

**Impact of using Click-On Dictionaries in learning English orthography by students from  
the bachelor's degree program in foreign languages with an emphasis in English at UNAD  
University**

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Universidad Nacional Abierta y a Distancia – UNAD

Escuela Ciencias de la Educación – ECEDU

Maestría en Mediación Pedagógica en el Aprendizaje del Inglés

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**Impact of using Click-On Dictionaries in learning English orthography by students from  
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Mónica Lucía Londoño Giraldo

A research report submitted to Escuela de Ciencias de la Educación – ECEDU  
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2022

**Approval Page**

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Jury

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2022

### **Dedication**

Dedicated to my amazing family, who has always believed in me and supported me every moment when I needed extra energy. My husband and my sweet children, Esteban and Susana, for their love and wisdom in waiting for the perfect moment in this edifying process. This is for them to know that with effort, everything is possible.

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First, I must thank God that has given me the permission to achieve my goals and has given me the opportunity to find wonderful people to help me fulfill every one of the missions taken for my life. I want to thank this great team of tutors at UNAD that always support us as students in a generous way enhancing our abilities and experiences.

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Infinite thanks to Dr. Diana Liceth Martínez our Leader, that believes in every one of us and motivates us to face big challenges, with love and humility shows us we can be greater than we think.

To finish, I deeply thank my family, without them everything will be only a dream, but now most of the planned things are real.

## Resumen Analítico de Estudio RAE

| <b>1. Información General</b>   |   |
|---|---|
| <b>Tipo de documento</b>  | Tesis de grado de maestría  |
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| <b>2. Descripción</b>   |   |
| <p>El aprendizaje de nuevo vocabulario es una parte importante en la adquisición de un segundo idioma y está relacionado con la adquisición correcta de la ortografía de las palabras. La ortografía y todas las implicaciones en el desarrollo de las diferentes habilidades del lenguaje son relevantes para la función del lenguaje que es comunicar. La precisión en la transmisión de ideas es un gran desafío cuando los aprendientes se enfrentan a un proceso de aprendizaje de un segundo idioma.</p> <p>La ortografía tiene un impacto importante en la forma de expresar las ideas, la transmisión de información, la pronunciación, la comprensión, la contextualización del nuevo vocabulario y la precisión en la escritura. Por eso es relevante tener en cuenta el buen uso de la ortografía cuando se aprende nuevo vocabulario. Es de gran importancia aprovechar las nuevas tecnologías utilizadas como estrategias pedagógicas, estas ofrecen una gran posibilidad para que los estudiantes tengan diferentes tipos de prácticas en contextos reales y en el momento que lo requieran. Por eso los mediadores ven la necesidad de potenciar el uso de aplicaciones digitales para complementar las prácticas pedagógicas y abrir diferentes oportunidades a los educandos, contrastándolas con sus propios estilos de aprendizaje y actividades cotidianas desarrolladas en línea. Aprovechando los dispositivos electrónicos que utilizamos como herramientas en la vida cotidiana en este era digital, así los estudiantes continúan aprendiendo incluso cuando no están recibiendo instrucción directa o en el horario de clase. Se ha hecho la investigación con 40 estudiantes del programa de Licenciatura en</p> |   |

lenguas con énfasis en Inglés de la UNAD, el cual se ha dividido en dos subgrupos para constatar la efectividad del uso del Click-On Dictionary versus diccionarios regulares para el aprendizaje del buen uso de la ortografía en las palabras nuevas que se consultan a través de esta aplicación. La participación de la población invitada ha sido decisiva para establecer la efectividad de la aplicación en comparación con la forma tradicional de buscar palabras en el diccionario de papel teniendo en cuenta que esta acción hace parte de las actividades complejas que tienen incidencias cognitivas favorables en el aprendizaje de un nuevo idioma, pudiendo obtener así las conclusiones para la presente investigación.

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#### 4. Contenidos

Este documento de investigación es presentado en 5 capítulos que son producto del proceso del estudio de autores que han hecho investigaciones relacionadas y recopila los datos obtenidos en el proceso de aplicación de pruebas al grupo participante para llegar a las conclusiones y recomendaciones que están contenidas en este documento para dar respuesta a la pregunta inicial que dio inicio a la investigación. En el primer capítulo se describe el problema, se plantean los objetivos, los alcances y las limitaciones del estudio. En el segundo capítulo se expone el fundamento teórico que soporta la investigación al igual que algunos



hallazgos de otras investigaciones similares en el uso de aplicaciones digitales como apoyo para el aprendizaje de Inglés y específicamente el Click-On Dictionary. En el tercer capítulo se describe el diseño de la investigación, los procedimientos, los métodos de recolección de datos, la población estudiada y los instrumentos utilizados. El cuarto capítulo se exponen los procedimientos de análisis de datos, la discusión de las categorías, los resultados y su fiabilidad y validez. Por último, en el quinto capítulo se aborda la importancia de los resultados, las implicaciones pedagógicas para el campo de estudio, las limitaciones, las recomendaciones y las conclusiones.

### **5. Metodología**

La selección de la estrategia busca alinearse con el objetivo de la investigación en saber cómo el uso de aplicaciones digitales específicamente el Click-On Dictionary para estudiar lenguas extranjeras puede dar un mejor beneficio en el proceso y qué tipo de problemas podrían enfrentar con estas estrategias.

El método cualitativo es el que mejor se adapta a los fines de la investigación. Como la investigación busca un resultado en cuanto al comportamiento asociado al uso de una herramienta para el aprendizaje de nuevas palabras, los datos cualitativos brindan la información necesaria para comprender la precisión de la herramienta y la eficiencia de los estudiantes para resolver sus necesidades de aprendizaje de nuevo vocabulario a la vez que la adquisición de la ortografía correcta de las palabras. La investigación fue dirigida a un grupo de 40 estudiantes de la Universidad Nacional Abierta y a Distancia del programa Licenciatura en lenguas extranjeras con énfasis en Inglés. En primera instancia se hizo la caracterización del grupo y luego se subdividió en dos grupo para aplicar la prueba diseñada, una lectura en la que debían definir 30 palabras inmersas en el texto, un grupo de 20 participantes las definía haciendo uso del Click-On dictionary y el otro grupo utilizando el Key-in dictionary para un posterior test de selección múltiple en el que teniendo la definición debían escoger la palabra correcta de tres opciones (1 correcta y 2 incorrectas), el test buscaba establecer la efectividad el uso del Click-On dictionary en el aprendizaje de nuevo vocabulario y su forma ortográfica correcta.

### **6. Resultados**

A diferencia de otros estudiantes, la población objeto de estudio pertenece a la Universidad Nacional Abierta y a Distancia, estudiantes que están expuestos a estrategias

virtuales que facilitan su aprendizaje; esto podría ser un factor que ayude al acercamiento de la población al campo de estudio.

Durante la investigación se reforzó que el buen uso de la ortografía facilita la lectura y pronunciación de las palabras dando una mejor significación a su aprendizaje. Para los estudiantes de inglés como segunda lengua, la práctica demuestra que es más fácil recordar el significado de las palabras cuando saben cómo escribirlas correctamente y reconocen que la ortografía sigue siendo importante en el aprendizaje del nuevo vocabulario. Los hallazgos de esta investigación podrían servir como introducción a la idea de que el uso de recursos digitales, específicamente el Click-On dictionary, es muy útil para los estudiantes porque si bien no es la única manera de aprender la ortografía, sí es una herramienta esencial, en particular, en una situación generalizada que tienen los estudiantes actuales que es la disposición y efectividad ante las múltiples tareas que se realizan a la vez, respondiendo a una sociedad que va a una velocidad globalizada.

La investigación de Krepel, D Bren y Jong (2020) mostró que, casi ninguna palabra se deletreaba correctamente si no estaba presente la forma ortográfica y mostró que la exposición a la ortografía mejoraba en gran medida la pronunciación. También encontraron que las palabras consistentes se deletreaban mejor que las palabras inconsistentes, y que cuando la ortografía de la palabra no era correcta cambiaba sustancialmente el significado de la oración.

El análisis se desarrolló siguiendo los resultados de otros investigadores como Liu a, Tzu-C., Hui-Mei Fan, M. y Paas, F., (2013), en los que utilizaron instrumentos para investigar la precisión del uso de diccionarios digitales versus Diccionarios Click-On. El instrumento fue diseñado para entregar textos a los participantes con el vocabulario novedoso que tenían para buscar definiciones. En el grupo de participantes que usaba el diccionario Click-On yendo directamente a la definición en un sitio web, muchos de ellos no recordaban el significado de la palabra, a diferencia del grupo de personas que usaba un diccionario en el que tenían que escribir o buscar la palabra, estos recordaron fácilmente la definición y la forma de escribir las nuevas palabras.

Los resultados en la presente investigación muestran que los participantes comprenden la importancia de la ortografía en el aprendizaje de un segundo idioma. Al hacer la prueba posterior a la lectura propuesta y uso del Click-On Dictionary la precisión fue muy similar entre el grupo de participantes que usaba Click-On Dictionary y el grupo que usaba otro tipo

de diccionario. El éxito en el reconocimiento de la ortografía de las nuevas palabras usando el Click-On dictionary es del 67% contra el 70% usando el otro diccionario, además los participantes se sienten más cómodos usando el Click-On dictionary porque es más fácil y rápido aumentando así la motivación al leer.

Tanto en la escritura de las palabras y la adquisición de su significado, el uso de la tecnología juega un papel clave en el aprendizaje de idiomas (Ahmadi, 2018). Podemos ver cómo el uso de la tecnología ayuda en la autocomprensión de nuestro propio estilo de aprendizaje, ayudando a aprovechar no solo nuestras capacidades sino los diferentes recursos que brinda la tecnología y los dispositivos a los que tenemos acceso en nuestra vida diaria como los teléfonos celulares, tabletas, computadores y otros que ahora son parte activa de nuestras rutinas diarias. La facilidad e inmediatez del uso de estas ayudas tecnológicas crean una gran motivación importante para lograr resultados positivos en el proceso de aprendizaje.

### **7. Conclusiones**

Las aplicaciones que contribuyen a la flexibilidad y eficacia en el uso del tiempo generan motivación en los alumnos una vez que facilitan la interacción entre el alumno y el nuevo conocimiento. Con herramientas que maximizan el uso del tiempo en actividades complejas como buscar en el diccionario regular, el aprendizaje es ágil y el tiempo se puede utilizar para otras actividades importantes y significativas que contribuyen al proceso de aprendizaje. El uso de aplicaciones como el Click-On Dictionary en el aprendizaje de la ortografía de una segunda lengua resulta en un excelente recurso, brindando a los estudiantes la oportunidad de utilizar la herramienta a la que están acostumbrados y que tienen todos los días en sus manos como lo es el dispositivo electrónico, siendo un gran aporte a las estrategias pedagógicas que ahora es implementada por los mediadores para hacer que el proceso de enseñanza sea más efectivo.

El Click-On dictionary permite a las personas tener un buen proceso de memorización de las palabras además de la oportunidad para definir nuevo vocabulario ahorrando tiempo en la lectura, comprensión y aprendizaje de la ortografía. Al leer un texto, se encuentran nuevas palabras que necesitan ser buscadas en el diccionario para comprender completamente lo que el texto debe transmitir; para los aprendientes es importante conocer el significado del nuevo vocabulario de manera inmediata mientras realiza la lectura, pero también aprenderlo

así como la ortografía correcta de la palabra. El recurso es fácil de obtener en línea y de uso gratuito.

Las aplicaciones tecnológicas parecen ser un muy buen recurso para que los alumnos mejoren sus habilidades. Las personas pueden usar el nuevo idioma en diferentes actividades, no solo para estudiar sino para usar el lenguaje en situaciones comunicativas reales como las que proponen las redes sociales. Las aplicaciones para reforzar y practicar el uso de la gramática, la comprensión lectora, la adquisición de nuevo vocabulario y ortografía, la comprensión auditiva, los ejercicios de pronunciación y los sitios de conversación en las redes sociales son un complemento positivo en las estrategias pedagógicas utilizadas en los cursos de idiomas que utilizan la tecnología y los dispositivos digitales como una contribución novedosa y eficaz para potenciar el crecimiento en el uso de una segunda lengua.

|   |                              |    |      |
|---|------------------------------|----|------|
| <b>Elaborado por:</b>                   | Mónica Lucía Londoño Giraldo |    |      |
| <b>Fecha de elaboración del resumen</b> | 17                           | 10 | 2022 |

### **Abstract**

This study investigates how using Click-On Dictionaries impacts learning English orthography by students from the bachelor's degree program in foreign languages with an emphasis in English at UNAD University. The study has two aims. First, it examined how the use of Click-On Dictionaries impacts the learning of English orthography apprentices. Second, it evaluates how learners can benefit from Click-On Dictionaries' use in English orthography acquisition. Two tests were applied in two different groups of 20 participants each. It was intended to evaluate the accuracy of the use of the Click-On Dictionary versus the regular or Key-In Dictionary in the learning of orthography of new vocabulary after reading the same text and defining a group of words using the two different tools. The results showed that the accuracy using the Key-In dictionary was 70% versus 67% accuracy using the Click-On Dictionary, not a significant difference compared with the benefit of using the Click-On dictionary. It can be established the real impact of the stated problem. With the results, we can define that the students get the possibility to use adequate digital resources that facilitate the learning of orthography in the language acquisition process. Making them an excellent resource that should be implemented. Click-On dictionaries allow people to have a good memorization process of the novel words and get a perfect opportunity to define new vocabulary saving time in reading, comprehending, and learning orthography. Besides, using digital resources motivates students to have a better approach to knowledge.

**Key words:** orthography, accuracy in communication, digital strategies, click-on dictionary, new vocabulary learning

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## **Introduction**

Studying orthography is an issue that has become not a substantial element of study in language learning, giving big importance to the teaching and learning method for the result and trying to reach the purpose of communication and the development of the four skills: Reading, writing, listening and speaking; orthography is one of the clues to practice the four skills with accuracy and effectiveness. Concrete words with big similarities in spelling, pronunciation, sound, and different meaning cause confusions even in native learners, this is because a reinforce is necessary in the learning process of L2 students. Using the digital technologies in instruction and practice are important because they offer a huge list of opportunities to improve the apprentice, modern educational strategies should adapt to the learners needs and possibilities, we are living in a digital world in which many applications have been created to facilitate activities that in the past were complex and required much time, actually many processes are easier and faster, giving the opportunity to people and in this case specially to learners to employ less time in some activities to be able to dedicate to new ones that help them to grow. Different practices in context give learners the opportunity to go further in learning, digital apps offer the opportunity to students to continue learning even when they are not receiving direct instruction, only in their daily activities that are mediated by technological applications like the Click-On dictionary that provides students with the facility to click on the work they don't know and immediately go to the definition without stop the reading, this definition applied in context could result in benefit to the learning process in a metacognitive process that helps the learning of new vocabulary.

### **Context of the Research Problem**

The group of students that participate in the investigation, are 40 learners in the course of English III at the UNAD. This is the third course of English in the program of the “Degree of

foreign languages with emphasis in English”, it has the purpose to develop the skills of the English language knowledge for communicative and social interaction, including the use of appropriate form, structure and meaning patterns, involving the students’ context and realities, to promote interactions with the language and its uses in different situations according to the B1 level. Most of them have the knowledge gotten in the high school in Colombian monolingual schools with and the practice with native speakers is limited. An important factor to have in mind is the wide interaction with different on-line resources to practice in different environments and different spaces to practice at the university.

### **Research Question and Objectives**

How does the use of Click-On Dictionaries impact in learning English orthography by students from the bachelor’s degree program in foreign languages with an emphasis in English at UNAD University?.

#### ***General Objective***

To state how the using of Click-On Dictionaries impact in learning English orthography by students from the bachelor’s degree program in foreign languages with an emphasis in English at UNAD University

#### ***Specific Objectives***

To stablish how the use of Click-On Dictionaries impact in learning of English orthography apprentice.

To evaluate how learners can get benefit of Click-On Dictionaries use in English orthography acquisition.

### **Scope of the Research**

This research is looking to have a wide idea of the impact caused by the use of a specific digital strategy in the orthography learning of students of the course of English III at the UNAD, using an instrument to measure the accuracy of the process of learning in two different contexts: the Click-On dictionary and the regular dictionary, giving in the second option the possibility to use the key in dictionary or the regular dictionary to measure if the apprentice of the orthography is accurate and if it impacts the use of the novel vocabulary in the learning of the students. As the studied population uses virtual mediation throughout their whole process, it is known that they are so familiar with the technological tools. With digital resources, now the challenge is to see how the way of learning is affecting the acquisition of the abilities offered by the complex task like to search in the dictionary, having the facility of using something simple as the click on dictionary.

### **The Rationale for the Study**

The foreign language learning process requires going further in different conceptions, especially when the students are adult people. In the last decades, the immersion of digital resources in education has been increasingly trying to go at the same velocity as humankind and social evolution. This is positive because the new generations are preparing for the unique educational and technological challenges that delimitate international relationships. In search of this equality, the use of new technologies has taken essential places in the new curriculum, and the adaptation of new activities has been significant at the same time as the last teacher's generations capacitation and updating. According to these new challenges that are being faced, unexpected situations need to be fixed and adapted to provide security to students in this insatiable technological advance. The apprentice of the use of orthography is aligned with other skills. Among adult second language learners, orthographic input facilitates the perception of the

phonological form of novel L2 words. (Cerni, T., Bassetti, B., Masterson, J. 2019), This is because it is necessary to understand how it is being affected by the new pedagogical strategies.

These apps provide a multifaceted capability that offers time and space flexibility and adaptability that facilitates the changeable environment favoured by self-learners (Ibacache, 2019); in educational practices, teachers need to obtain the ability to use in a good way the technology as a pedagogical instrument to support students in an appropriate transition between traditional and mediated learning, using technology in the right way it will be the best investment for an education that goes further than the classroom or the instructional time, constant practice in language learning has benefits for the apprentice of new vocabulary and the practice of the four skills in the everyday activities.

The actual investigation tries to define how using the Click-On dictionary will benefit the acquisition of vocabulary with the correct orthography. Vocabulary is one of the most basic building blocks in (foreign) language acquisition, crucial for any kind of meaningful understanding and expression (Krepel, D Bren and Jong 2020). If this app promotes meaningful learning of vocabulary as well as orthography, it would be an excellent instrument to be used in vocabulary teaching and to assist students in the reading skill by having the facility to get the definition of the new words in context and learning the definition and spelling at the same time.

Actual teachers and mediators are in the imperative need to include digital resources in their teaching practices. Technology has always been an important part of the teaching and learning environment. It is an essential part of the teachers' profession through which they can use it to facilitate learners' learning (Ahmadi, 2018); they need to learn how to approach every specific application to solve a particular learning necessity to have a successful practice and result of the teaching process mediated by technology use. It is important to know that

technology is an easy way to approach modern students; using the appropriate app for specific needs, many students would change their perspectives about education and will be more confident about the education results for their practice life and problem resolution. Talking about language learning, when students dedicate more time to different moments during the day, they have better results and technology all day long in their hands.



## **Literature Review**

In acquiring a new language, getting the new vocabulary results as meaningful as grammar but talking about the importance of fluency in expression, the number of new words is one of the essential keys we have to communicate. This is getting new vocabulary. It is crucial the excellent use of orthography. It permits the learner to avoid confusing the meaning or pronunciation of words just because a letter is missing or misplaced in the word. Different strategies should be studied to approach the different ways our learning system gets the information: a lexical or visual route and a sublexical or phonological route (Pillunat & Adone, 2009). In the process of foreign language acquisition, new strategies have emerged; technology has been an excellent tool to explore new ways to learn and to work the different skills using videos, recordings, websites in which the interchange of ideas and cultures with people from different places of the world is giving to students' real contexts to practice the language. A question comes out in the accuracy of these strategies, thinking of how the technological aids interfere in skills acquisition, the matter of this research is to know if the use of a Click-on dictionary reduces the possibility of learning the good use of orthography.

### **State of Art**

Learning has a series of complex processes, including a change in the cognitive structure that the student has shaped in the native language study. L2 vocabulary acquisition is often a process of mapping new L2 word forms to already-known meanings (Yamashita ,2013).

Such general measures of subordination or phrasal elaboration, or both, however, will also need to be supplemented by specific measures of the accuracy and complexity of production, as these are relevant to particular resource-directing characteristics (Robinson, 2011).

There is an extensive list of variables that impulse teachers to think deeply about how to introduce learners to sound management of them and to reach a level of understanding and knowledge enough to avoid misunderstanding when talking, writing and communicating. L2 orthography influences the mental representations of second language phonology in the L2 learners who are beginners, as proposed by Bassetti (2005).

A comparative approach with students and activities like repetition could be helpful for the students to have good learning of those variables; English is an example of an orthography where the written script does not fully represent the phonemic structure of spoken language (Aro, 2004), using the novel words in different contexts to make them differentiate the similarities in the different words or even in the words that sound the same or are equal written (homophonous). Krepel, D Bren and Jong's (2020) research showed that, as expected, hardly any words were spelled correctly if orthography was not present during learning and showed that wide exposure to orthography improved the spelling in students. They also found that consistent words were spelled better than inconsistent words, but this effect was acquired through a constant use of orthography. Reading was affected too by the acquisition of orthography; the spelling of the word could not be correct with the wrong orthography and, most of the time, changed the idea and the meaning of the sentence. It is defined that the availability of orthography had a perfect effect on orthographic learning in spelling and reading, improving the language process in writing and speaking.

Recalled by Burrows, K; Staley, K; Burrows, M (2022): Williamson (2008) says high school textbooks are often written at a 1000–1100 Lexile level, while college textbooks are at a 1300–1400 Lexile level; the importance of learning new vocabulary and to know how to use appropriately is one of the keys for students' growing, and the goal is to make the resource to

learn the vocabulary more approachable, appropriate, and effective according to educational purposes and give learners a real opportunity to get the right way to use it, not only spelled but used in context. Different strategies and instruments are used to facilitate students' vocabulary acquisition; not only the desire to learn is enough, three instances are needed in the cognitive process: 1. Visual: Storing words and their spellings in memory 2. Semantic: The meanings of words 3. Etymological: Word origins and histories (Templeton, S. 2020), those processes are now mediated by the use of technology when not much time is dedicated to using the word in different ways to memorize it and in the process to practice with this in written exercises.

Webb (2008) indicates that the reader-student should be exposed to large quantities of written input under his/her absolute L2 level. This is to consolidate the learned vocabulary and focus on fluency development. Learning – i.e., among other things, becoming more accurate – involves an intuitive data-driven statistical learning process for learners (Robinson, 2011). Further, acquiring only vocabulary, grammar rules, and the ability to read, write, listen and speak, to communicate meaningful ideas and culture is the great challenge of getting a second/foreign language. The metacognitive process to use knowledge in multi-context and share ideas having in mind communication as a pluridimensional ability, shows the real apprentice of the L2 learner.

For a better context about the needs in spelling for English learners, let us see a brief note about English orthography origins. It starts with the missionaries who first penned down English as best they could using the Roman alphabet to reproduce the sounds they did not have in Latin, such as *this*, in both *thin* and *this* (Aslam Sipra, M 2013). The different origins of English were a problem because words did not follow only one orthography pattern; this is because general strict

rules in English are absent. German, Latin, French, and Greek are all familiar sources for early English, and each followed a different system for orthography (Aslam Sipra, M 2013).

Here one of the confusing issues, especially for nonnative learners, is the unpredictable rules in English for the plural of words like “man-men,” “pan-pans,” “ox-oxen,” “sheep-sheep,” “mouse-mice,” “house-houses”; those variations make it a challenge for English learners, and obligate them and their teachers to look for different strategies that imply the simple memorization of these exceptions to the orthographic rules. Aslam (2013) recalls this point as an essential thing to consider when teaching English and one of the causes because orthography should be taken carefully. As in Spanish speakers’ accent, it is important to have the proper context of what we mean when writing or speaking; in a second language English in this specific case, orthography is essential to have the correct sense of what the speaker means, for example, learners should have clear the effect of adding an ‘e’ to the end of a word: “cap-cape,” “win-win”, “cut-cute.”

Aslam (2013) calls it “another monster of orthography in the way of learning the English language, i.e. the words having different spellings but the same vowel sounds.”

Liu, Tzu-C., et al. (2013) recalled Van Gog and Paas (2008) if learners invest more mental effort in relevant processes in the learning phase, they will construct better cognitive schemata, which will enable them to achieve higher performance with less mental effort investment on a subsequent test. In their research based on the use of a Click-On dictionary versus a key-in one, a result that the click-on affects learners’ cognitive processes involved in looking up words giving the participant less opportunity to learn the proper form to write the words while in a key-in dictionary they could internalize not only the orthography or the word because of the complexity of the process, but it was a functional activity for vocabulary

acquisition and spelling recognition. The easiness of just clicking was replacing the action of typing the word, process that promotes a durable insight into novel vocabulary and the correct writing of new words, this; this high-level processing gives advantages to the learner (what text is about, how we decide to interpret the text, inferencing, background knowledge, etc.). Their research concluded that consultation with a key-in dictionary imposed a higher cognitive load than consultation with a click-on dictionary. The results confirmed that the increased clicking behaviour did not increase the spelling learning performance in the participants.

During the time, the researchers continued that technology helps learners to learn based on their interests. It also satisfies the learners' visual and auditory senses and the learners' visual and auditory senses (Ahmadi, 2018). Other important values are developed when a student faces his/her learning process; this is the autonomy, leadership, and managing a wide variety of information that he/she should select and organize. Learners can control their learning process and have access to much information that their teachers cannot control (Ahmadi, 2018). Autonomy and developing their strategies have been crucial in managing digital sources. However, technology cannot completely replace teacher instruction and mediation.

## **Theoretical Framework**

### ***Importance of Learning New Vocabulary with the Correct Orthographic Use***

When learning new vocabulary, it is fundamental to get the correct spelling. It matters because of its role in incorrect reading and writing; the common perception that spelling is merely a convention of writing may be less critical in the future (Templeton, S. 2020). It could not be an appropriate theory about the relevance of orthography knowledge; this is fundamental for good communication, especially when many words are very similar. Still, they could change the sense of what you say if you are not accurate in word spelling; alphabetic orthographies are

based on a minimal set of letters, which students typically master rapidly (Landerl, K. 2022). Not only to know the definition but practicing with the words results necessary.

Even though digital resources have given remarkable strategies and opportunities, there are activities we can practice and reinforce better with teachers and classmates in a synchronic environment. Students need to be contributed and grow in schemas helping them to feed the new knowledge in the language. These schemas are graded in strength depending on the number of exemplars and the degree to which semantic similarity is reinforced by phonological, lexical, and distributional similarity (Abbot-Smith & Tomasello, 2006).

Learning vocabulary to facilitate communication and abilities like listening and writing is one of the things that help English learners to increase their fluency when speaking and accuracy when communicating; students who have problems with shifting from decoding orthographic units to efficient retrieval-based word recognition strategies are likely to exhibit very low reading fluency (Landerl, Karin, 2022).

### ***Technology in L2 Learning***

To prevent misuse and to achieve maximum benefits for foreign language learning and teaching, we should be aware of the advantages and disadvantages of modern computer technology in education (Jhamb, S., Shukla, V., 2020). Using the technology options to complement language learning is great, but it does not replace direct instruction and the support of teachers.

Materials may need to be adapted for language difficulty, cultural responsiveness, and approach to teaching (Burrows, K; Staley, K; Burrows, M. 2022), as the student finds easy the use of the technological resource the student will be more motivated and language learning motivation can be define like the attitude toward language learning and what encourages students

to the learning, strategies used by the learners tended to require little cognitive processing of the learning materials (Ali, Z. 2022), resulting anyway suitable for learners; nevertheless it is remarkable how spelling, or orthographic, knowledge provides the underlying foundation for the rapid and efficient encoding and decoding of words, allowing individuals more room for thinking and planning as they write and read (Templeton, S. 2020), being this the base of a good acquisition not only of orthography but of the other skills, this is because, local digital resources will be integrated into modern workflows and jointly tested. (Stemle, E. 2019).

It continues being noticed that written revisions are a perfect way to help students find the errors to be corrected and to indicate that errors in learners' written texts significantly impact on learners' (Crosthwaite, P; Storch, N; Schweinberger, M. 2020). This is not done using technology. In the case of the Click-on dictionary, the students need to trust in their memory because the metacognitive process is not always done. The advantage of online resources is that materials may need to be adapted for language difficulty, cultural responsiveness, and approach to teaching (Burrows, K; Staley, K; Burrows, M. 2022).

### ***Technology Motivates Students' Learning.***

Motivation is an essential factor that greatly influences learner performance in second language learning. Learners with stronger motivation tended to spend more effort learning with persistence in a second language than those with less motivation (Yu, Z; Xu, W; Sukjairungwattana, P. 2022)

Learning language has been enriched with the use of digital resources; most of the students have reported that mobile application-assisted language learning can help them to improve especially their reading and writing skills, and many of them reported no significant improvements in the acquisition of vocabulary (Yu, Z; Xu, W; Sukjairungwattana, P. 2022).

Nowadays, students are motivated to learn by themselves with the help of technology; this provides them with autonomy and self-esteem. When they know they can do many things by themselves, here is when they can assume full responsibility for learning; learners with solid learning autonomy may be able to engage in and be motivated by learning activities, leading to positive learning outcomes and effective learning strategies (Yu, Z; Xu, W; Sukjairungwattana, P. 2022), so the use of the new strategies do not result good only because they are, but because students feel good having the responsibility of their learning, In the interactive and virtual contexts, students could have higher levels of satisfaction and perceptions (Yu, Z; Xu, W; Sukjairungwattana, P. 2022). Some authors have talked about the importance of orthography is not so relevant; even alternative theorists have criticized stage theory for not addressing the role of different strategies in early learning, suggesting that the theory focuses exclusively on an alphabetic strategy to the exclusion of, for example, analogy, memory, and rules (Templeton, Shane. 2020). However, we know that they are essential to speak and express ideas accurately; even as the studied words are in the context of a sentence, it could serve as such errors are generally highly context-dependent, particularly the most prevalent of L2 English errors, that of article errors. (Crosthwaite, P; Storch, N; Schweinberger, M. 2020).

### ***Students' Experiences with Technological Aids***

Other respondents alluded to technical issues with keyword diacritical, non-intuitive software and repetitive exercises (Ibacache, 2019). Many students refer that human interaction continues to be necessary and more effective when practicing different language skills. Many aspects, like idioms are difficult to interpret by the different digital apps. Identifying the learner's need is substantial to focus the teacher's attention on what the student intends to take first. It is different when the learner wants only to go on vacation to a foreign place and needs the essential



to communicate, or the learner needs to have deep elements of grammar as when he/she needs to present a standardized exam. In this case, the app is not enough to satisfy learner needs. When orthography is checked in the apps for L2 learning, the output process is not as complete to let the student reinforce the correct writing of words.

Learning style is only one aspect of the equation, a learner's need is another, who may need reading, writing, or even speaking proficiency in a given language (Ibacache, 2019).

The kind of common mistakes are difficult to be corrected an app, especially orthographic differences;. At the same time, the teacher can guess what the students pretended to say, the app only shows options that generally are not related to what the students mean. This manifests itself also in the kinds of errors learners produce, which are often accountable by reference to contextual factors (Robinson, 2011)

The computer simply uses electronic or computer-encoded formulas and generates the output after these algorithms are transformed. In contrast, people use complicated cognitive processes to learn a language in a social environment (Jhamb, S., Shukla, V., 2020). It shows the importance of the complement given by the mediator-language learner.

## **Conceptual Framework**

### ***Orthography in English***

The differences between languages and their phonological and morphosyntactic issues make it difficult for learners to define a stable structure for them to follow and get the complete management of the psycholinguistic level of the L2, the definition of the words are given by the structures of a language; different languages are formed in different ways, and this is because the learning of novel vocabulary and its orthography takes more time and practice in a foreign language. Orthographies are often, a set of linguistic and sociocultural compromises developed

in particular social contexts (Probert, de Vos, 2016). To learn a new language is to create a set of connections between all the aspects: orthography, spelling, pronunciation, context, etc.

Most of the skills are related to orthography learning, in the sense that the use of it directs the meaning, the significance into the contexts, and even the rhythm when reading. Orthographic depth affects acquisition and development in reading (Pillunat & Adone, 2009). Having this new vocabulary and the right way to write it is a complex process in the cognitive act of learning a second language. Orthographic depth influences the cognitive process of word recognition (Yamashita, 2013), as well the student can quickly get confused when reading and comprehending an idea with orthographic mistakes; it is different when a native speaker can quickly realize that there is an orthographic mistake, not evident for a foreign language learner. As the student advance in the complexity of the learning process, orthography becomes essential. The large amount of vocabulary learned should be classified in their cognitive associations due to transparent orthographies are often associated with faster initial learning trajectories (Probert, de Vos, 2016). However, in the process, it becomes to be complex to be able to enrich their level. Reading is a complex cognitive skill that requires coordination between various components (Yamashita, 2013). Those components include necessarily orthography, to have a similar process to a native speaker; if not, the difference in speakers between native and non-native is going to be evident and cause a communication gap.

### ***Orthography in the Writing Skill***

Many components refer to good reading comprehension. Reading-related components are conventionally categorized into two processing clusters: lower-level and higher-level processes (Yamashita, 2013), and orthography and writing are at a higher level.

In the new era in which students have access to different digital resources to learn and practice different skills, they have the opportunity to develop activities on an infinite list of websites, social media, and online courses. Still, at the same time, they experiment with some limitations like, states Ibacache (2019): payment restrictions, lack of grammatical explanations, monocentric content focused on travel, vocabulary-centric content, and poor interface. Another critical issue that could be heard from students that study by themselves or with the help of digital as the primary resources, is the speed at which they have to pass from one lesson to another with not many possibilities to go back to check the previous lesson. They also provide instant feedback to students, but some bots cannot correct spelling and grammatical mistakes (Jhamb, S., Shukla, V., 2020). Interaction between learners and mediators is crucial, and differentiated feedback enriches student growth and self-confidence.

### ***The Convenience of the Click-on Dictionary Use***

Learning is combined with multiple activities that do not let the students dedicate themselves; this is because we need to appeal to the use of strategies that minimize time and maximize practices that seem beneficial to the learning. This is because the use of a Click-On dictionary results in a fast tool that helps the understanding of texts when the reader has not had enough vocabulary, the One-Click Dictionary is convenient automation for exchanging lexicographic data between a Sketch Engine corpus and a Lexonomy dictionary (Stemle, E. 2019), only clicking on a word you can get the definition, but some of the processes needed to learn it meaningfully are not always present, the questioning is if the word is learnt only with this action or this is useful only to solve the immediate problem: to know the meaning of the word, cross-linguistic studies investigate reading development and reading problems in two or more

orthographies. They can shed light on similarities and differences between orthographies as well as the universal challenges of learning to read. (Landerl, Karinn, 2022).

Students are highly motivated by the facilities of technology to avoid the use of a standard dictionary provides a time saving important for actual life rhythms; researchers conducted correlational analyses to explore the correlation between differences in motivation, learning strategies and learning outcomes in both mobile and traditional English language learning conditions. Results indicated a positive relationship between differences in motivation, learning strategies, and learning outcomes (Yu, Z; Xu, W; Sukjairungwattana, P. 2022). It means the facility given by the use of technology to help learning and language usage could have a successful result in this practice. Sometimes a few tweaks make a resource more engaging and effective.

## **Research Design**

### **Introduction to the Research Design**

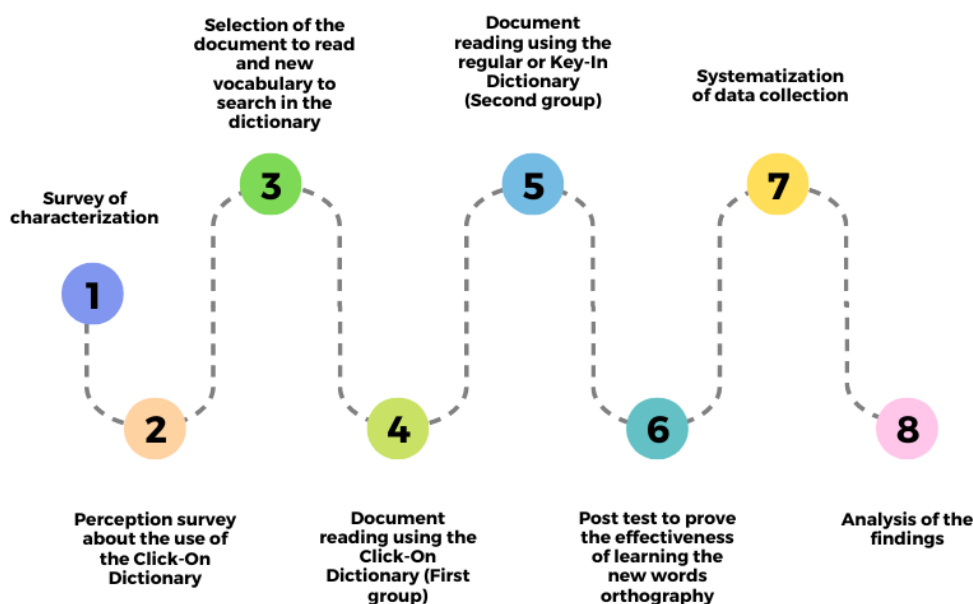
The selection of the strategy that permits getting knowledge from the studied group, using the instruments that will give the perception of how the use of the digital resources, in this case, the use of Click-on Dictionary, affects the acquisition of orthography in language learning, was inspired in the research of Liu a, Tzu-C., Hui-Mei Fan, M., Paas, F., (2013). The goal is to know from the students how using different apps to study foreign languages may benefit the process and what problems they could face with these strategies.

### **Methodological Design**

#### ***Research Method***

The qualitative method is what better adapts for the research purposes. As the research is studying the result of the behaviour in terms of the use of a tool for learning new words, qualitative data provides the information needed to understand the accuracy of the tool and the efficiency for the students to solve their needs of learning new vocabulary and the correct orthographic spelling of the words. Participants' definitions of the situation, noting patterns, themes, categories and regularities (Cohen et al., 2007), having this perception from the studied population is essential to have the results in which the investigator can define the accuracy of the use of the Click-on Dictionary and how students are using it.

The methodological design responds to a series of steps that will give an approach to the research in these phases:

**Figure 1.***Steps of the study*

The research process is based on the following steps:

**Step 1.** Survey of characterization. An invitation was sent to the students' e-mail asking for their participation in the study; it included informed consent and the initial survey asking for their gender and age. An explanation of the research's purpose and how their participation can contribute to the investigation.

**Step 2.** Perception survey about the use of the Click-On Dictionary. Because of the importance of the perception of the students about the use of the Click-On Dictionary, four questions were formulated intended to know if they think this is an essential instrument in the regular study and if they think this is going to provide them with the opportunity to learn how to write the new vocabulary correctly.

**Step 3.** Selection of the document to read and new vocabulary to search in the dictionary. The document was selected having in mind to look for an available information text not related to their field of study; the intention was to have the minimum risk they manage the vocabulary

previously. In the document, thirty words were linked to the digital dictionary, so they needed to click and have the words' definitions in a simple mental process, only clicking and reading.

**Step 4.** Document reading using the Click-On Dictionary (First group). The first group of twenty students had a document with new words for them; the words were linked to the Click-On Dictionary. Students were asked to read the document, click on the thirty words and read the definition of the new word.

**Step 5.** Document reading using the regular or Key-In Dictionary (Second group). The second group of students have a document with the exact text and the thirty new words for them, they; they need to type them in the Key-In Dictionary or a regular one. Students were asked to read the document, search for the thirty words and read the definition.

**Step 6.** Post-test to prove the effectiveness of learning the orthography of the new words. This is the part in which we will test the students with the list of the thirty words in a modality of multiple selections in a google forms, they have the definition of the word (the definition they previously read), and they have to select in a list of three very similar options in which only one is correctly spelled.

**Step 7.** Systematization of data collection. The results are contained in an excel table which permits knowing the frequency of the correct words to determine if a pattern influences the selection of the correct word.

**Step 8.** Analysis of the findings. The comparison can be made between the test results of two groups of students to determine who was more accurate if the students used the Click-On Dictionary or the group of students using the regular one.

The comparison between a group of students using the Click-On Dictionary versus a group using the Key-In Dictionary was the method used to measure the accuracy of both

activities in orthography learning. They were reading the same document about a topic of general interest titled “**How to Read and Interpret Medical Records in a Personal Injury Case,**” taken from the Avrek law website. The document selection was taken considering that if a document about a specific topic related to their field of study, they were sure to previously know the vocabulary. The reading had 30 underlined words that were supposed to be novel for the students. One group had to consult their definition using the Click on Dictionary, and the other group should use the Key-In Dictionary. Finally, they were asked to complete a quiz in which the definitions of the words were given, and they should select the correct word between three options with similarities in writing, being only one being the correct. The expected results were to define if the participants could remember the same using both ways of consulting the words and if these actions had the same effects on students to remember the proper writing of orthography.

## **Context of the Research**

### ***Population and Sampling Procedures***

The group of students that participated in the investigation are 40 learners in the course English III at UNAD university. This is the third course of English in the program of bachelor’s degree program in foreign languages with an emphasis in English”. Its primary purpose is to develop English language skills knowledge for communicative and social interaction. Including appropriate form, structure and meaning patterns involving the students’ context and realities. As well as to promote interactions with the language and its uses in different situations according to the B1 level in the MCER. Most of them have knowledge of English in high school in Colombian monolingual schools, and the practice with native speakers is limited. An essential consideration is their broad interaction with different online resources to practice in different environments and different spaces offered at the university. As they select virtual programs, they



look for the opportunity to work and study simultaneously. Then, the time they dedicate to performing different activities is limited. Considering that they are not in the first period of their program, most of them have developed a very high responsibility and autonomy in independent work. They have found strategies that help them to advance in language learning.

### ***Researcher's Impact***

Once the research results are available, it is intended to offer tools to make essential adjustments in the different strategies used, especially in virtual mediation, in which most of the resources used for learning are digital. The research will impact the confidence in using digital resources in specific areas like orthography acquisition and how the practices will be conducted. It will serve as a reference for new research as nowadays, education is getting more involved daily in using technology in both virtual and classroom environments.

### ***Ethical Protocol***

The National Leader of the program of Degree of a foreign language with an emphasis in English at UNAD university gave the investigation permission for the investigation.

The informed consent was shared with students through their e-mails (See Appendix A)

A precedent was given to the students that the test results would be treated as anonymous and had no relation to the course grading.

The participation of the students in the research does not represent any physical or mental risk, and the confidentiality, privacy and identity protection were carefully managed to prevent any harm against the participant group of students or the institution to which they belong to.

### **Data Collection Techniques**

### *Description and Rationale of the Instruments*

In the case of this research, getting consent and openness from the academic community will permit a comprehensive observation and honestly results of the investigation: “flexibility of qualitative research allows the researcher to study real and complex phenomena in their natural contexts, resulting in valid and rich data” (Nimehchisalem 2018, p. 28). Getting data directly from the studied situation and people involved will show interest and vital results to understand better the phenomena and act according to its affectation. The method used should respond to the specific need of getting information on how students use digital resources and how they are helpful for them in regular activities like the acquisition of novel vocabulary and its use in other skills. Primarily, it is on the students where we will find the results; an exploratory work should be done about their habits and the change in them using digital resources, specifically in the Click-On dictionary.

### **Data Analysis and Findings**

In this part of the research, the collected data will be presented as the result of an investigation conducted with a group of forty students of the English III course at the UNAD. The analysis will give a categorization of the findings and the implications on the results given by some specific situations held during the instruments application process; those situations refer to the attitude against the use of some methodologies and motivation. This analysis will provide us with an idea of the impact of using a digital dictionary: Click-On versus Key-In the acquisition of novel vocabulary meaning with the correct orthography in foreign language acquisition. The research is based on the need to use the technology aids in a moderated way, letting the student get meaningful learning of the novel vocabulary and internalize the correct form of the orthography in the new language.

### **Data Management Procedures**

From an epistemological view, the data collection of this research is intended to give enough information to be able to make crucial decisions and to provide a theory of the impact of how we use digital resources, specifically the Click-On Dictionary, as pedagogical strategies to acquire new vocabulary and good use of orthography. This study establishes results analysis based on the objectives proposed with the questions of the research project, and descriptive statistics aim to explain the data collected through the use of surveys and test results of the test showing how the students approached the learning of new vocabulary and its orthography use in contexts after using the Click-On Dictionary.

Using realism in the use of the data and evidence and subjective meaning of the different points of view, we could have thorough a meta-analysis using the previous or additional collection of evidence with similar characteristics; it is essential to know that this test application

will be conducted by tutors which native language is not English. It needs to be considered because the perception could vary among non-native-speaker teachers. After all, this is not only about the language but the cultural knowledge, legitimacy, and relations with native-speaker teachers' perceptions (Nimehchisalem, 2018).

With this analytical result, we could fulfill the objectives of the research, establish the real impact of the stated problem and try to find a way to improve the use of the Click-On Dictionary, giving the students the possibility to use more effectively what is easier for them in the language acquisition process.

Of course, during this process, as is customary in research, many findings will happen while we look at a different thing, and this will enrich the data and the analysis: "Researchers do not know in advance what they will see or what they will look for." (Cohen, Manion & Morrison 2007, p 168). The analysis of the data was made using quantitative instruments to be able to get the qualitative description. The findings were organized by a number of mistakes in selecting the correct word and selecting the proper orthographic form between three options after reading the document using, in one case, the Click-On Dictionary and, in the other, the Key-In or Regular Dictionary.

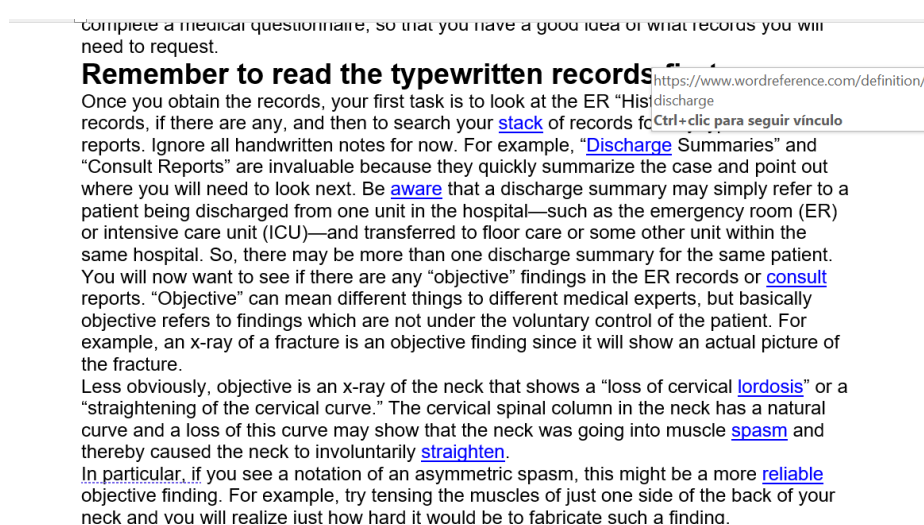
### ***Quantitative Instruments***

Test of accuracy using the Click-On Dictionary in context: This test shows the definition of the word that the students could see when clicking on the word while reading the proposed document. In the test, they had three options of the word being only one the correct; the test measures the accuracy of using the Click-On Dictionary if the students select the proper form of the spelling word.

Test of accuracy using the Key-In Dictionary in context: This test shows the definition of the word that the students could see when searching for the word in the Key-In Dictionary while reading the proposed document. In the test, they had three options of the word being only one the correct; the test measures the accuracy of using the Key-In Dictionary if the students select the proper form of the spelling word.

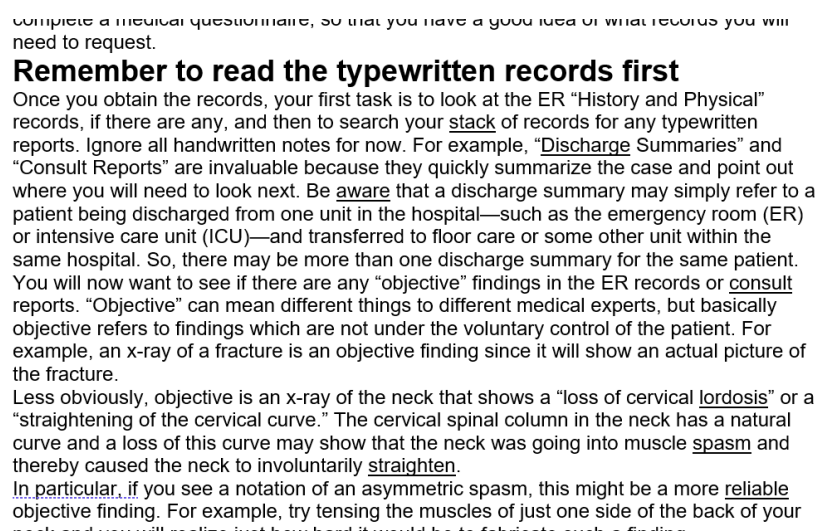
## Figure 2.

*Text linked to the Click-On Dictionary.*



## Figure 3.

*Text with underlined words to be searched in the Key-In Dictionary*



Test accuracy using the Click-On Dictionary, not in context: This test shows the definition of the word that the students could see when clicking on the word in a list of words. In the test, they had three options of the word being only one the correct, and the test measures the accuracy of using the Click-On Dictionary if the students select the proper form of the spelling word. The challenge is that the students memorize the word's spelling by only reading it once.

### ***Qualitative Instruments***

Characterization survey: It collects information about the population that could be important for the research in terms of the usage of technological aids, like age and English level.

Perception survey of the use of Click-On Dictionary: With this survey, the students will share their perceptions about the good results of using the Click-On dictionary and the benefit they think will have us to learn new vocabulary and its orthography.

Aspects like gender and age of the participants were separated to have a wide perception of the findings.

### **Table 1**

#### *Age and English-level characterization*

| <b>Criteria</b> | <b>Percentage distribution</b> |
|-----------------|--------------------------------|
| Average age     | Below 20 years 14 %            |
|                 | Between 21 and 30 years 57 %   |
|                 | Between 31 and 40 years 14 %   |

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|               |                    |       |
|---------------|--------------------|-------|
|               | More than 41 years | 14 %  |
| English level | B2                 | 100 % |

according to  
the CEFR

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**Note.** CEFR Common European Framework of Reference for Languages

Regarding participant population, 71% were in the ages below 30 years, and 14% were more than 41 years; this is the generation that is more appropriate in the use of technological aids for their normal activities. This generation has acquired the ability to do most of the mental and cognitive processes supported with technological applications. The level of English proficiency was determining too in the ability to learn new vocabular and the use of orthography. Other important aspect to have in mind is the skill of the target population to study under virtual programs in which the course's design includes a lot of digital apps.

Other way in which the information was organized was by individuals, in which the responses of the participants were presented to analyze the differences in the responses and to be able to stablish a common pattern in the mistakes they had. This preserves the coherence and integrity of the individual's response and enables a whole picture of that person to be presented, which may be important for the researcher (Cohen, Manion & Morrison, 2007).

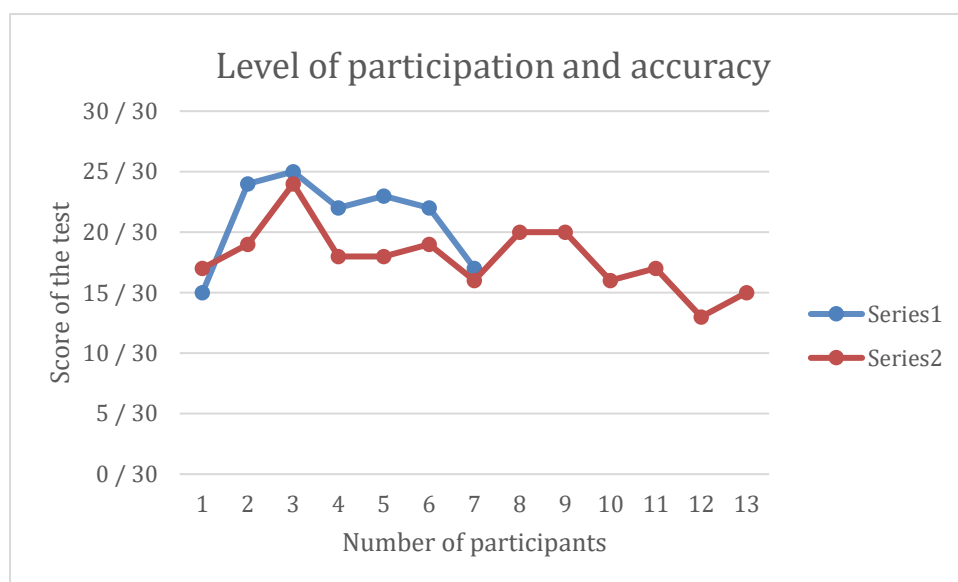
Once the instruments were applied with the invited population to participate in the experiment, not all the answers were received. As this is shown in the figure 2, a group of 20 students was invited to use the different dictionaries in each modality. Only 7 participated using the Key-In Dictionary and 13 using the Click-On Dictionary (35% and

65% respectively), having very similar results in the test that measured the accuracy in the learning of orthography. Even though the accuracy using the Key-In dictionary was 70% in comparison with the 67% accuracy using the Click-On Dictionary. It is evident that the participation using the Click-On dictionary was higher showing that is more effective for students to use a tool that saves time when studying. Participants referred not to have time to search for the words using a Key-In Dictionary because they were very busy, contrasting with the high response of the participants using a Click-On Dictionary. It means that students prefer a tool that provides them facility than other that is maybe more effective but takes more time.

The figure 3 is showing the results of the tests done by the two groups of students, comparing the number of students that decide to use the Click-On Dictionary against the ones that used the Key-In Dictionary and the results obtained by each group.

#### Figure 4.

*Level of participation and accuracy with the proposed instrument*





**Note.** Series 1 shows the participation of students with the Key-In Dictionary and series 2 shows the students participating using the Click-On Dictionary.

Another important aspect to remark on the results is the kind of words in which the participants failed the most. Words with letter combinations in which the pronunciation was similar were they most confusing. Table 2 shows the results of the test depending of the word. Silent “e” and double consonants were the major factors of confusing words in both testing.

**Table 2**

*Words used in the test and accuracy in the test using Click-On Dictionary*

| <b>Word</b> | <b>Number of<br/>wrong answers</b> | <b>Wrong answer<br/>selected</b> |
|-------------|------------------------------------|----------------------------------|
| Inches      | 3                                  | inechs                           |
| subpoenaed  | 7                                  | subpoened                        |
| attorney    | 7                                  | attourney                        |
| dig out     | 3                                  | digg out, dug out                |
| stack       | 7                                  | stak                             |
| discharge   | 7                                  | disencharge                      |
| aware       | 0                                  |                                  |
| consult     | 0                                  |                                  |
| lordosis    | 6                                  | lordoses                         |
| spasm       | 6                                  | spams                            |
| straighten  | 7                                  | straighthen                      |
| reliable    | 8                                  | relieble, relaible               |
| acute       | 6                                  | acutte                           |

|            |   |                         |
|------------|---|-------------------------|
| pinched    | 7 | pinchd                  |
| effaced    | 7 | effeced                 |
| bulges     | 6 | bulgs                   |
| fault      | 2 | faolt                   |
| forewarned | 7 | forwarned,<br>forewarnd |
| jargon     | 2 | jargion                 |
| cast       | 5 | caste                   |
| sort       | 0 |                         |
| shorthand  | 2 | shorthaind              |
| defendant  | 5 | difendant               |
| law        | 2 | low                     |
| reams      | 6 | reems                   |
| blood      | 0 |                         |
| ferments   | 5 | fermeents               |
| Death      | 0 |                         |
| frange     | 0 |                         |
| least      | 5 | Last                    |

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*Students' Perception about the Use of Click-On Dictionary.* The perception of the students results to be crucial because they have the expertise in searching for new vocabulary definitions and the learning of orthography, even they are helped with self-correctors when writing in speaking the knowledge of the pronunciation because of the spelling of the words is important and they recognize very useful and as a good strategy the use of the Click-On Dictionary, giving them a high motivation to use it and motivation is directly related to the learning and cognitive processes.

**Table 3**

*Students' perception survey of the use of the Click-On Dictionary*

| <b>Criteria</b>   | <b>Positive answer</b> | <b>Negative answer</b> |
|---|------------------------|------------------------|
| Is it important the right use of orthography in the language learning | 100%                   |                        |
| Good strategy for learning new words meaning                          | 85,7%                  | 14,3                   |
| Easier than the Regular Dictionary                                    | 85,7%                  | 14,3                   |
| Useful to learn new vocabulary in an accurate way                     | 100%                   |                        |

In table 3, it is evident that the students recognize the importance of learning the right usage of orthography. From the population participating in the perception survey, 85,7 think the Click-On Dictionary is a good strategy for learning new words meaning, against 14,3% thinking this is not. Even the perception of the results of the tests shows a similar result of people using the Click-On Dictionary against those using the Key-In Dictionary. The effectiveness was 70% against 67% accepting digital resources versus traditional methods is less than the practical results.

The last instrument used, to measure the accuracy of the use of the Click-On Dictionary, defining words from a list, not in context, was more effective. The accuracy was 87,5% showing participants can easily memorize the right spelling of words when they dedicate themselves to studying them independently when they study the words in contexts. They are more needed to remember the meaning than the spelling and orthography. The accuracy of the test when students check the words while reading a text is 70% compared with the accuracy of the test when students check the definition of words in a list.

### **Categories**

Those categories described here are the result of the study of the findings of this study that are similar to the research that tries to identify the importance of the excellent use of orthography and the impact of this in language learning, as well as how the use of technological aids like the Click-On Dictionary may interfere in the result of the acquisition of novel vocabulary and the learning of the correct spelling. The categorization was based on a deductive process supported by the research findings.

### **Discussion of Categories**

Categories found according to the findings are divided as follows:

### ***Factors Affecting Participants' Orthography Learning***

Orthography acquisition and use in writing and speaking are relevant in talking about writing accuracy. When expressing ideas, it is necessary to use the correct words and spell them in the right way to avoid confusion and wrong pronunciation for an absolute misunderstanding in the communication goal. In writing, when valid words have not been used, the meaning of the sentences is affected, producing a misunderstanding of the idea and breaking the communication. The similarities in spelling in English make necessary the accuracy in writing and the use of orthography. Orthographic forms affect the perception and production of spoken words in second-language learners (Cerni, Bassetti, Masterson, 2019).

### ***Attitude Against the Use of some Methodologies***

Important aspects need to be stated when we refer to the use of orthography and the acquisition of this: the affectation of the use of the Click-On Dictionary in the learning of orthography management is caused because students only click on the word avoiding the metacognitive process of memorizing the spelling of the word and putting it in another place like the regular or Key-In Dictionary to search for the definition. In this way, the student does not internalize the correct spelling of words because the visual recognition to recreate it during the search is not made. In the handwritten exercises, students develop a complex cognitive process. To read-memorize-write, students are aware of checking correct spelling; clicking on the Click-On Dictionary makes this work for the student.

### ***Motivation***

An accelerated and demanding educational process that people nowadays face pushes them to look for easy solutions that save time in different approaches, including learning. Many methodologies used and validated as correct are now changing because of the facilities of

technology aids. This motivation and the easiness of having all the solutions in the technological device, only clicking on the screen, make the students convert even the mental processes and use those helps in the usual routine. It increases the motivation to use the apps and find them helpful even when they need to repeat a process like searching for a word that they have already seen; in the past, a handwriting process was done, making people memorize easily even the spelling of the words, actually, the process seems to be shorted using the apps with an immediate result.

The categories were defined because of the importance of the affected skill and analyzing how the action impacted the acquisition and effectiveness of actions that were naturally complex, like searching in the dictionary, and that were converted into simple actions by the facilities given by the use of technological apps.

### **Hypothesis Testing and Operationalization of Variables**

The initial hypothesis was exposed in that students using digital resources as educational strategies, specifically the Click-On Dictionary, are changing activities that are important in the cognitive process by making other activities easier to execute. It is supposed that students will not get the same learning if the effort is reduced in the different practices that require complex actions to be meaningfully learned. In this experiment, it is proved that students' conditions are different. They have adopted digital resources as the best option because, with multiple occupations, they do not have enough time to dedicate to activities that give them more effective learning. Still, the numerous interactions with different resources may replace the activities done in the past, like writing to generate durable and practical learning. The motivation and facilities given by the instant answer provided by technological apps encourage them to have different experiences that contribute to their knowledge.

### **Reliability and Validity of Analysis and Findings**

The investigation methods used in this research were the document to read with the Click-On Dictionary (see Appendix B) and the same manuscript (see Appendix C) to be worked with the Key-In dictionary. The second instrument was the online multiple-choice test (see Appendix D). The participants should take it in their environment because they are students of a completely virtual program; it was difficult to control that they develop the test only with what they remember from the use of the dictionary. Still, the media development in this test can show that this is the average result. The results of the test results were directly taken from the report given in the google forms answer section and graphed to be analyzed. In this way, the answers were not manipulated to change the results.

## **Discussions and Conclusions**

In this chapter, the discussion and conclusion of the investigation are found. The analysis results and their comparison with the other researchers' findings to conclude. It is essential to say that the findings change the initial hypothesis because what was considered a problematic situation at the beginning is now an opportunity to implement new educational strategies and adapt them correctly to benefit students' learning process. In this chapter are also found the recommendations for further research and the answer to the question: How does the use of technology impact the acquisition of orthography in English learning as a foreign language in students of the degree of foreign languages with an emphasis in English at UNAD?

The answer to the research question was the result of a study process and observation of the participant's behaviour in the test that shows how the use of technology, specifically the Click-On dictionary affects the learning of orthography acquisition. The results are presented in two different categorizations that conduct new studies in the future intending to obtain very effective use of technology in the language learning process.

### **Significance of the Results**

The knowledge of the characterization of the population object to study was very important, mainly because they belong to a high education program in a virtual mediation which determines many practices they develop to learn. In difference with other environments, students at UNAD are exposed to virtual strategies that facilitate their learning; this could be a factor that helps the approach of the population to the field of study.

During the research, it was reinforced that the excellent use of orthography makes it easier to read and spell words giving a better sense of their use. For English L2 students, the practice shows that it is easier to remember the meaning of the words when they know how to



write them correctly, and they recognize that orthography is important in the new vocabulary learning. The findings of this research could serve as the introduction to the idea that the use of digital resources, specifically the Click-On dictionary, is more helpful to students because even if it is not entirely effective in orthography learning, it could serve as a help for a generalized problem that actual students have, and this is the multitask personality that actual students and the globalized society must face.

Krepel, D Bren and Jong's (2020) research showed that, as expected, hardly any words were spelled correctly if orthography was not present during learning and showed that exposure to orthography greatly improved spelling. They also found that consistent words were spelled better than inconsistent words, but interaction with exposure to orthography qualified this effect. This acquisition of orthography affected the reading, too; in the absence of orthography, the spelling of the word was incorrect, changing the idea and the meaning of the sentence.

The researchers finally defined that the availability of orthography positively affected orthographic learning, as both spelling and reading of the words at the posttest were better if orthography was available during learning. The analyzed researchers' findings were obtained using instruments to get the data from adult students (aged 18-23). They were given the text to read intended to learn new words, and the participants were divided into two subgroups. They received the text written by a native speaker with novel words. The results measured the accuracy of spelling performance, reading comprehension performance, the accuracy of spelling learning on consulted items and mental effort invested in the spelling test they practiced when the activity concluded.

The data analysis concluded with relevant findings to the learning process of an L2. The analysis was developed following the results of other researchers like Liu a, Tzu-C., Hui-Mei

Fan M., and Paas, F. (2013), in which they used instruments to investigate the accuracy of using digital dictionaries versus Click-On dictionaries. The instrument was designed to give texts to the participants with the novel vocabulary they had to search for definitions. In the group of participants using the Click-On dictionary going directly to the definition on a website, many of them did not remember the meaning of the word, contrary to the group of people using a dictionary in which they had to type or look for the word's definition; they quickly remembered the new words.

This present investigation shows that the difficulty to remember how to write some words correctly depends on the word morphology that makes it easy to get confused with similar words, for example, words with silent e (i.e. cute, face, eye, mate, lane) double consonants (i.e. foggy, spell, assess), or very similar words (i.e. hop/hope, bird/beard, hell/heel, affect/effect, lay/lie) with different meaning which is a common situation in L2 English students. The results show that participants understand the importance of orthography in language learning. The test accuracy was very similar between the group of participants using Click-On Dictionary and the group using digital or regular dictionaries. The success in recognition of the spelling of the new words using the Click-On Dictionary is 67% against 70% using the Key-In or regular dictionary. Additionally, participants feel more comfortable using the Click-On Dictionary because it is easier and faster, increasing motivation when reading.

In learning these differences in how to write the words and their meaning, the use of technology plays a crucial role in language learning (Ahmadi, 2018). We can see how the use of technology helps in self-understanding our learning style, helping to take advantage not only of our capabilities but of the different resources provided by the technology and the devices we have access to in our daily life like cellphones, digital watches, computers, and others that are

now active part in our daily routines. The facility and immediateness of the use of these technology aids create high motivation in learners for the effective learning of language skills and the variety of opportunities they provide not only in the moment they are studying but in the normal activities they can introduce to enhance the learning process. This motivation of using technology apps as aid is a fundamental issue in learning, and this should be taken as an advantage by the teaching mediators to increase the time dedicated to learning, but not to completely substitute the interaction with the teacher and the practice with the study group. Teachers result to be the mediator between technology and students' process. It is necessary to continue using some pedagogical strategies in evaluation to ensure the students are doing enough to be independent in the new language usage.

When speaking, the students reproduced what they had written in the way they understood what they had learned and why they will use the learning for the different skills as they correlate. When they have orthographic mistakes like a missing "e" at the final of the word (i.e. rate/rat, role/rol, plane/plan, them/theme, fine/fin, ride/rid), it changes dramatically not only the pronunciation but the meaning of the word many times changing the sense of the whole idea, affecting not only one skill but all of them, the pedagogical practices in language learning need to be intended to help increase the level in all the skills as a necessary process that is useful in the communicative success of the language. Orthographic precision cannot be avoided; learning communication is the most important goal in language, and all factors are decisive. This should be clear and pertinent. The orthographic effect on spoken and written production and metalinguistic awareness is robust evidence that orthography affects L2 phonological representations, even in newly learned words. The use of digital resources, as in this case the Click-On dictionary, seems to be beneficial because it provides effectiveness in the use of the

time and in the intention of using it that is helping to increase the vocabulary meaning in students. Another important aspect should be when the student sees the word's meaning while they read the text. The relation of the word with the context will make it easier in the future to remember the word, its meaning, and its spelling.

### **Pedagogical and Research Implications for the Field of Study**

Nowadays, educational environments have been adapted to the use of new technologies; in different ways, the pedagogical practices are adapted to combine online and digital activities with the regular classwork, complementing the teaching tools to be more effective in the knowledge mediation; technology enables teachers to adapt classroom activities, thus enhancing the language learning process (Ahmadi, 2018).

Using technology in the classroom, learners can go further the teacher's expectation; this opens the possibility for students to learn different things from the required in the different courses, in online resources, there is no limit to experiencing autonomous learning, language-learning apps' practical nature, as an informal educational tool, may attract self-learners (Ibacache, 2019) motivating them to continue learning not only during the instructional time but also in different periods making the process more meaningful.

Thus it is time to rethink the idea of integrating technology into the curriculum and aim to embed technology into teaching to support the learning process (Ahmadi, 2018); the speed of modern learners is higher than what we can offer to them in classrooms, this is because the actual teacher is mediators between knowledge and learners and they have evolved in the way to approach to knowledge, mobile-assisted language learning (MALL) has a user-centered essence that resonates with users in the age of social media (Ibacache, 2019), teachers are a guide who

help students to learn the best way to learn according to their needs and proper characteristics while they do what they like: to use the web to communicate with the world.

Technology helps learners to take advantage of the different tools: visual, auditive and interactive, to increase their learning from regular activities due to regular and constant use of technological devices, Ibacache (2019) says that these apps provide a multifaceted capability that offers time and space flexibility and adaptability that facilitates the changeable environment favored by self-learners. This is a time to evolve in curricular planning, including an extensive use to grow in the approach to teaching and learning strategies more suitable and effective using the tool that best approaches the modern learning style of most young people.

### **Research Limitations on the Present Study**

Even though the study population are students of virtual programs, used to being in virtual environments and developing most of the tasks using technological apps, the participation was not as expected; anyway, the investigation could continue getting enough results to be analyzed. From a group of 20 students invited to use the different dictionaries in each modality, seven participated using the Key-In dictionary and 13 using the Click-On dictionary (35% and 65%, respectively), even actually we have results, and this phenomenon was helpful in getting information from the studied population. Nevertheless, this reaction shows another theory that contrast with the results of the research in a positive way, the benefit of using technology as an aid that prevents learners from wasting time in complex processes giving an excellent result in acquiring a new language and the correct orthography use. The important issue in the studied population was supported by the number of studies that have compared L2 reading performances in background groups and documented the persistent impact of orthographic properties

(Yamashita, 2013). We continue learning orthography as part of our language skills, and even though the methods have changed, the results are similar.

The challenges that learners face in the moment, in which they need to supply themselves with critical practices, in which technological devices and apps are essential extensions to develop normal activities, will be difficult for young people to perceive life without it. Time management in actual learning processes is crucial because it determines the selected pedagogical strategies. This is one of the favourites chosen by modern learners, the facility to have everything they need in hand makes them opt for technology as the best option. The researchers continued that technology helps learners learn it based on their interests (Ahmadi, 2018). This is entirely valid; in the evolution of society and learning strategies, there is no way back; the work is to enhance the idea that orthography cannot be undervalued because of its importance in developing accurately the accurately developing other communicative skills.

### **Recommendations for Further Research**

The goal of this research was to measure the impact of the apps on language learning; the results show that the use of digital resources is positive in terms of the needs of students derived from the changes in habits and practices, mixing the social network with study and regular communication and interaction using technology apps. Meaningful research to continue in the line of the use of digital resources is needed to set how to improve the use of this strategy to be more effective to students, how to increase the autonomy and the connection between all the skills reinforced through the digital resources. A very ambitious study is to know how cognitive processes have changed in learners to use fast activities provided by technological apps as a meaningful resource for learning new vocabulary and orthography. Many teachers consider technology to be a significant part of delivering a high-quality education (Ahmadi, 2018).

New research should be focused on validating reliability in creating activities that reinforce the acquisition of orthography articulated with the listening and speaking skills mediated by technological apps.

## **Conclusions**

Applications that contribute to the flexibility and effectiveness of time usage generate motivation in learners once they facilitate the interaction between the learner and the new knowledge. With tools that maximize the time usage in complex activities like searching in the standard dictionary, learning is agile, and time can be used for other important and meaningful activities that contribute to the learning process. The use of apps like the Click-On Dictionary in L2 orthography learning results in an excellent resource, giving the students the opportunity to use a tool that they are used to and everyday have in their hands, this is a great contribution to the pedagogical strategies implemented by mediators and make the teaching process more effective.

Click-On dictionaries allow people to have a good memorization process of the novel words and get a good opportunity to define new vocabulary saving time in reading, comprehending, and learning orthography. When reading a text, new words are found that need to be searched in the dictionary to completely understand what the text needs to transmit; for learners it is important to know the meaning of the new vocabulary but learn it too, as well the correct spelling of the word, the resource is easy to obtain online and of free use.

Technological applications seem to be a very good resource for learners to enhance their skills. People can use the new language in different activities, not only to study but to use language in real communicative situations like the ones proposed by social media. Applications to reinforce and practice the use of grammar, reading comprehension, acquaintance of new

vocabulary and orthography, listening skills, pronunciation drills, and conversation sites in social network are a positive complement in pedagogical strategies used in language courses using the technology and digital devices like a novel and effective contribution to enhance the growth in the use of L2.



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## Appendix A: Informed Consent

### CONSENT TO PARTICIPATE IN RESEARCH

**Project name:**

The importance of orthography in a foreign language acquisition

**Investigator:** Mónica Lucía Londoño

**Telephone:** 3117831186

**E-mail:** monica.londono@unad.edu.co

**Sponsor:** UNAD

The present research has the intention to know how the use of digital resources is affecting the learning of orthography in novel vocabulary in English learners. You are invited to consider participating in this research study. I will give you an instrument consisting in a reading with novel words that you need to consult and an online test in order to identify if the use of Click-On dictionary is affecting your normal learning process of novel vocabulary and if any measure to prevent future consequences is needed.

The collected information will be absolutely confidential and will be used exclusively for the research purposes. You are never going to write your names in the test and you will be observed as a student in a group not as an individual. Your names will never be public and your answers will be used only to identify if the hypothesis represents a real problem that should be solved. The results will be kept by the researcher in a private place (not public).

Your participation is completely voluntary, and the result will not affect your academic results and the perspective the teachers have about you will not change for the answers you provide.

I have fully explained this study to the student. I have discussed the activities and have answered all of the questions that the student asked.

Signature of investigator: \_\_\_\_\_

Date: \_\_\_\_\_

I           YOUR NAME           have read the information provided in this Informed Consent Form on           DATE          . All my questions were answered to my satisfaction. I voluntarily agree to participate in this study.

Your signature: \_\_\_\_\_

## **Appendix B: Text linked to the Click-On Dictionary**

### *How to Read and Interpret Medical Records in a Personal Injury Case*

Congratulations, you now have a stack of medical records eight inches high that you either subpoenaed or your client provided! What now? The purpose of this article is to save the personal injury attorney some time and anxiety, and hopefully help you to dig out the key information.

As when you are confronted with any task, it helps to first have a clear idea of what your objective is and then work from the largest part of the task down to the finer parts. To begin, and even before you obtain the medical records, it will be most helpful to first have the client complete a medical questionnaire, so that you have a good idea of what records you will need to request.

### **Remember to read the typewritten records first**

Once you obtain the records, your first task is to look at the ER “History and Physical” records, if there are any, and then to search your stack of records for any typewritten reports. Ignore all handwritten notes for now. For example, “Discharge Summaries” and “Consult Reports” are invaluable because they quickly summarize the case and point out where you will need to look next. Be aware that a discharge summary may simply refer to a patient being discharged from one unit in the hospital—such as the emergency room (ER) or intensive care unit (ICU)—and transferred to floor care or some other unit within the same hospital. So, there may be more than one discharge summary for the same patient.

You will now want to see if there are any “objective” findings in the ER records or consult reports. “Objective” can mean different things to different medical experts, but basically objective refers to findings which are not under the voluntary control of the patient. For example, an x-ray of a fracture is an objective finding since it will show an actual picture of the fracture.

Less obviously, objective is an x-ray of the neck that shows a “loss of cervical lordosis” or a “straightening of the cervical curve.” The cervical spinal column in the neck has a natural curve and a loss of this curve may show that the neck was going into muscle spasm and thereby caused the neck to involuntarily straighten.

In particular, if you see a notation of an asymmetric spasm, this might be a more reliable objective finding. For example, try tensing the muscles of just one side of the back of your neck and you will realize just how hard it would be to fabricate such a finding.

You should now look through the records for whatever radiology reports are available.

Fortunately, these are almost always typewritten and easy to read. Look for keywords such as “acute” which indicate that the injury happened during the car crash. When looking at a spinal CT or MRI scan report, look for terms that indicate that the nerves are pinched, such as with an “impingement,” or that something is rubbing up against the nerves as when something is “effaced.” Disc bulges or protrusions are obvious, but also look for less obvious things, such as an “annular fissure” or a “torn annulus.” A simple annular tear may not seem like much, but this tear in the spinal disc can be quite painful and very difficult to treat. A finding of an annular tear is something to bring up with your neurology expert for a further opinion.

Much less reliable will be the intake notes as to how the incident happened. For a vehicle collision, the doctor will want to know the patient’s initial symptoms during the crash but will not be concerned with who was at. It is still worthwhile to look for in the intake records, particularly if there is no police report, to at least get the plaintiff’s recollection of events close to the time of the incident. However, be forewarned that the caregivers who do follow-up care will frequently just quote the intake notes, along with any inaccuracies, when beginning their own chart notes.

Look for things that may require follow-up care. For example, “ORIF” is simply jargon for “open reduction internal fixation” surgery fault to repair a broken bone using surgical screws. So, in that instance you would continue to search the typewritten records to see if there is anything about how long the cast (if any) was in place, if a course of physical therapy was started after the cast was removed, and if there were any adverse reactions to the surgical screws. It would not be too unusual to have to remove some of the surgical hardware if it was causing inflammation or some other sort of problem. There should be some indication of such inflammation in the follow-up reports if it existed.

While reading the typewritten or even handwritten notes, look for abbreviations which may easily indicate what is being referred to. For example, “C/O” in the “History and Physical” notes is for “complaining of.” What follows will immediately summarize the patient’s complaints as they existed at that time. Similarly, a number “2” with what looks like a degree symbol after it stands for “secondary to.” In other words, for example, neck pain “secondary to” a car accident simply means that the onset of neck pain happened after a car accident.

Other abbreviations refer to frequency, such as when an ordered medicine is to be given. QID means four times a day; TID means three times a day; BID means twice daily, and PRN means that the medication, such as pain medicine, is to be taken as often as needed for pain control. “PO” means that the medication is to be given orally. A small “c” with a line over it means “with” and a small “s” with a line over it means “without.” Remember that medical records use scientific terminology, so a small triangle means “change,” shorthand and not “defendant,” as it would in law.

Ordinarily, you can just ignore the reams of laboratory data that will inevitably accompany a patient’s records. However, if for some reason a particular lab value, such as blood sugar

(glucose), is important to the case, there will usually be a guideline as to what “normal” values should be. Find these normal values at the top or bottom of the page, or sometimes on a separate page, and then just go back and look at what the actual measured values were.

Be aware, however, that the lab values found in an autopsy report are not exactly like the medical record of a living person. Alcohol, for example, ferments in the body after death. So, a blood alcohol level taken on autopsy after death does not necessarily correspond with the blood alcohol as it existed at the time of death. You will almost certainly need to consult a pathologist for an expert opinion on the postmortem toxicology.

If you run into an unfamiliar medication or medical condition while reviewing the records, do not be afraid to “Google” it. We have available to us wonderful and instant access to a whole range of medical knowledge, if we simply take a few minutes to research it on the internet.

Looking up a condition, such as “carpal tunnel,” may not make you an instant expert, but you will at least know whether or not it can be caused by trauma.

Source: [How to Read and Interpret Medical Records in a Personal Injury Case | Avrek Law Firm](#)



## **Appendix C: Text with underlined words to be searched in the Key-In Dictionary**

### *How to Read and Interpret Medical Records in a Personal Injury Case*

Congratulations, you now have a stack of medical records eight inches high that you either subpoenaed or your client provided! What now? The purpose of this article is to save the personal injury attorney some time and anxiety, and hopefully help you to dig out the key information.

As when you are confronted with any task, it helps to first have a clear idea of what your objective is and then work from the largest part of the task down to the finer parts. To begin, and even before you obtain the medical records, it will be most helpful to first have the client complete a medical questionnaire, so that you have a good idea of what records you will need to request.

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Source: <https://www.avrek.com/blog/how-to-read-and-interpret-medical-records-in-a-personal-injury-case/>

## Appendix D: Vocabulary and orthography test

Sección 1 de 3

### Vocabulary and orthography test (Click-on dictionary) ✕ ⋮

Thank you for participating in this experiment that will let us know the accuracy of the use of digital dictionaries.

Después de la sección 1 [Ir a la siguiente sección](#) ▼

Sección 2 de 3

The data collected here is with only research purposes and will be treated anonymously ✕ ⋮

Descripción (opcional)

Please enter your age (por favor introduzca su edad) \*

Texto de respuesta corta

Select your gender \*

Male

Female

Sección 3 de 3

Please select the best answer ✕ ⋮

Dear participant please select the best word according to the given definition, please do not search the word while you answer the test, do your best having in mind only what you remember from the reading.  
(Apreciado participante, por favor seleccione la palabra que mejor represente la definición dada. Por favor no consulte el diccionario durante el test, solamente use lo que recuerda de la lectura.)

⋮

Weights and Measures a unit of length,  $\frac{1}{12}$  of a foot, equivalent to 2.54 centimeters. \*

inches

inechs

inchis

⋮

An order from a judge summoning witnesses or evidence to appear before the court. \*

- subpoenaed
- subpenaed
- subpoenaed

Lawyer \*

- attorney
- attourney
- atourney

To break up and turn over earth, sand, etc. \*

- dig out
- digg out
- dug out

An organized, neat pile or heap \*

- stack
- steack
- stak

To release or send away \*

- discharge
- disencharge
- discherge

Having knowledge or realization of \*

- aware
- awaere
- eware

To seek guidance or information from \*

- consult
- counsult
- consoult

An abnormal forward curvature of the spine in the lumbar region, resulting in a swaybacked posture \*

- lordosis
- lordousis
- lordoses

A sudden, abnormal, uncontrolled movement of a muscle \*

- spasm
- spams
- spames

To (cause to) become linear, orderly, neat, or tidy \*

- straighten
- straigther
- straigthen

Capable of being relied on; always or often dependable in character, judgment, performance, or result \*

- reliable
- relieble
- relaible

Sharp or severe in effect \*

- acute
- acutte
- accute

To squeeze between the finger and thumb, the jaws of an instrument, or the like \*

- pinched
- pinched
- pinchd

To wipe out \*

- effaced
- effeced
- efeced

A rounded part that sticks out of something \*

- bulges
- bulgs
- bulgis



A defect or imperfection \*

- fault
- foul
- faolt

To warn in advance \*

- forewarned
- forwarned
- forewarnd

The specialized language used by a particular trade, profession, or group that is difficult for outsiders to understand \*

- jargon
- jiarjon
- jargion

A rigid, hard covering used to protect and hold in place a broken bone \*

- cast
- caste
- casst

A particular kind, class, or group;type \*

- sort
- sortt
- sortt

A method of fast handwriting using simple strokes, abbreviations, etc., for letters, words, or phrases \*

- shorthand
- shorthaind
- shortjand

One against whom a legal action is brought in a court \*

- defendant
- defendan
- difendant

The principles, rules, and regulations set up by a government, other authority, or by custom, that apply to all the people of a group \*

- law
- low
- lawe

A standard amount of paper in the U.S., usually amounting to about 500 sheets \*

- reams
- rimms
- reems

The red fluid that flows through the heart throughout the body \*

- blood
- bluod
- blud

Agitation or excitement; commotion \*

- ferments
- ferments
- fermeents

The act of dying \*

- death
- deeth
- deaht

The extent to which, or the limits between which, something can change or vary \*

- range
- rang
- rangué

This expression is used to express the belief that a situation or circumstance is even worse than stated \*

- least
- last
- leest