

The Impact of the Heavy Use of English Tenses on the Students s' Comprehension of the First Intermediate

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Abstract

This study surveys the pedagogical challenges that emerge from Unit One of the Activity and the Students' books in the English for Iraq for 1st intermediate students, with an emphasis on the disconnect between its communicative aims and its grammatical tenses density. Using Douglas Biber's Multi-Dimensional Analysis model along with Sweller's Cognitive Load Theory, the study seeks to quantify the linguistic burdens and the effect of intensive use of tenses within a single unit placed on 1st intermediate students. An analysis of the Student and Activity Books reveals heavy use of tenses that can obstruct rather than smooth the communicative aims of the textbook and its users. Through the eight lessons of the unit, students need to be involved with four tenses, in which the domination of the past tense is noticeable, where the Past Simple (45.2%) is dominant, but Present Simple shows less presence (26.2%); on the other hand, Past Continuous has (16.7%) compared with Present Continuous (11.9%). The findings suggest that clear cognitive load is induced by the English syllabus. The real problem is that students s must master and memorize all the forms of each tense, including affirmative, interrogative, and negative moods; add to that the morphological changes such as regular suffixes (ed, es, ing), irregular verbs of past form, and they need to recognize tense markers or adverbial forms. This case mantel burden, which can be exacerbated in the case of continuous forms, which appear in Lesson 3 without any previous introduction. In addition, the alternation between Arabic and English enforces more strain on working memory due to construction differences between the two languages. The study claims that such grammatical difficulties result in learning processes, and consumes classroom time, and delay the language enhancement that the textbook's goals aim to achieve. Therefore, the study recommends reducing the heavy use and number of tenses to one per study unit, making sure that each tense comes with all its forms and morphological needs, and following a chronological timeline of tenses to ease cognitive load on students. The study concludes with specific and general recommendations for the educational system.

Keywords: Cognitive Load Theory (CLT), Multi-Dimensional Analysis (MDA), Working Memory, Heavy use, English for Iraq (First Intermediate).

أثر الاستخدام المكثف للأزمنة الإنجليزية في استيعاب طلبة الصف الأول المتوسط

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الملخص

تتناول هذه الدراسة التحديات التربوية في الوحدة الأولى من كتاب "الإنجليزية للعراق" وتأثيرها على طلاب الصف الأول المتوسط، مع التركيز على التباين بين أهدافها التواصلية وكثافتها النحوية للأزمنة الموجودة فيه. تستخدم هذه الدراسة تحليل دوغلاس بيبر متعدد الأبعاد ونظرية سويلر للحمل المعرفي، وتسعى الدراسة إلى تحديد المتطلبات اللغوية وتأثير الاستخدام المكثف للأزمنة في الوحدة الواحدة المفروضة على طلاب الصف الأول متوسط. ويكشف تحليل كتاب الطالب وكتاب الأنشطة عن وجود "كثافة زمنية" قد تعيق تحقيق الأهداف التواصلية للكتاب ومستخدميه بدلاً من تسهيلها. فعلى مدار الدروس الثمانية الأولى للوحدة، يُطلب من الطلاب التعامل مع أربعة أزمنة والتي يظهر فيها زمن الماضي البسيط السيادة بنسبة (45.2%)، بينما المضارع البسيط (26.2%)، في حين شكل الماضي المستمر (16.7%)، والمضارع المستمر (11.9%). وتشير النتائج إلى وجود حمل معرفي منهجي ناتج عن منهج اللغة الإنجليزية. خلال المنهج يجب على الطلاب إتقان جميع صيغ كل زمن - بما في ذلك صيغ الإثبات والاستفهامية والنفي - بالإضافة إلى التغيرات الصرفية التي تشمل اللواحق مثل /ed/، /es/، /ing/، الأفعال الشاذة في زمن الماضي، وكذلك يجب عليهم التعرف على المؤشرات الظرفية أو ظروف الزمان. ويتفقم هذا العبء في حالة الصيغ المستمرة، التي تظهر في الدرس الثالث دون توفير دعم مسبق كافٍ. علاوة على ذلك، فإن المتعلمين سيبدلون ذهنياً بين اللغة العربية والإنجليزية وهذا سيفرض ضغطاً إضافياً على الذاكرة العاملة نظراً للاختلافات البنيوية بين اللغتين. وتجادل الدراسة بأن هذا التعقيد النحوي يؤدي إلى إبطاء التعلم، ويستهلك وقتاً طويلاً من الحصص الدراسية، ويعيق تنمية اللغة التي يهدف إليها الكتاب المدرسي أساساً. وبناءً على ذلك، توصي الدراسة بتقليل عدد الأزمنة إلى زمن واحد لكل وحدة دراسية، مع ضمان تقديم كل زمن مع جميع صيغه ومتطلباته الصرفية، واتباع تسلسل زمني للأزمنة لتخفيف العبء المعرفي على الطلاب. وتختتم الورقة بتوصيات محددة وعامة للنظام التعليمي.

الكلمات المفتاحية: كتاب اللغة الإنجليزية للعراق، نظرية الحمل المعرفي تحليل بيبر المتعدد الأبعاد، كثافة الأزمنة، الذاكرة العاملة.

1. Introduction

1.1 Background and Problem Statement

The move from primary to secondary education in Iraq embodies more than a simple change in curricular level. It increases the linguistic and intellectual demands upon students. In the process of acquiring English as a Foreign Language (EFL), the control of the tense and aspect systems is commonly cited as the most challenging for students [1]. These difficulties do not emerge only from grammatical complexity but also from the structural design of the syllabus. When syllabus material shows a high use of tenses, it will cause heavy use of tenses; this amount of learning input creates a mental load on students' working memory and leads to suffering from processing this amount of new data [2]. This study seeks to determine whether the current curriculum facilitates acquisition or generates a systemic obstacle that impacts understanding through the heavy presence of tenses. English language's tenses can be classified into its twelve tenses [3]. On the conceptualization level, Iraqi students have a different temporal distribution system with different morphological and

syntactic forms from the English system, even the linear order of language, since the Arabic language reads from right to left while the English language shows the opposite. Biber [4] recommends that language is better to learn and understand through simple and real conversation, and to follow the timeline of tenses and start with Present Simple.

The problem is that there is a clear gap between the communicative goal of the curriculum, the grammatical content of the curriculum, and the students' real communicative output. This study investigates the effect of heavy use of tenses within Unit One of the 1st Intermediate level curriculum on the mental effort and communicative goal. Prime observations propose that the curriculum materials make students move rapidly between many tenses within a single unit, while native English native speakers do not often use complex tenses. Add to that the Iraqi students are forced heavy use of tense processing and the use of suffixes and auxiliaries instead of text understanding and trying to communicate; this will lead to an increase in unnecessary mental load. Without dealing with this issue, tense intensity in the curriculum may continue to impose an educational block that prevents students from moving from rote memorization to authentic fluency. This study, therefore, seeks to specify this intensity and propose a recommendation based on the functional reality of the English language.

This study is important because in recent years, linguistics and psychology studies have shown a growing grammatical gap in English syllabi. While data from the LGSWE [5] illustrates that native speakers rely on a core set of four to five tenses for daily communication, EFL coursebooks often load multiple complex temporal units in a single unit. This suggests that textbooks are often written in an unreal language style. From a cognitive perspective, this density increases the "intrinsic load" of the material. Sweller [6] argues that if the number of interacting elements – for instance, auxiliary verbs, inflectional suffixes and temporal adverbs – exceeds the capacity of working memory, the student's ability to form stable mental schemas is severely hindered. By applying Douglas Biber's Multi-Dimensional (MD) Analysis and John Sweller's Cognitive Load Theory (CLT), this study seeks to prevent rote memorization and bridge the gap between heavy classroom input and realistic communicative fluency. For this purpose, the current research examines the distribution and intensity of tenses in the English for Iraq Student's and Activity Books for the First Intermediate by using a double lens – Biber's MD Analysis [6] and Sweller's CLT [6] to examine the linguistic design and cognitive effect of Unit One on students' comprehension and map it against the ideal frequency norms of the Longman Grammar of Spoken and Written English (LGSWE) [5]. This study seeks to determine whether the current curriculum facilitates acquisition or generates a systemic obstacle that impacts understanding through the heavy presence of tenses.

1.2 Study Questions

This research paper aims to address the following queries:

1. Does Unit One in the Activity and Students' books of the English for Iraq for 1st Intermediate display significant tense heavy use of tenses when compared to the frequency norms of the LGSWE corpus by using Douglas Biber's the first and second Multi-Dimensional (MD) Analysis?
2. Does the structural design of the Activity and Students' books ease or slow the understanding of tenses?

3. Does heavy use of tenses make cognitive load and impact the language acquisition of Iraqi students depends on Sweller's Cognitive Load Theory?

1.3 The Aims of the Study

The central aims of this study are:

1. To quantify the distribution of tenses in activity and students' books of Unit One by using the first and second Biber's MD framework [4], [7], [8] to examine whether there is excessive use of tenses or not.
2. To examine whether the excessive use of tenses in the Activity and the students' Book of Unit One ease or slow the mental understanding of tenses.
3. To find out if the heavy use of tenses of activity and students' books of Unit One can cause cognitive load on students or not according to Sweller's Cognitive Load Theory.

1.4 Hypotheses

1. Unit one of the Activity and Student Books shows noticeable tense intensity.
2. The heavy use of tenses causes cognitive loading and is an obstacle to learning.
3. There is a relationship between the intensive use of tenses and slow comprehension and language use.

1.5 Scope

1. This study focuses on Unit One of the English for Iraq Students' and Activity Books only, and uses Douglas Biber's (MD) Analysis [4], [7], to quantify the texts of books.
2. The results are interpreted by Sweller's Cognitive Load Theory (CLT) [2] to assess the effect of heavy use of tenses on the intrinsic and extraneous mental load, and by what means this can impact the 1st-year intermediate students and their mental ability to learn and use the language.

1.6 Limitations

The study is limited only to the students' and Activity Books of Unit One of the English for Iraq of the 1st intermediate level, and focuses on the theoretical side of Sweller's theory [2] by analysing extracted linguistic data only, without any empirical testing.

1.7 Significance of the Study

The significance of this paper lies in its pursuit to enhance both English syllabi and classroom methods of teaching in Iraq. By establishing a suggested relationship between tense distribution and cognitive load, the results can be a good guide for the Ministry of Education toward more effective and realistic course book design.

1.8 Procedures Overview

To achieve the above stated aims, the study follows these procedures:

1. Every finite verb phrase in Unit 1 will be extracted and categorised (Simple Present, Past, Future, Perfect, Progressive).
2. Making quantitative distribution, we will turn the numbers of extracted data into percentages to establish the tense intensity index.
3. Using Douglas Biber's Multi-Dimensional (MD) to compare the percentages against the "Conversation" and "Fiction" registers in the Longman Grammar of Spoken and Written English

(LGSWE) At the same time applying Sweller's (2011) Cognitive Load to examine the effect of tense intensity.

4. Identifying divergences between the textbook's educational design and realistic linguistic behaviour to make recommendations for curriculum reform.

2. Definitions and Overviews

2.1 Multi-Dimensional (MD) Analysis

Multi-Dimensional (MD) Analysis is a corpus methodology designed to describe patterns of linguistic variants across different situational contexts or "registers." Developed by Douglas Biber [4], this approach moves beyond the study of single linguistic features. Instead, it employs multivariate statistical methods, primarily factor analysis, to identify groups of linguistic features that reappear with high frequency in specific texts [4]. Also known as multifeature multidimensional analysis [4], this is a methodological approach to analysing linguistic differences across registers (i.e., different situational contexts and communicative purposes) [6]. This approach combines linguistics and advanced statistical techniques to identify groups of co-occurring linguistic features and designate linguistic variation [9]. MD analysis provides a relatively comprehensive profile of a given text, register, or genre in terms of textual dimensions underlying linguistic co-occurrence patterns "[10]. The MD analysis considers an interesting approach between researchers who are concerned with descriptive and applied linguistics fields [10].

2.2 The Key Dimensions of Multi-Dimensional (MD) Analysis

Based on Douglas Biber's work, linguistic features that work together to define communicative registers [4] can be classified into six dimensions [8], [11]. In this study, we will focus on two main dimensions:

1-Dimension 1 Involved vs. Informational Discourse: which involves low scores that represent a dimension which shows informational dense discourse, for instance, academic text? On the other hand the high scores refer to affective and interactional text, as in conversation texts. And these types of texts contain special linguistic entities such as production features: "private verbs, that-deletions, contractions, present tenses, second person pronouns, do as pro-verb, analytic negations, demonstrative pronouns, emphatics, first person pronouns, pronoun it, be as main verb, causative subordinations, discourse particles, indefinite pronouns, hedges, amplifiers, sentence relatives, wh-questions, possibility modals, non-phrasal coordinations, wh- clauses, stranded prepositions. Informational production features: nouns, average word length, prepositions, type/token ratio, attributive adjectives"

2-Dimension 2 Narrative vs. Non-Narrative Concerns: It involves "The higher the score on this Dimension, the higher the narrative concern, as in the case of works of fiction" and has particular Linguistic features in text for instance, "Narrative concerns features: past tenses, third person pronouns, perfect aspects, public verbs, synthetic negations, present participial clauses"

2.3 Heavy use of tenses and its Impact on Student Comprehension

In designing and evaluating English language curriculum, it is often necessary to use *The Longman grammar of spoken and written English (LGSWE)* works. The LGSWE is an authoritative, corpus-based reference book titled the Longman Grammar of Spoken and Written English. It explains how

English is really used through a variety of communication styles, instead of following strict rules [12]. The key features include :

1. **LSWE Corpus**, which includes 40 million authentic English words.
2. **Register Variation**: clarifies how English grammar changes relying on the context, and embraces conversation, fiction, news, and academic prose"
3. **Spoken vs. Written Focus**: deals with spoken English language, and he sees that it has unique structure differences from written prose.

In the context of an English language course book, Tense Intensity instance denotes to the density and variation of verb tenses that are present within a specific or one unit of instruction. Researchers often compare these curriculum distributions against the (LGSWE) [5], the primary reference corpus that provides quantitative data on how temporal forms and tenses are actually used in four register types: "conversation, fiction, news, and academic prose [5]. A frequent problem identified in EFL materials is "Register Mismatch." Curriculum material often presents high intensities of past tense and perfect aspect in what are intended to be "conversational" dialogues. According to Biber's Dimension 2 (Narrative vs Non-Narrative Concerns) [13], the past tense is a primary marker of narrative registers. When a curriculum of school English subjects material imposes on students to practice many dense past tense constructions in a casual dialogue, while according to the LGSWE the present tense should dominate in this situation, this will generate an artificial "pedagogical register" that lacks authenticity of learning language [14]. The differences between tense intensity in course material in school and authentic materials have profound implications for student comprehension and communication goals.

From a cognitive viewpoint, when there is a heavy use of tenses and component tenses, for instance, the Past Continuous, past perfect or perfect continuous or Present Perfect, this contradicts the natural proportions that appear in ordinary conversations and the natural occurrence that can be seen in the LGSWE; it raises the cognitive burden on the students and makes the learning process difficult for them .The study shows that texts with high use of grammatical forms regularly cause "memory overload" for students and cause struggle to understand complex tenses that are not suitable for the communicative situation; this hinders their mental conceptualization and representation of the language. Studies on school EFL courses using MD analysis show that English language materials often possess more "synthetic" elements far from real-world language, making these school subjects harder for students to transmit it from classroom subjects into realistic communication in real situations [15], [16]. From pedagogy aspect, for students in a school environment, the aim of the school curriculum in the English language and materials should offer a framework of the language to be learnt and used. MD analysis works as a review tool for researchers to guarantee the from the present of tense intensity in these books, which should not be merely a list of rules and constructions that impose on students to be memorised, but reflects the real use of language's function. By using curriculum input with the register-specific findings of the LGSWE [5], instructors can decrease needless cognitive burden and enhance the conceptualisation and fluency of the language of the students.

2.4 Cognitive Load Theory and Memory Phases

John Sweller, who is an educational psychologist, suggested CLT. CLT is defined as a scholastic design framework that predicts learning outcomes by accounting for the inherent capabilities and

limitations of human cognitive architecture [17]. (CLT) also defined as a theory that deals with the mental processing and storing of input information. Cognitive load refers “to the amount of information our working memory can process at any given time”. For educational purposes, CLT helps us to “avoid overloading learners with more than they can effectively process into schemas for long-term memory storage and future recall”. CLT, developed by John Sweller in the 1980s, suggests that working memory has limited scope of capacity, so instructional design of school material should **minimize irrelevant** information or materials to avoid excess and **maximize learning**. It categorizes cognitive load into **intrinsic (task complexity)**, **extraneous (instructional design)**, and **germane (schema construction)**. Effective instruction manages these loads to help students move information into long-term memory [18], [19]. CLT is a model of human input data, as Fig. 1 below shows. This model imagines memory of human as having three central parts: sensory, working, and long-term. The central premise of the theory is that our conceptual system acts as an active, limited-capacity information-processing unit where information must be handled in working memory before being successfully encoded into long-term memory [17]. On the other hand, linguistics and culture, CLT primarily concerns itself with "biologically secondary knowledge" information we have not evolved to acquire automatically (unlike a first language) and which requires conscious, high-effort mental processing [20].

Sweller argues that it can classify the mental effort required during learning into three distinct types of Cognitive Load, which are considered additive in their impact on working memory [17], as Fig. (1) shows [21], [22].

1. **Intrinsic:** Means the inherent difficulty of the instructional input, essentially governed by "element interactivity", which means the number of conceptual features that need to be dealt with at once for understanding to occur [20]. For instance, the first lecture of your new course.
2. **Extraneous:** Consists of the needless environmental inputs outside mental demands imposed by the way learning inputs are offered or by instructional activities that do not directly facilitate learning [17]. Because this load emerges from design, it can be reduced through effective instructional engineering [20]. For instance, the teacher's explanation may be outside the assigned topic, or the slides may be full of text, or there may be too many topics, or the class may be noisy and there may be distractions.
3. **Germane:** Represents the beneficial mental effort dedicated to the actual structures and computerization of conceptual schemas, the building blocks of expertise stored in long-term memory [17]. Mental representation is required to fit the material into schemas. For instance, the challenges of understanding and storing the new knowledge of the lecture are due to its poor presentation.

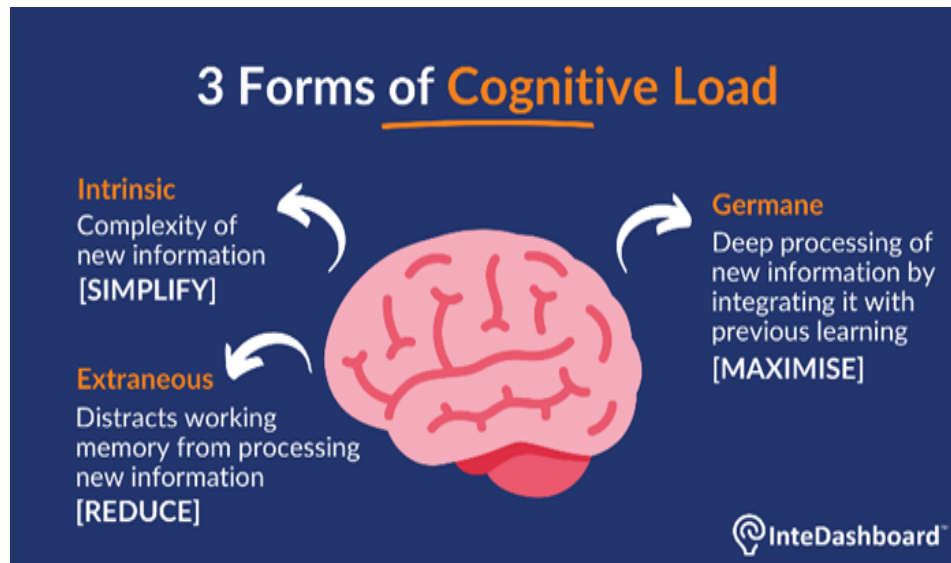


Fig. 1 shows the taxonomy of cognitive load [21].

All data that is considered input and is part of the mental cognitive load goes through three phases of memory in order to distinguish, classify, and later store it as mental representations in image schemas [23]. As Fig. 2 shows [24, 19], three central types of memory participate in the scope of CL, which emerge from the different phases of the human memory system [24], [19], which can be categorized into:

1. **Sensory memory:** which filters our input data, passing selected data on to our working memory for extra processing deals especially with initial sensory inputs
2. **Our working memory:** deals with chunks, of inputs data at any given time. It both discards the data and categorizes it for storing in our long-term memory.
3. **Our long-term memory:** deals with germane cognitive loads and stores the input data into mental schemas to organise and use the data later on. Schemas have a “use it or lose it” element where the more a schema is grown and recalled, the easier to remember in the future .It store inputs in structures called “schemas,” which unify data based on how we use it. “The more we use these schemas, the more developed they become and the easier it is to recall them” [24], [19].



Fig. 2 shows the types of memory and process of the memory system [21], [19].

The ultimate goal of CLT is to avoid instructional implications and optimise learning by ensuring that the total conceptual load – the amount of “intrinsic, extraneous, and germane loads” does not go beyond available working memory ability [17]. Effective instruction aims to reduce extraneous load

to the greatest extent possible, especially when the intrinsic complexity of the task is high [20]. By understanding these conceptual "narrow limits of change," curriculum designers can move beyond "blind" instructional design toward a scientifically grounded approach that treats human cognition as a natural information processing system [20]. A critical finding in CLT studies is the **Expertise Reversal Effect**, which demonstrates that instructional techniques highly effective for novices can lose their effectiveness or even hinder learning as L2 acquirer expertise [17]. For a novice student, detailed guidance and worked-out examples are important to provide the necessary structure to manage working memory [20]. Yet as a student develops complex schemas in long-term memory, that same instructional guidance becomes redundant [20]. Processing redundant information requires the expert to reconcile external instruction with existing internal knowledge by creating an extraneous conceptual load that consumes resources otherwise available for extra learning [17].

One of the barriers is that L2 conceptualizes time differently. in their language, and in this case, negative transfer occurs as L1 grammatical constructions are delayed in English acquisition. For instance, a speaker of a language without a perfect aspect will struggle to learn its temporal structure [28]. The English tense aspect structure itself is complex and needs more focus and recognition of its semantic side, this case load on working memory and delays real-time application and makes conceptual load, especially when teaching relies on grammar and decontextualised drills. This tens-centric method puts accuracy over fluency, making students under pressure analytical and hesitant, which finally makes students lose fluency of use [29], [16]. This excessive focus on structures leads students to become good test takers with high scores but still suffer from communicative constraint [30]. Intermediate L2 acquirer, its face 12-16 tense and aspect families, and most of the class time is used for them, despite the indication that native speakers use only 4-5 core tenses in 90% of daily communication time.. From a psycholinguistic viewpoint, when a text is saturated with high-intensity tense shifting, the students become blocked and feel bored; instead of learning meaning, the students are forced into "local decoding," preoccupied with verb mechanics rather than the narrative thread. As Biber notes, registers like conversation are linguistically "light" precisely to facilitate real-time processing [36], [16]. Textbooks, by being heavy, do the opposite.

2.5 Timeline of tenses in English Language

The English language has three main tenses: past, present, and future. These tenses can be divided into aspects such as simple, continuous, perfect, and perfect continuous, which are used to describe the duration and completion of actions and follow the timeline, as shown in **Fig. 3 [25]**. Each tense has an aspect to convey the temporal distribution, completion, and duration of an action that is used in pedagogical grammars. [26], [27], [16].

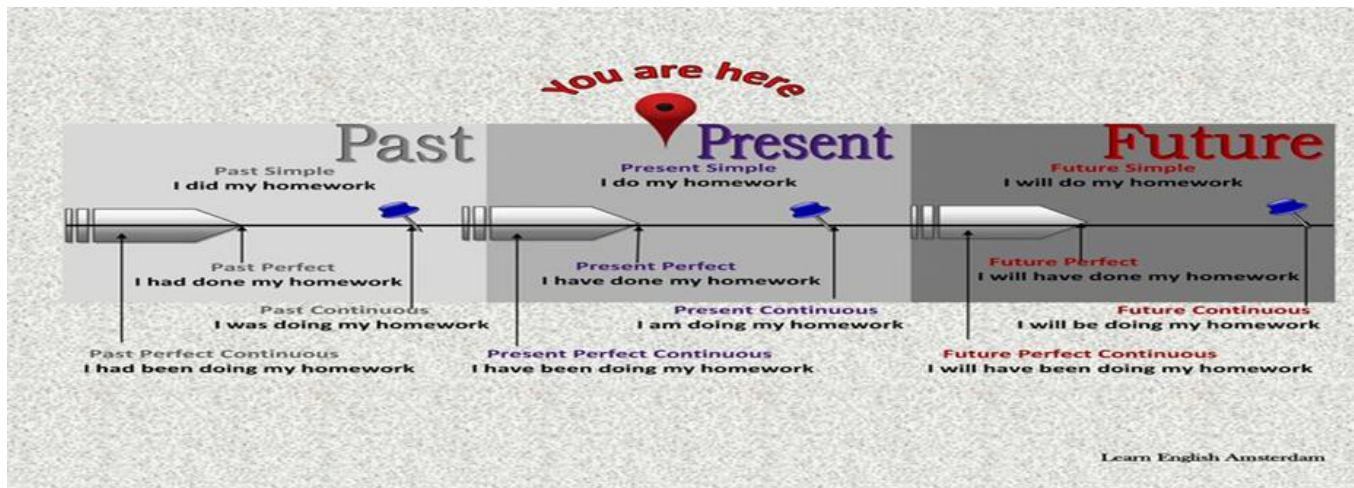


Fig. 3 Timeline of tenses in English Language [39]

2.6 Previous Studies (2000-2025)

In the period between 2000 and 2025, researchers have increasingly used these frameworks to study the "grammatical gap" between English language course books and authentic language use, specifically regarding the intensity and frequency of English tenses. Biber's MD Analysis revolutionized our understanding of register variation [6]. In the frame of coursebook evaluation, Dimension 1 (Involved vs. Informational Production) and Dimension 5 (Abstract vs Non-Abstract Information) are critical. Studies applying the Multidimensional Analysis Tagger (MAT) [8] have revealed that many EFL/ESL textbooks exhibit an "artificial intensity" of certainties, temporal units such as the present progressive or perfective aspects that does not mirror natural conversation or academic prose [38]. When a course book overloads a single chapter with a high intensity of complex tenses, it shifts the text's position on Biber's dimensions, making it more "form-focused" but less "functionally authentic." This can mislead the students, who learn difficult tenses combined in registers where native speakers use simple forms in their daily language use [32], [39]. The heavy use of tense in course books causes a heavy intrinsic CL for students [40], [32]. When a student moves between multiple tenses, this creates an "intensity" of use; their cognitive focus is on decoding the temporal form rather than on learning and conceptualising the semantic contents. This can result in:

1. **Reduced Conception:** where students emphasise "tense switching" mechanics, rather than other communicative contents and understanding the text.
2. **Split Attention Effect:** If tenses have the zone of attention in the learning text, it will take the attention of students, who will suffer from split attention, also increasing the extraneous cognitive load [40].

Biber's framework and CLT have shown that the heavy use of grammatical features above other linguistic features in textbooks often takes no notice of the element interactivity principle of CLT. A text that shows a high use of temporal forms needs the student to hold and memorise many interacting linguistic elements in their mind at once. Between 2010 and 2025, studies have established that when syllabus materials strike a balance between tense frequency and functional dimensions that are identified by Biber, for instance, using simpler tenses for narrative tasks, the mental load can be managed efficiently and help to achieve a higher comprehension level [14]. The

heavy use of grammar in school books often lead student into memory the verbs and their tenses but cannot use it suitably in real-world communicative contexts [41]. Studies claim that the high use of tense forms in the 1st intermediate English course book generates learning challenges. Celce-Murcia and Larsen-Freeman [42] argue that course books classically present eight or more tense forms in a school year, beyond students' mental ability for grammatical gain.

The study shows this tense result in a 35% decrease in correct tense application in student writing compared to programs using a more gradual introduction [42]. Likewise, Ellis [31] notes that students learn many tenses in curricula developed to address "grammar anxiety," with 62% of them avoiding the use of these complex tense forms in speaking tasks. These outcomes suggest that present textbook designs clearly violate principles of CLT [2], [32] in second language acquisition. New studies employing innovative methodologies shed more light on how tense density impacts the comprehension of students. Many researchers use different tools to observe this effect as Biber and Grey [43], who use eye tracking technology to clarify that students spent 40% more time on dealing with dense tense passages; on the comprehension side show 22 percentage points. This is in line with Nation's [34], [37] works, signifying that texts exceeding 2% unknown grammatical items become inarticulate. Larsen Freeman et al. [44] show "tense rationing in digital syllabus materials"; limiting the use of tenses to one per 15 teaching hours with increased realistic use of language in context, leads to 27% higher comprehension rates. Marsden's [45] meta-analysis found an optimal "tense density index" of 0.3-0.5 novel forms per teaching hour for highest comprehension.

3. Methodology

3.1 Methodology

This study embraces a two-systematic framework to examine the density and the heavy use of English tenses in the Activity and Students' books of the English for Iraq for 1st Intermediate. The study has used Biber's MDA + CLT models for the extraction and analysis of data. Biber's Multi-Dimensional Analysis (MDA) [6] is used to count tenses' density and distribution, while the researcher uses Sweller's (CLT) [4] to interpret the cognitive impact of tenses on students theoretically. The researcher will use:

1. **"Dimension (1)"** (Involved vs. Informational Production) and (2) (Narrative versus non-narrative) of Multi-Dimensional (MD) Analysis of Biber's framework [4] to analyse the text. This will help us to recognise if the tense intensity of the text is interactive and conversational or highly abstract academic text. The use of specific tenses will help us to decide if the text's "situational character" aligns with students' proficiency [4].
2. **Sweller's (CLT)** [2], to evaluate the extracted data from Unit One for intrinsic cognitive load. The difficulty of tenses (for instance, the switching from Simple Past to Past Continuous) is assessed to see if the "element interactivity" over and affects the working memory ability of the Iraqi 1st intermediate students. If there is heavy use of tenses within Unit One, it could make an extraneous load that hinders the schema of acquisition that is necessary for fluency [2].

3.2 Study Design

The study uses theoretical, quantitative, descriptive, and analytical methods for the linguistic features of the Activity and Students' books of the English for Iraq for 1st Intermediate. This strategy uses a

quantitative style to map the "Tense Intensity" of the syllabus and the intrinsic properties and theoretical inferences for mental processing.

3.3 Materials

The materials of study are Unit One of the Student's and Activity Book of the English for Iraq 1st Intermediate class.

3.4 Data Collection

The data of the study is a Linguistic Features of Unit One of the students' activity book of the English for Iraq 1st Intermediate class. The study data will include: Verbal Predicates: All finite and non-finite verbs include and Sentence Types, Morphological Suffixation, and Adverbials as temporal indicators.

3.5 Data Analysis

The extracted linguistic data will be calculated and analyzed mathematically to show the linguistic data implications on cognitive side of students. The researcher is following:

1. Counting finite verbs from the students' and activity Books and calculating proportions of per tense.
2. Comparing with LGSWE corpus norms [5].

3.6 Step Calculation

Step 1: Determine Total Frequency (Σf) of Tense/Aspect where Σf = the total of finite verb instances (the whole tenses in Student's and Activity Book)

Step 2: Apply Formula to Each Tense FORMULA: $\% = (f \div N) \times 100$; Where: f = Tense frequency
 N = Whole rate (84); $\%$ = Percentage round to 1 decimal place

EXAMPLE: Past Simple = $(\text{past} \div \text{total}) \times 100 = \text{Percentage}$

The appropriate distribution of tenses in the textbook will be compared with the LGSWE concept [5].

4. Results and Discussion

4.1 Data Extraction of Linguistic Inventory of Unit One of the Student's and Activity Books

4.1.1. Sentential and Verbal Predicate Analysis of Student's Book

Linguistic features of Unit One of Student's Book 1st Intermediate level will be taken out from texts and classified into finite and non-finite verbs depending on tense and types of sentences, for instance, present and past simple, present and past Continuous, and sentence mood as affirmative, negative, questioning, or imperative, as **Table (1)** will show below:

Table 1: shows sentences and identifies their categorical tense, mood, and predicate structure.

Source/Lesson	Sentence Example	Tense/Aspect	Sentence Mood	Predicate(Finite/Non finite)
L1	"What do you think Faisal..?"	Present Simple /	Interrogative	think (F) / did (F)
L1	"Did you go away...?"	Past Simple	Interrogative	did go (F)
L1	"I went swimming every day."	Past Simple	Affirmative	went (F) / swimming (NF)
L1	"No, Muna and I stayed at home."	Past Simple	Affirmative	stayed (F)

L3	"You were watching the flamingos."	Past Continuous	Affirmative	we're watching (F)
L3	"We were sailing on the boat."	Past Continuous	Affirmative	we're sailing (F)
L3	"A pelican dropped a fish on you."	Past Simple	Affirmative	dropped (F)
L5	"My father always has a rest."	Present Simple	Affirmative	has (F)
L6	"I am putting some photographs..."	Present Continuous	Affirmative	am putting (F)
L8	"Are you backing at school now?"	Present Simple	Interrogative	are (F)
Story	"I was coming home from school."	Past Continuous	Affirmative	was coming (F)
Story	"The bird's wing was hurt."	Past Simple (Passive)	Affirmative	was (F) / hurt (NF)

4.1.2 Morphological Analysis and Suffixation Patterns

The data show high use of "inflectional morphemes", which can be the basic cause of intrinsic cognitive load for students [2].

1. **Present Inflections (/s/, /es/):** Found in Lessons 4 and 5 (e.g., sells, has, likes, collects). These markers indicate third person singular agreement in the Present Simple.
2. **Past Inflections (/ed/):** Found throughout Lessons 1, 3, and 7 (e.g., stayed, dropped, pulled, wrapped, played, listened). Note the phonological and orthographic variations (e.g., doubling the consonant in 'dropped').
3. **Progressive/Nonfinite Inflections (/ing/):** As part of continuous tense (watching, sailing, coming, putting); as a gerund/activity (swimming, fishing, camping, shopping, collecting).
4. **Zero/Irregular Morphemes:** High frequency of irregular past forms (went, saw, made, took, read, and flew).

4.1.3 Adverbial Mapping and Temporal Indicators

Adverbs in this unit serve as "anchors" or indicators of tenses for the student, which help them to recognise the tense of sentences. In Biber's MD analysis [4], these function as stylistic markers of "Narrative" vs "Non-narrative" concerns. Table (2) illustrates below that its type depends on the tense that is used.

Table 2: indicates adverb forms and temporal indicators in sentences.

Adverb Category	Specific Indicators	Associated Tense	Function in Comprehension
Frequency Adverbs	Always, usually, often, sometimes, never	Present Simple	Establishes habitual action; high mental demand for placement
Definite Time (Past)	Yesterday, last year, last week, last month, one day	Past Simple / Past Continuous	Provides temporal frame; reduces extraneous load by clarifying context
Definite Time (Present)	Now	Present Simple / Continuous	Bridges the "here and now" of the classroom to the text
Sequential Adverbs	Then, after lunch, every day	Multiple	Assists in narrative sequencing and temporal orientation

4.1.4 Applied Theoretical Framework

4.1.4.1MDA by (Biber)

The intensity of temporal forms in Unit 1 shows a heavy reliance on” Dimension 2 (Narrative vs. Non Narrative) “Concerns [4]. The text shifts rapidly between the informational Present Simple (describing hobbies in Lesson 4) and the highly narrative Past Continuous (the "interrupted action" in Lesson 3). This high "Tense Intensity" requires the student to switch linguistic registers frequently within a single unit of study [4].

4.1.4.2 CLT BY (Sweller)

Sweller [2] clarifies that the switching from past simple to past continuous tense, for instance, (I went _we were sailing) in Lesson 3, embodies a clear increase in interactivity element dependent on Biber's MDA. The student must also be able to do the following: (1) auxiliary verbs (was/were); (2) morphological suffixation (ing); (3) adjustment with subject; and (4) conceptualize the aspect of the semantic concept of "duration vs. completion". The difficulty increases if the student has no previous knowledge about these elements in the student's long-term memory; this will lead to intrinsic load that may exceed working memory ability, leading to poor understanding of the English curriculum [2].

4.2 Data Extraction and Linguistic Analysis of Unit 1 (Activity Book)

4.2.1 Sentences and Verbal Predicates

Table (3) represents a comprehensive census of the linguistic features found within Unit One of the Activity Book corpus (Lessons 1–8). The predicates were isolated and categorised by their tenses and sentential moods.

Table (3) shows tense/aspect, sentence mood, and predicate (finite/nonfinite).

Lesson	Sentence Example	Tense/Aspect	Sentence Mood	Predicate
L1	"What do you think Faisal, Muna and Huda did in the holidays?"	The Present Simple / Past Simple tenses	Interrogative	think (F) / did (F)
L1	"Did you go away in the holidays?"	The Past Simple tense	Interrogative	did go (F)
L1	"Yes, I went to a village by the river."	The Past Simple tense	Affirmative	went (F)
L1	"No, Muna and I stayed at home."	The Past Simple tense	Affirmative	stayed (F)
L1	"I went swimming every day."	The Past Simple tense	Affirmative	went (F) / swimming (NF)
L3	"It was this time last year that we were sailing down the river."	The Past Simple / Past Continuous tenses	Affirmative	was (F) / were sailing (F)
L3	"You were watching the flamingos when the fish hit you on the head."	The Past Continuous / Past Simple tenses	Affirmative	we're watching (F) / hit (F)
L3	"You didn't want to come and eat with us."	The Past Simple tenses	Negative	didn't want (F) / to come (NF) / eat (NF)
L5	"My father always has a rest after lunch."	The Present Simple tenses	Affirmative	has (F)
L6	"I am putting some photographs in my scrapbook."	The Present Continuous tenses	Affirmative	am putting (F)
L8	"Are you backing at school now?"	The Present Simple tense	Interrogative	are (F)
L8	"I went back last week after a wonderful holiday."	The Past Simple tense	Affirmative	went (F)

Story	"I was coming home from school when something caught my attention."	The Past Continuous / Past Simple tenses	Affirmative	was coming (F) / caught (F)
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4.2.2 Morphological Analysis (Activity Book)

The corpus demonstrates a high density of inflectional morphemes, which serves as a primary source of **intrinsic cognitive load** for Iraqi students. The corpus demonstrates a high density of inflectional morphemes [2]:

- 1. Present Inflections (/s/, /es/):** sells, has, likes, and collects.
- 2. Past Inflections (/ed/):** stayed, dropped, pulled, wrapped, played, listened, walked
- 3. Progressive/Nonfinite Inflections (/ing/):** continuous aspect (watching, sailing, coming, putting, having); gerunds/participial adjectives (swimming, fishing, camping, shopping, collecting, finding, exciting, boring)
- 4. Zero/Irregular Morphemes:** went, saw, made, took, read, flew, hit, caught, found

4.2.3 Adverbial Mapping (Activity Book)

The following **Table (4)** clarifies adverbs in the activity book's texts that serve as "anchors" of tenses for the student. In Biber's [4]MD analysis, these function as stylistic markers of "Narrative" vs "Non-narrative" concerns and help to indicate the tenses.

Table 4: shows adverb categories, associated tense, and function in comprehension in the activity book.

Adverb Category	Specific Indicators	Associated Tense	Function in Comprehension
Frequency Adverbs	Always, usually, often, sometimes, never	Present Simple	Establishes habitual action; high mental demand for placement
Definite Time (Past)	Yesterday, last year, last week, last month, one day	Past Simple / Past Continuous	Provides temporal frame; reduces extraneous load
Definite Time (Present)	Now	Present Simple / Continuous	Bridges classroom "here and now" to text
Sequential Adverbs	Then, after lunch, every day	Multiple	narrative sequencing and temporal orientation

4.2.4 Applied Theoretical Framework (Activity Book)

4.2.4.1 MDA by (Biber)

The intensity of temporal forms in Unit 1 shows a heavy reliance on Dimension 2 (Narrative vs. NonNarrative) Concerns [4]. The text shifts rapidly between informational Present Simple and highly narrative Past Continuous, requiring the student to switch linguistic registers frequently within a single unit of study [4].

4.2.4.2 CLT by (Sweller)

From Sweller's perspective [2], the change from Past Simple to Past Continuous in Lesson 3 Represents a significant increase in element interactivity. The student needs to deal with (1)auxiliary verbs of the past tense was/were),(2) the adjustment subject with auxiliaries,(3) the morphological suffixation of continuous (ing), and (4) conceptualise the semantic aspect of tense duration vs. completion. The problem will increase if there is no previous knowledge; the intrinsic load may go beyond the working memory ability of students [2].

4.3 Results and Discussion

4.3.1 Presentation of Data and Quantitative Distribution

Depending on the comprehensive data from the extraction of Unit One Student and Activity Books from English for Iraq, this analysis uses quantitative linguistic features distribution with the qualitative cognitive impact on the student. The linguistic data review of Unit One Student and Activity Books from English for Iraq, as **Table (5)** shows, reveals a heavy use of verbal predicates, especially the past forms. The researcher used the following FORMULA to calculate the ratios of the extracted linguistic features.

*FORMULA: $\% = (f \div N) \times 100$ Where: $f = \text{Tense frequency}$ $N = \text{Total frequency}$
 $= \%$ *Percentage rounded to 1 decimal place**

EXAMPLE: Past Simple = $(\text{past} \div \text{total}) \times 100 = \text{Percentage}$.

This is appropriate for a descriptive corpus analysis comparing textbook tense distribution against LGSWE benchmarks [5]. A total of 84 finite verb instances are identified within the student's book, with the following distributional breakdown:

Table :5: shows presentation of data and quantitative distribution of Unit 1.(Activity and Student Book)

Tense/Aspect	Frequency (f)	Percentage (%)	Primary Sentence Mood
Past Simple	38	45.2%	Affirmative / Interrogative
Present Simple	22	26.2%	Affirmative
Past Continuous	14	16.7%	Affirmative
Present Continuous	10	11.9%	Affirmative

Findings show that: The data indicate that 58% of past tense predicates are irregular cases (e.g., went, saw, and caught), while 42% follow the regular /ed/ inflectional forms.

$$\Sigma f = 38 + 22 + 14 + 10 = 84 \text{ finite verb instances}$$

4.3.2 Multi-Dimensional (MD) Analysis: Register and Situation

Applying Biber's framework [4], specifically Dimension 1 (Involved vs. Informational Production), the results suggest a high involved score. The frequent use of first person pronouns (I, we) and present/past simple tenses indicates a register that mimics natural conversation and personal narrative. While the subjects of the Unit (holidays, hobbies) are conversational goals, it shows a clear heavy use of tenses and fast switching between different tenses and sentence moods, which is defined as "Tense Intensity defined as the rapid oscillation between different temporal planes similar to academic pros [46] e. For instance, Biber [4] argues that high rates of particular features govern a student's proficiency in using language. In Unit One, tenses don't follow the timeline of tenses, so the student sudden introduce to Past Continuous (Lesson 3) within a text full of Past tense, which confuses the student because of these sudden changes.

4.3.3 The Impact on Comprehension depends on Cognitive Load Theory (CLT)

The results now will be assessed from the conceptual side by Sweller's model of CLT [2]. The study recognises a disruption in the chronological sequence of tenses and a sudden appearance of forms

and momentum in the use of morphological elements and tenses, and this will confuse the student and strain his memory, as in Lesson 3 and the "Story". Schema Interference includes (The Iraqi student is tasked with mastering the /ed/ suffix while simultaneously being introduced to the auxiliary was/were + /ing/ structure. On the other hand, the Split Attention Effect includes (students must focus on temporal adverbial anchors (e.g., when, while, last year) while also decoding irregular verb forms). According to Sweller [2], if the number of interacting elements exceeds working memory capacity, "extraneous load" is generated. In this unit, the heavy use (four distinct tenses in one unit) creates a heavy intrinsic load that may hinder the formation of long-term memory schemas. The student is often forced to focus on the mechanics of the tense (suffixation and auxiliaries) rather than the meaning of the text, by decreasing overall comprehension.

5. Conclusions and Recommendations

5.1 Conclusions

The study concludes that:

- 1-The linguistic investigation of Unit One of the Student and Activity Books of the English for Iraq book shows significant heavy use of tenses, especially past tense forms. While the school curriculum targets communicative goals through its design, on the ground it forces a high intrinsic cognitive load on students because of heavy use. The students not only face the heavy use of tenses, but they must master and memorise all the forms of each tense, including affirmative, interrogative, and negative moods; add to that the morphological changes as regular suffixes (ed, es, ing), irregular verbs of past form, and they need to recognise tense markers or adverbial forms. Add to that the fast switching between tenses and their types. At the same time, mentally, they struggle with switching between Arabic and English. The linguistic intensity within a single unit will create a block in the working memory of students, which violates the values of CLT [2] and invokes an obstacle to learning.
- 2-High tense intensity in the English book effect student conceptualisation. According to MDA by Biber [13], the heavy use moves the student's attention from the communicative goal to memorising linguistic data. According to Sweller [2], students who face this linguistic intensity from dealing with morphological suffixes of tenses (/ed/, /ing/) with adverbs of time (yesterday, now) lead to memorising and difficulties in comprehension, rather than language acquisition.
- 3-As a teacher, I note that the English for Iraq curriculum of 1st intermediate contains a high linguistic density of content that is not suitable for 1st intermediate; therefore, the book loses its communicative value and turns into a synthetic curriculum. According to Sweller [2], [47], too many new grammar rules compete for the same cognitive representation, which, in the end, student losing language fluency development.

5.2 Recommendations

To decrease the mental load on students and develop their language acquisition, curriculum designers need to reduce the heavy use of tenses, especially for the first levels, and make it like what we use in real life or what is recommended by (LGSWE), and limit it to one tense in each study unit with all its linguistic needs, and teachers should ensure the tense is fully understood before moving into more

complex structures [2]. They should follow the realistic timeline sequence to reduce CL on students, and visualize tenses by using tense maps.

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