that aligns with the students' actual needs, determining interactive features and approaches relevant to users' expectations, and adjusting the level of difficulty to match students' ability levels. Based on the information gathered about students' needs, an e-book on Parts of Speech textbook was designed using Book Creator.

Data Analysis

The data collected from the needs-analysis questionnaire were examined through a quantitative descriptive methodology. This method is suitable when the aim of the study is to summarize respondents' answers and to describe patterns, frequencies, and proportions of data without drawing inferential generalizations (Creswell, 2014). The questionnaire data were transferred from Google Forms to SPSS software, with each Likert-scale item assigned a numerical designation corresponding to the response options. The data were subsequently verified for completeness and accuracy. Descriptive statistics, particularly frequencies and percentages, were computed to determine prevailing patterns in students' responses, as advised by Pallant (2020) for questionnaire-based research.

The analysis was conducted in accordance with the needs analysis framework, encompassing necessities, lacks, and wants. Items pertaining to fundamental necessities were examined to determine students' objective requirements in mastering basic grammar. Items indicating deficiencies were utilized to assess the gaps between students' current grammatical proficiency and the anticipated learning outcomes. Additionally, items related to students' preferences regarding learning media, instructional methods, and interactive features were considered to capture their individual interests. The findings were presented descriptively in tabular format and served as the empirical foundation for critical design

decisions during the planning and development phases of the interactive e-book, ensuring alignment with students' actual requirements and expectations.

FINDINGS

The findings of this study are based on the steps of ADDIE model consisting of analysis, design, and development. Two other steps are intended for future study

Needs Profile

Analysis step is based on three aspects of need analysis namely necessities, lacks, and wants—and therefore the presentation of the results is organized according to these three aspects.

Necessities

Necessity refers to what students need to know or be able to do in order to communicate effectively within a specific context (such as work, study, or a particular profession). It represents the demands of the situation or the desired end goal. There are four items in the questionnaire related to necessities, namely the most important language skills and components to master, the significance of learning Parts of Speech for understanding English, the most frequently used Parts of Speech, and the purposes for learning Parts of Speech. Students were allowed to choose more than one option for the first and third questions.

Table 1
The most important language skills and components to master

Language Skills and Components	Frequency	Percentage
Speaking	29	72.5%
Writing	20	50%
Listening	21	52.5%
Reading	16	40%
Grammar	24	60%
Vocabulary	19	47.5%

Table 1 shows that the most important language component to master, according to the respondents, is Grammar with a frequency of 24 (60%), followed by Vocabulary (47.5%). Among the language skills, Speaking (52.5%) and Writing (50%) fall into the moderate category, while the receptive skills—Listening (47.5%) and Reading (40%)—have the lowest proportions

Table 2
The importance of studying parts of speech for understanding English grammar

Option	Frequency	Percentage
Yes	40	100%
No	0	0

Table 2 shows complete agreement regarding the importance of studying parts of speech for understanding English grammar among the respondents. Of the 40 respondents, all (100%) selected "Yes," while none chose "No" (0%). This indicates that mastery of Parts of Speech—such as nouns, verbs, adjectives, and adverbs—is considered highly essential for understanding English sentence and text structure.

Table 3
The most frequently used parts of speech

Parts of Speech	**Frequency**	**Percentage**
Nouns	32	80%
Verbs	25	62.5%
Adjectives	16	40%
Adverbs	13	32.5%
Conjunctions	11	27.5%
Prepositions	2	5%

Table 3 shows that the nouns are found to be predominantly used Parts of Speech with 32 (80%) followed by verbs for 25 (62.5%). The category with the fewest responses is prepositions only 2 (5%). The difference between the top (nouns, 80%) and bottom (prepositions, 5%) is a stark 75 percentage points. In general, open-class words (nouns, verbs adjectives, adverbs) are more frequently used than closed-class words (articles and prepositions). This result implies that students invest more effort in attentional process to the lexical meaning-bearing elements than the relational items, like prepositions and conjunctions, which tend to be less attended.

Table 4
The aim of studying parts of speech

The aims of studying parts of speech	**Frequency**	**Percentage**
Understanding structure of sentences	17	42.5%
General knowledge about the language	13	32.5%
Fluency in communication (oral and written)	7	17.5%
Vocabulary	2	5%
Academic score	1	2.5%

Table 4 shows that the primary purpose of students studying Parts of Speech is to understand grammar, particularly sentence structure (42.5%), followed by the development of general language skills (25%) and the improvement of fluency in oral and written communication (17.5%). Meanwhile, purposes such as increasing general knowledge (7.5%), enriching vocabulary (5%), and obtaining good academic grades (2.5%) have lower percentages. These findings indicate that most students study Parts of Speech mainly for practical purposes, to understand and use English accurately and communicate effectively.

Lacks

Lack refers to what students have not yet acquired or mastered. It reflects the gap between their current ability and the ability required to meet learning objectives. There are two items in the questionnaire related to lacks, namely previous experience in learning Parts of Speech and the most difficult Grammar materials.

Table 5
Previous experience in learning parts of speech

	Frequency	**Percentage**
Yes	27	67.5%
No	13	32.5%

Table 5 shows that most respondents have previously studied Parts of Speech. Out of the total respondents, 27 students (67.5%) stated that they had studied Parts of Speech, while 13 people (32.5%) said they had not. These results indicate that the majority of respondents have basic knowledge of Parts of Speech, although there are still some who are not familiar with the concept.

Table 6.
The most difficult English Grammar material

Topics	**Frequency**	**Percentage**
Tenses	14	31.1%
Conjunction	7	15.6%
Verb	5	11.1%
Adverb	4	8.9%
Preposition	3	6.7%
Adjective	3	6.7%
Noun	2	4.4%
Parts of Speech	2	4.4%
Auxiliary Verb	1	2.2%
Sentence	1	2.2%
Formula	1	2.2%

Question Tags	1	2.2%
Past Tense	1	2.2%

Table 6 shows the distribution of grammar materials considered difficult by the respondents. Tenses are the dominant category (31.1%), followed by Conjunctions (15.6%) and Verbs (11.1%). The moderate group includes Adverbs (8.9%), Prepositions (6.7%; 3), and Adjectives (6.7%). Other categories appear at lower proportions (≤4.4%), namely Nouns and Parts of Speech (each 4.4%), as well as Auxiliary Verbs, Sentences, Formulas, Question Tags, and Past Tense (each 2.2%). Overall, the top three topics contribute 57.8% of all occurrences, indicating priority areas for deepening the material.

Tabel 7
The most difficult parts of speech

Parts of Speech	**Frequency**	**Percentage**
Nouns	10	25%
Verbs	12	30%
Adjectives	12	30%
Adverbs	11	27.5%
Conjunctions	23	57.5%
Prepositions	17	42.5%

Based on Table 7, the data indicate that conjunctions are the most challenging word class for respondents, with a frequency of 23 (57.5%). This suggests that more than half of the participants struggle to understand or appropriately use conjunctions within the target language. A similarly high level of difficulty is observed in prepositions, reported by 17 respondents (42.5%). This issue may stem from differences between the prepositional systems of the respondents' first language and the target language. In contrast, verbs and adjectives show a moderate level of difficulty, each reported by 12 respondents (30%). Although still posing challenges, these categories are comparatively less problematic. Adverbs were identified as difficult by 11 respondents (27.5%), while nouns represent the least challenging category, with only 10 respondents (25%) reporting difficulties.

Wants

Want refers to what learners personally desire or are interested in, regardless of whether these aspects are actually required for their tasks or work. They are usually related to personal motivation and preferences. There are four items in the questionnaire related to *wants*, namely: students' need to have a specific book for learning Parts of Speech, the features they expect to be included in the book, the preferred instructional media, and the types of activities that can help improve their understanding of the Parts of Speech.

Table 8.
Students' desire to have a special book for learning Parts of Speech

The need for having specific book focusing on parts of speech		
	Frequency	**Percentage**
Yes	37	92.5%
No	3	7.5%

As can be seen on Table 8, majority of the students (92.5%) expect to have a specific book focusing on Parts of Speech. Thus, developing e-book on Parts of Speech is a right choice for studying Grammar.

Table 9.
Expected features appeared on the textbook

	Frequency	**Percentage**
Simple and clear explanation	37	92.5%
Example sentences	31	77.5%
Exercises	27	67.5%
Illustration/ visual support	16	40%
Summary per chapter	13	32.5%
The others	4	10%

According to the findings outlined on Table 9, students exhibit obvious preference over instruction features that are clearly for comprehension facilitation and/or practice. The feature which the students most want is 'Clear and straightforward explanation' (37 replies, 92.5%), meaning that they expect materials not to be complicated and not to cause unnecessarily confusion. The other expected features are example sentences (31 respondents; 77.5%) and exercises (27 respondents; 67.5%), which implies that students attached importance to both understanding the concept and doing so in practice. While supporting images were chosen by 16 participants (40%), this may suggest that the feature is generally subordinate to primary didactic content. Summary of chapters was required by 13 (32.5%) respondents, only 4 (1 %) mentioned other features. Taken together, these findings suggest that students value clear explanations, concrete examples, and some structure in practice tasks; they also exhibit the need for materials that balance conceptual grasp with task-oriented use.

Tabel 10.
Preferred learning media

	Frequency	**Percentage**
Printed books	20	50%
E-book	11	27.5%
Video	28	70%

Interactive applications	22	55%
The others	3	7.5%

Referring to Table 10, the most popular media for instruction is videos (n= 28, 70% chose learning by video). This shows that most students prefer visual and interactive contents as they are found to be more interesting and beneficial in understanding. Interactive applications were another popular category, selected by 22 participants (55%), representing a wider trend toward the use of technology in education. 20 students (50%) favored printed work; all evidence that despite our technological advances, traditional resources have not become obsolete. E-books, instead, were chosen by 11 participants (27.5%) while other types of media obtained the lowest percentage (3 participants =7.5%). We found in general that digital learning resources such as videos and interactive applications are favored compared with the printed text, especially when students perceive them as both engaging and practical or relevant to technological progress.

Table 11
Types of activity improving the understanding of *Parts of Speech*

	Frequency	Percentage
Grammar explanation	26	65%
Exercises	19	47.5%
Matching activity	18	45%
Speaking and Writing	26	65%

Table 11 presents the expected activities of English learning among respondents. The most cited aspects are grammar explanations and speaking/writing activities (26 responses or 65% have mentioned it). This implies that most of the participants feel the understanding of grammar by applying language skills productively through speaking and writing activities is crucial. Next activity is exercises 19 (47.5%) and then matching or grouping tasks 18 (45%). What these two features describe is the demand of the learners for experiential and applied practice to consolidate their experience with grammar. In general, the findings suggest that learners want to clarify concepts with practice writing tasks and active speaking activities in a balanced manner to enhance their English skills.

Design Specification

Upon the analysis of survey results, the researchers developed an electronic textbook adjusted for student requirements. This textbook was designed to cater for the actual needs of students in relation to the learning/teaching of Parts of Speech and English grammar in a functional and communicative manner. The design of this book seeks to offer a better and more efficient way to learn the grammar, especially the parts of speech functionally and communicatively. Supported by interactive media, context-based activities, and a design

that accommodates various timeframes for study, this book will be encouraging to adult learners of English at the university level.

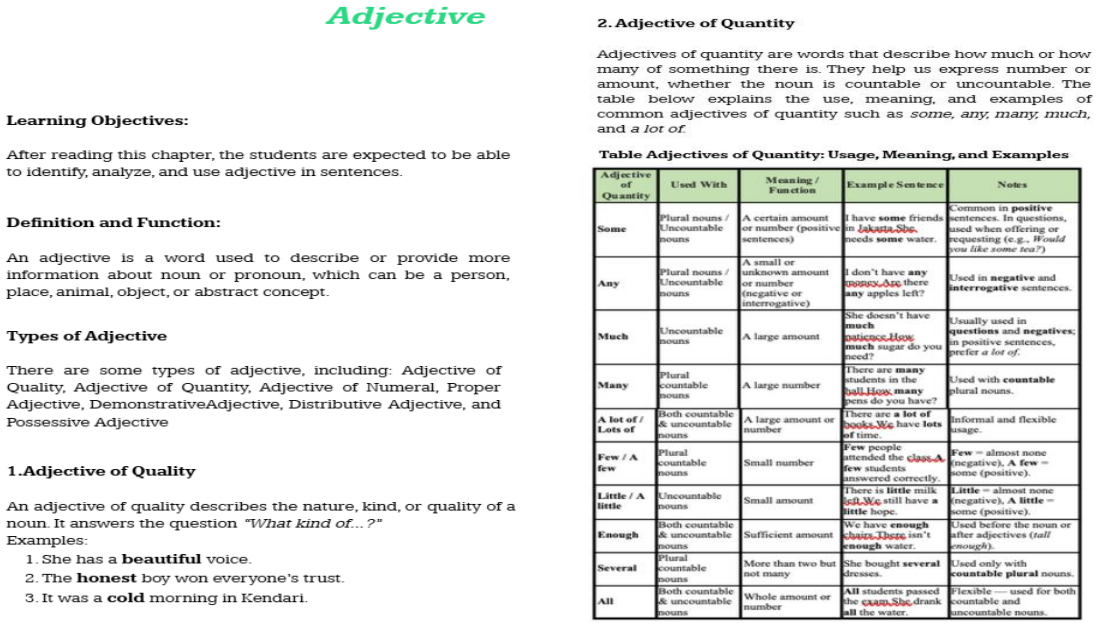
The aim of this textbook design is to help students understand sentence structure and the correct use of the Parts of Speech, while also improving fluency in English communication both orally and in writing. This book is also designed to be easy to understand, engaging, and relevant to the needs of recent characteristics of learners who tend to prefer digital-based media.

In general, the designed electronic textbook consists of six chapters that cover six types of Parts of Speech, namely Nouns, Verbs, Adjectives, Adverbs, Conjunctions, and Prepositions. The researchers decide to exclude Interjections because they more likely refer to emotional expressions in daily conversation, not elements composing sentence structures. Each chapter begins with learning objectives so that users know what they should achieve after studying a chapter or unit. Each chapter contains definitions of each Part of Speech and their types, with examples provided for each type. The explanations in each chapter are also accompanied by YouTube videos to further enhance the readers' understanding of the material presented. At the end of each chapter, there are interactive exercises where e-book users can complete the questions directly through Wordwall, Quizizz, Kahoot, and Edpuzzle.

Prototype

The textbook begins with the expected learning outcome, definition, and types of every part of speech. Every part is completed by examples as shown in the following figures.

Figure 1
An Example of E-Book Prototype Created through Book Creator



Adjective

Learning Objectives:

After reading this chapter, the students are expected to be able to identify, analyze, and use adjective in sentences.

Definition and Function:

An adjective is a word used to describe or provide more information about noun or pronoun, which can be a person, place, animal, object, or abstract concept.

Types of Adjective

There are some types of adjective, including: Adjective of Quality, Adjective of Quantity, Adjective of Numeral, Proper Adjective, DemonstrativeAdjective, Distributive Adjective, and Possessive Adjective

1.Adjective of Quality

An adjective of quality describes the nature, kind, or quality of a noun. It answers the question *"What kind of... ?"*
Examples:
1. She has a **beautiful** voice.
2. The **honest** boy won everyone's trust.
3. It was a **cold** morning in Kendari.

2. Adjective of Quantity

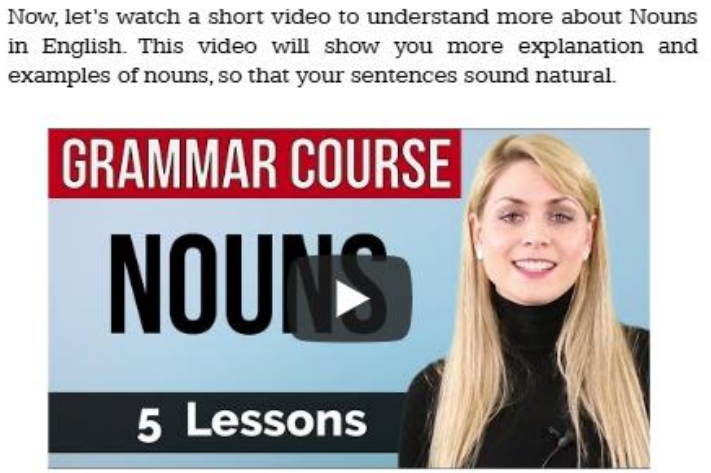
Adjectives of quantity are words that describe how much or how many of something there is. They help us express number or amount, whether the noun is countable or uncountable. The table below explains the use, meaning, and examples of common adjectives of quantity such as *some, any, many, much,* and *a lot of.*

Table Adjectives of Quantity: Usage, Meaning, and Examples

Adjective of Quantity	Used With	Meaning / Function	Example Sentence	Notes
Some	Plural nouns / Uncountable nouns	A certain amount or number (positive sentences)	I have **some** friends in Jakarta. She needs **some** water.	Common in **positive** sentences. In questions, used when offering or requesting (e.g., *Would you like some tea?*)
Any	Plural nouns / Uncountable nouns	A small or unknown amount or number (negative or interrogative)	I don't have **any** money. Are there **any** apples left?	Used in **negative** and **interrogative** sentences.
Much	Uncountable nouns	A large amount	She doesn't have **much** patience. How **much** sugar do you need?	Usually used in **questions** and **negatives**; in positive sentences, prefer *a lot of.*
Many	Plural countable nouns	A large number	There are **many** students in the hall. How **many** pens do you have?	Used with **countable** plural nouns.
A lot of / Lots of	Both countable & uncountable nouns	A large amount or number	There are **a lot of** books. We have **lots of** time.	Informal and flexible usage.
Few / A few	Plural countable nouns	Small number	**Few** people attended the class. **A few** students answered correctly.	**Few** = almost none (negative), **A few** = some (positive).
Little / A little	Uncountable nouns	Small amount	There is **little** milk left. We still have **a little** hope.	**Little** = almost none (negative), **A little** = some (positive).
Enough	Both countable & uncountable nouns	Sufficient amount	We have **enough** chairs. There isn't **enough** water.	Used before the noun or after adjectives (*tall enough*).
Several	Plural countable nouns	More than two but not many	She bought **several** dresses.	Used only with **countable plural** nouns.
All	Both countable & uncountable nouns	Whole amount or number	**All** students passed the exam. She drank **all** the water.	Flexible — used for both countable and uncountable nouns.

Besides, there is a video on each chapter regarding the explanation of each part of speech. When the students click on the link, they will be directed to the video. The following figure shows the example of the attached video.

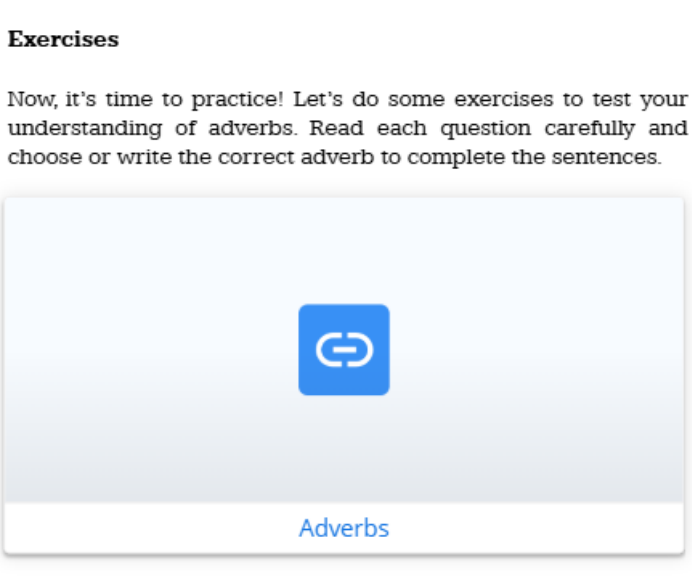
Figure 2.
Embedded instructional video on Nouns in the interactive e-book (Book Creator prototype)



Source: https://www.youtube-nocookie.com/embed/gES-AewCOAI?feature=oembed&modestbranding=1&rel=0&showinfo=0&autoplay=1

At the end of each chapter, there is interactive quiz. Once the user clicks on the attachment, they can answer the Quiz and their score will be showed at the end of the test. The following figure shows one of the examples of interactive exercise provided through Quizizz.

Figure 3
Embedded interactive exercise for the Adverbs unit in the e-book prototype



Source: https://wayground.com/embed/quiz/69004317be8fee62bf7fa1e0

DISCUSSION

This study aims at designing an interactive prototype of e-book based on the result of need analysis. It has provided valuable insights into the needs of English Education students at *Universitas Halu Oleo* regarding their understanding and application of English grammar, particularly the Parts of Speech. This study significantly advances the field of language education, both theoretically and practically, especially in the teaching of grammar to English language learners. Theoretically, it extends the body of research on effective grammar teaching and its integration into communicative language usage by highlighting the crucial role that comprehension of the Parts of Speech plays as a fundamental component of grammar learning. In keeping with current developments in educational technology, it also reaffirms the importance of digital learning materials in fostering engagement and improving comprehension. Practically, this study provides teachers with insights for enhancing grammar instruction by highlighting the importance of customized, interactive learning resources that cater to specific student needs. Using interactive, multimedia-rich e- offers a new way of learning, motivate students to learn, make learning more exciting, increase attention and interest toward instruction, and more efficient (Lim & Hew, 2013; O'Bannon et al., 2017). To engage learners and satisfy their preferences for digital, interactive content, material makers are urged to produce dynamic, context-based materials. This study offers a clear framework for creating more efficient teaching resources for grammar instruction in higher education by concentrating on the gaps and preferences found in the needs analysis.

The result of need analysis confirms that students need interactive e-book focusing on Parts of Speech. Despite having knowledge on Parts of Speech, the students acknowledge grammar, particularly the Parts of Speech, as critical for their understanding of sentence structure and language use. This aligns with the findings that grammar, especially the understanding of Parts of Speech, is crucial to support students' overall language proficiency.

The results of this study can also be explained from the standpoint of second language acquisition by Krashen's Input Hypothesis, which highlights the significance of giving students understandable input that is just a little bit above their present level of proficiency (i+1). The prototype of interactive e-book's emphasis on parts of speech enables students to get relevant and structured grammatical information that promotes comprehension before producing output. The e-book prototype lowers cognitive and affective learning barriers by facilitating students' comprehension of grammatical forms in context through the use of multimodal resources like texts, images, videos, and interactive activities. This bolsters the idea that rich, understandable material should be given top priority in grammar education as a basis for language development.

The interactive quizzes in the e-book prototype offer students instant feedback, which is essential for enhancing comprehension and retention, allowing students to evaluate their understanding and revisit the topic until it is fully grasped. This corresponds with Krashen's perspective that input must be understandable yet demanding, which is precisely what the dynamic and interactive characteristics of the e-book facilitate. Moreover,

the prototype's adaptability enables students to access content multiple times at their own pace. This self-directed learning strategy promotes autonomous study, allowing students to review concepts until they achieve mastery, an essential process required for language acquisition.

Based on the findings of need analysis, the researchers designed an electronic textbook using the Book Creator application, which integrates all aspects from the needs analysis. Students can access related YouTube videos and test their understanding through interactive quiz applications. These findings are consistent with the research by (Thompson, 2013) which states that digital native learners find it easier to understand material through visual and interactive media. Therefore, the use of the Book Creator platform is deemed relevant as it allows for the creation of multimodal materials, combining text, images, videos, and interactive quizzes in a single learning package.

Book Creator is a free, web-based tool (also available on tablets - iPad/Android) that allows users to generate multi-media e-books. It works as an e-book generator which focuses on the balance between clear contents and user experiences. It has the advantage of easy content management for everything from plain text to interactivity which considerably enhances presentation. It allows the integration of short explanations, visual examples, and embedded videos which is not merely a technological enhancement but a pedagogical strategy intended to optimize cognitive processing which aligns with CTML. Then, it is simple, user-friendly drag-and-drop interface; support for multimedia in the form of links out to videos that act as references or supplemental material; the flexibility to publish via online link, ePub file, or PDF. Also, the users can work at the same time so it is easier to make and review work faster than having to wait around for a professional designer.

Furthermore, research about the development of e-books using Book Creator in Reading learning (Fadhil et al., 2025) demonstrated that students were able to comprehend better narrative structure and main ideas as well as moral values. Moreover, the e-book is conducive to learning motivation and independent study, as well as mobile access. Teachers described favorable modifications of classroom interaction and shift to student-centered learning. Further, (Handoko et al., 2025) in their research on Development of Interactive E-Book Based on The Book Creator found that the Book Creator-based interactive e-book is valid, practical and effective to increase creativity for vocational students, support the 21st century learning.

In summary, the findings of this study suggest that a digital-oriented Basic Grammar textbook is very necessary for students. This e-book is for students who want to understand the Parts of Speech because it combines visual and kinesthetic learning which most learners are visual or kinesthetic oriented. The advantage of using interactive media, for instance in Book Creator, is reflected when multiple media are integrated to improve delivery and the process by which knowledges be accumulated. The relative learning benefit of students who were exposed to Augmented Reality (AR) multimedia contents, as shown by (Pérez-López & Contero, 2013) is higher knowledge retention than with those continuing to take a traditional course, which confirms that AR technology is an effective

tool for enhancing student motivation and interest, and to promote learning in educational situations.

It is anticipated that the electronic textbook generated will underpin theory with practice, to be more contextual and engaging. Thus, the development of this digital e-book can serve as an innovative alternative in Grammar learning at universities and as an initial step toward transforming English language learning into a technology-based approach in the digital era.

This study has several limitations that need to be acknowledged. First, the research was conducted only until the Analysis, Design, and Development stages of the ADDIE model due to time constraints, meaning that the Implementation and Evaluation phases were not carried out. Second, the data were collected from a single cohort of 40 first-semester students from one study program, which may limit the generalizability of the findings to broader contexts or different levels of learners. Third, the content developed focused mainly on Parts of Speech, so the coverage of grammar topics in the e-book remains limited. Additional grammatical areas such as tenses, sentence structure, and clause types were not included. Finally, the study relied on self-reported needs analysis through questionnaires, which may be subject to response bias and may not fully capture students' actual performance or learning difficulties.

Based on the limitations identified, several recommendations are offered for future research and development. First, researchers are encouraged to continue the remaining stages of the ADDIE model, particularly the Implementation and Evaluation phases, to assess the practicality, usability, and effectiveness of the e-book in real classroom settings. Experimental or quasi-experimental designs can be employed to measure learning gains and compare outcomes with traditional instructional materials. Second, future studies should involve a larger and more diverse sample from different institutions or levels of proficiency to enhance the generalizability of the findings. Third, the content of the e-book can be expanded to include additional grammar topics, integrated skills, or contextualized tasks to provide a more comprehensive learning resource. Finally, integrating the e-book into learning management systems (LMS) such as Moodle or Google Classroom may enhance accessibility, monitoring, and alignment with blended learning environments

CONCLUSION

This study is intended to develop a prototype of digital-based Basic Grammar textbook using *Book Creator* platform. Several important conclusions were made on the basis of needs analysis. Students are highly conscious of the importance of mastering the Parts of Speech as a premise to process and use English grammar well. In terms of lacks, most students have learnt Parts of Speech but still confront with problems to identify some types of words. From wants side, most of the students want interactive learning media, easy to understand and multimedia capabilities, such as textbooks with easy-to-understand explanations, sample sentences, exercises and fun graphics. Based on these findings, the researchers developed textbooks prototype using *Book Creator* because it enables a multimodal presentation—text, image transcoding, video and interactive exercises. This prototype can help join the theoretical aspects with the practical ones, providing a more realistic, interesting and even

engaging way of learning. However, the results presented in this paper focus solely on the needs analysis, design, and development of the prototype, with future research planned to implement and evaluate its effect on students' grammar achievement. Besides, future studies could be directed to find out students' perceptions on the developed e-book.

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