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Investigating the Relationship between Students' Perceptions and Practices of Autocorrect and their Spelling Proficiency

Case Study: Third Year Students of English at Mohamed Seddik Ben Yahia University, Jijel

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Didactics of Foreign Languages

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Declaration

We hereby declare that the dissertation entitled “Investigating the Relationship between Students’ Perceptions and Practices of Autocorrect and their Spelling Proficiency” is our own work and all the sources we have used have been acknowledged by means of references. We also certify that we have not copied or plagiarized the work of other students or researchers partially or fully. In case any material is not documented, we shall be responsible for the consequences.

Dedication

First and foremost, I dedicate this work to my perfect mother. You are the image of resilience, the strongest most patient and smart person to walk this planet. You offer unconditional gentle love and the safest warm hugs. I thank you for all the sacrifices you made and for always supporting and cheering me on my entire life. I'm extremely grateful you're still here among us happy and healthy.

To the two sweetest sisters in the world, Manel and Khadidja, you are my main source of laughter and joy. I would be nothing without you two. Your sisterhood made me the person I am today. I pray to God our indestructible bond lives on till we're old and crusty, musty and dusty. Living life beside you two is the best thing that's ever happened to me.

To my brother Mohamed Reda for being kind and generous

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-Anissa.

Dedication

In the name of Allah, the Most Gracious, the Most Merciful

I would like to dedicate this work to my dear Mother, my angel and my role model 'OUDJAI NADIRA' who left this world way too soon, but will forever be in my heart, soul and every step I take. May Allah grant you janat al firdaws.

To my **grandmother** and my second mother. For your love, prayers, wisdom and guidance, for the incredible person you are and for your old, yet so innocent and pure soul. May Allah always keep your beautiful smile shining.

To my aunts, uncles and my little cousins. My source of happiness, joy and support. The people I love the most in this world, I care for you deeply and I would die for each one of you but I would definitely kill for Youcef.

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Abstract

The present study sought to find out students' practices and perceptions of autocorrect in relation to students' spelling proficiency. 100 third-year EFL learners at Mohammed Seddik Ben Yahia University, Jijel, responded to a questionnaire which explored their perspectives and practices of autocorrect along with a spelling test divided into two sections to test their spelling recognition and production abilities. Following qualitative and quantitative approaches to collect and analyse the data, it was hypothesized that students' appropriate practices and perceptions of autocorrect will correspond positively with their spelling proficiency. The results obtained revealed that the participants frequently used autocorrect to edit errata in texts and auto-complete spellings of familiar and unfamiliar words. It also showed that students considered autocorrect an effective way for learning spelling. Positive, yet weak, relationships were established between students' perceptions and practices in using autocorrect and their spelling test scores, especially between their frequency of using autocorrect and using it to check the spelling of words after typing different texts. Also, a weak but negative relationship was found between students' test scores and their attempts to learn autocorrected words.

Keywords: Spelling, Autocorrect, Spelling Proficiency, Spellcheckers

List of Abbreviations, Acronyms, and Symbols

EFL: English as a Foreign Language

FL: Foreign Language

%: Percentage

(R_s): The Spearman Coefficient Correlation

(\leq): Less Than or Equal to

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General Introduction

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General Introduction

It is becoming increasingly challenging to steer clear from technology as it has taken over and most people have become dependent on it to complete the simplest of tasks. As a common task, people use technology to write texts. Particularly, the spelling task has become easily achieved through autocorrect, which provides automatic word corrections and suggestions when typing using computers or smartphones and, which may result in the users' dependence on the spelling technology and negligence of learning and mastering spelling rules. The ability to spell words without the assistance of spellcheckers and autocorrect has become only necessary in few contexts, such as a classroom exam, since spelling software has become omni-present and accessible.

1. Background of the Study

Spelling is a very important yet very complicated aspect of language. Attaining an adequate proficiency in spelling, helps tremendously in establishing successful written communication. It is also an indication of one's mastery of the language. However, with the assistance of technology nowadays, language learners developed a huge dependency on spellchecking and autocorrection. These word processors made spelling easier and less important for language learners to acquire. Consequently, a body of research was conducted in order to investigate the effects of spellcheckers and autocorrection on spelling skills.

A recent study was conducted by Ali, Naskshbandi, Saadi, and Barzani (2019) at Tishk International University, Iraq, to examine the effect of spell checkers and auto-correction on English as a foreign language (EFL) learners' spelling proficiency. The researchers conducted an experiment in which the participants were assigned to write one hundred-words paragraphs at the beginning and end of the term. The control group was asked to do handwriting assignments every week, whereas the experimental one was asked to write

their assignments using a software with a spell-checker feature. Data showed that students who depended on handwriting had a better spelling competence than those who depended on auto-spell checker features. Similar to the previous study, a quasi-experimental study was conducted by Anak Rimbar (2017) in order to investigate the influence of spell checkers on students' ability to generate repairs of spelling errors. While the control group was given two handwritten dictations, the experimental group received three dictations, one in which they were allowed to use a spell-checker tool. The results indicated that spell checkers had minimal influence on the students' cognitive ability to correct the errors.

Another study was conducted by Rahimi, Gholizadeh, and Shahryari's (2019) at Tehran University, Iran, for the purpose of exploring EFL learners' perceptions about automatic spelling correction and their awareness of the way the software functions. An 'automatic spelling correction software use' scale assessed 42 female and 49 male University students' perceptions about learning English spelling regarding four factors: awareness, educational value, use dependence, and helpfulness of the software. The results revealed that male students had more awareness and more positive perceptions of the way the software works and correct spelling mistakes.

2. Statement of the Problem

Many studies have been conducted to explore the effect of technology on EFL students' different academic competencies, but little has been done in regards to the use of autocorrect and its relation to students' spelling aptitude, especially in the Algerian context. To address this lack of resources and gaps in research, this study aims to explore students' perceptions of autocorrect, their usage patterns, and how it correlates with their spelling proficiency. By examining the attitudes and practices of students towards autocorrect, the study seeks to shed light on the potential relationships between autocorrect and students'

spelling skills development. The findings of this research will contribute to provide a deeper understanding of the role of autocorrect in students' writing process and its influence on their academic spelling skill.

3. Research Questions

1. Is the students' repeated exposure to autocorrect connected to their spelling abilities?
2. Is using autocorrect as a tool to double check spelling of words related to students spelling proficiency?
3. Does the use of autocorrect while typing relate to students' spelling abilities?
4. Is there a relationship between learning the corrections provided by autocorrect and students' spelling skills?

4. Hypothesis of the Study

It is hypothesized that using autocorrect appropriately will correspond with higher spelling proficiency as measured by a spelling test.

5. Aim of The Study

The study at hand aims at investigating the relationship between students' perceptions and practices of autocorrect and their spelling proficiency.

6. Research Methodology

In order to test the hypothesis and answer the previous research questions of the study, two research instruments were used: a questionnaire and a test. Firstly, the questionnaire was implemented to explore students' practices and perceptions of autocorrect. The test, on the other hand, measured the students' level of spelling in both recognition and production. The research tools were administered to 100 third year Licence students of English at the

Mohammed Seddik Ben Yahya University, Jijel. In order to review the data gathered accurately and measure the participants' spelling level, the Statistical Package of Social Sciences (SPSS) was used to store the data and explore the possible relationships between the use of autocorrect and students' spelling proficiency.

7. Structure of the Study

The current study consists of three chapters in addition to a general introduction and a general conclusion. The first chapter, a theoretical one, provides a brief overview of English spelling mechanisms and assessment. Subsequently, the second chapter attempts to provide an introduction to autocorrect and its history of how it came to be. The third chapter of the study comprises all the descriptions, analysis and interpretation of the research tools and results.

Chapter One: Review of English Spelling Mechanisms and Assessment

Introduction

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Chapter One: Review of English Spelling Mechanisms and Assessment

Introduction

Spelling is a very important aspect in language and language learning. It is crucial for second/foreign language learners to attain a good spelling proficiency as it helps them in communicating more effectively. This section is a review of the literature that concerns English spelling. First, it supplies a definition of spelling and its importance in communication. Second, it introduces the evolution of English spelling throughout history. Next, it presents the most common English spelling rules along with the concept of grapheme-phoneme correspondence. Finally, it outlines different types of spelling errors and spelling assessment.

1.1. Definition of Spelling

According to Cambridge Dictionary (2023), spelling is the process of: “forming words with the correct letters in the correct order”. Another similar definition by Merriam Webster Dictionary states that it is: “the forming of words from letters according to accepted usage” (2023). To put it differently, spelling involves the act of combining letters according to the rules of a given language for the purpose of creating meaningful words. Furthermore, spelling proficiency can be described as the written and oral ability to identify, reproduce, recall and acquire the correct sequence of letters in words (Graham & Miller, 2018, p. 2).

The ability to spell words correctly is considered as a fundamental skill in written communication, and an important component of language proficiency which requires: “a number of language abilities, including phonological, morphological, visual memory skills, semantic relationships as well as adequate knowledge of spelling rules”(Staden, 2010, as cited in Al-Sobhi, Rashid, Abdullah, & Darmi, 2017, p. 1). In other words, a proficient speller has the ability to identify and work with individual sounds, to recognize meaningful units of

words such as suffixes and prefixes, to store and recall visual information, to recognize how words and ideas can be related based on what they mean and has sufficient knowledge regarding spelling rules.

1.2. Importance of Spelling in Communication

Spelling is a fundamental component of effective written communication. It is mostly applied in real life situations to fulfil specific communication goals (Gagen, n.d.). In other words, having a good spelling proficiency is essential for clear and effective communication in everyday life. It is needed for many different situations, from writing essays, emails and messages, to writing job applications and resumes. Moreover, accurate spelling of words holds so much importance as it carries the essence of meaning, grammar, and intention. Consequently, misspellings have the potential to cause miscomprehension and, eventually, can block effective communication between the reader and the writer (Apel, et al, 2008, as cited in Al-Bereiki & Al-Mekhlafi, 2015, p. 662). In short, spelling competency is a vital aspect of language and communication; it reflects one's proficiency and mastery of the language.

1.3. Evolution of English Spelling

The English language that exists today has been heavily influenced by different historical events and cultural exchanges. These events provide a logical explanation of why the nature of English spelling is as complex and irregular as it is currently.

1.3.1. Old English

The history of English spelling goes all the way back to the origin of the English alphabet. Old English was the language spoken by the Anglo-Saxons; its writing system is represented by a runic alphabet named 'Futhorc', which consists of, approximately 33 letters.

The Anglo-Saxon alphabet was used from the 5th century until the 7th century AD, when the Latin alphabet came as a substitution (Killoran, 2023). The Christian missionaries from the Roman Empire during the 7th and 8th centuries, helped with introducing the Latin language, the language of the church, to the Anglo Saxons. Moreover, the Christian monks started to replace the Futhorc alphabet with the Roman alphabet claiming that the latter is inappropriate. As Crystal (2012, p. 14) claimed: “the very word ‘rune’ means something hidden or ‘secret’. Why not use those? Unfortunately you can't. As a Christian monk, you have a problem. Runes are too strongly associated with magic, dark forces and the pagan practices you want to eradicate.” Then he added:

You listen carefully to Anglo-Saxon or English and you hear sounds that don't exist in Latin. Two sounds especially catch your attention: consonant sounds made by the tongue between the teeth (we'd call them ‘th’ sounds today, as in this and thin). How are you going to write those? There also seem to be far more sounds in this language than in Latin. (Crystal, 2012, p. 14)

This quote serves to highlight the point that the Latin alphabet was not compatible with the Germanic tongue, the latter contained several phonetic features that are not found in Latin. Hence, the Latin alphabet was modified to accommodate these sounds. As the Roman alphabet did not have enough letters, they also used some runes; for instance, the letter ‘Þ’, which is referred to as ‘thorn’, was used for the ‘th’ sound in ‘thing’. Another runic letter that was used is ‘æ’ (called ash), which is a vowel representing the sound ‘a’ in words like ‘mat’ and ‘bat’. Furthermore, the letter ‘c’ was used to represent the ‘ch’ sound in ‘Church’, and the letter ‘k’ (or cyning) conventionally represented the sound in ‘King’ (O'Donnell, 2021).

1.3.2. Middle English

The arrival of the Norman French in England after their victory at Hastings under William the Conqueror in 1066 represents the end of the Old English period and the beginning of the Middle English era. The Norman invaders became the dominant class, and French was considered as the language of nobility, government, law, and civilized life in England for the two next centuries. English on the other hand, was considered as the language of peasants. Words such as: army, court, defence, faith, prison and tax were brought by the Normans (Yule,1985, p. 430).

Middle English had an immense influence on the English spelling, with a flood of Norman-French words coming into use in the beginning of the 11th century. The Normans did not only bring new different words; they also changed the spelling of some English words so that French readers find them more familiar. The newcomers had no interest in keeping the Germanic runic letters such as ‘(þ)’ and ‘(ð)’ and replaced them with ‘th’. They also disliked how the Anglo-Saxons used ‘sc’ to spell /ʃ/, so it was changed to ‘sh’ as in ‘ship’ (Crystal, 2012).

Moreover, another term for Middle English is Chaucer English. Geoffrey Chaucer is an English writer who is most famous for his collection of stories called ‘The Canterbury Tales’. His works are a reflection of the language during that period. Unlike modern English, which has only one way of spelling most words apart from the few differences between American and British English such as ‘color’ and ‘colour’, Middle English period had a variety of writing. Common words in Middle English had different ways of spelling. For example, ‘Nat’, ‘nought’, ‘nawt’, ‘naught’ and other similar forms are possible ways of spelling ‘not’ , Therefore, reading Chaucer’s works is remarkably different from reading ‘Piers Plowman’ and ‘Sir Gawain and the Green Knight’, which were written in the West

Midlands dialects. On the other hand, and because he was born in London, Chaucer wrote with the city's dialect (Horobin, 2017).

1.3.3. Modern English

The start of Modern English was marked by a massive phonological phenomenon known as the 'Great Vowel Shift', which took place progressively between the 15th and the 17th centuries, and which affected the vowels of English. Basically, the long vowels started to shift upwards in the mouth, which resulted in a change in their pronunciations (Menzer, 2000). Along with other printers, William Caxton, who passed away in 1491, based spelling on late medieval manuscripts rather than the existent pronunciation during that time. Despite the transformation of most of the Middle English long vowels, their spellings did not change. For instance, the Middle English vowel [e:] shifted to [i:] in words such as 'feet' and 'see' (Algeo, 2010, p. 141). Modern English is a reflection of the dynamic nature of the English language and the exceptional evolution it went through.

1.4. Spelling Rules of the English Language

Even though English spelling is considered rather complex, it is not entirely inconsistent and arbitrary. In fact, it is based on plenty of laws and rules that can be applied. As Fulford (2012) claimed: "English spelling is not an illogical mish-mash of sounds and letters. On the contrary, English spelling does indeed have logical rules that govern how the words are spelled" (p. 7). Some of the most common English spelling rules are described in the table below

Table1.1: Common English Spelling Rules

Spelling Rule	Definition	Examples	Exceptions
Doubling consonants:	When a suffix that starts with a vowel (ed ,ing , er ...etc) is added to a base word that has one syllable ,one vowel, and one final consonant , the last consonant is usually doubled . And if the word contains more than one syllable , the last one has to be stressed (Rudling, 2014, p.17).	Jog + er → Jogger Occur + ed→ Occurred	We do not double words ending with: x , c , w , v, y, and u.
Droppingthe‘e’ rule :	When adding a vowel suffix ending :ing, -ous, -ed, -er, -est, -ise/-ize, -or, ary/ery, -ish, -ur , it is proper to drop the 'e'. However , with consonant suffixes : ly, -ment, -s, -ful, -ness ; we retain the 'e' (Rudling, 2014, p.17).	Value + able → Valuable Guarantee + ed → Guaranteed	binge → bingeing dye →dyeing referee→ refereeing manage→ manageable see→ seeing And many other exceptions .
‘y’ to ‘ies’ or ‘s’ rule :	In words that have a vowel next to the final ‘y’ (journey , boy) an ‘s’ has to be added. Because if we transform the ‘y’ into ‘ies’ it'll look odd with 3 vowels in a row (journeies , boies) (Rudling, 2014, p.48)	Monkey →Monkeys Supply→Supplies	Why →Whys

<p>'i' before 'e' except after 'c' :</p>	<p>'i before e except after c' rule applies to the "ee" sound, 'as in green', after 'c' when it's a long c as in 'succeed' . (Rudling, 2014, p.102)</p>	<p>Shield Ceiling</p>	<p>Protein Weird Either Neither And many other words .</p>
<p>Silent Letters :</p>	<p>'Silent letters are the letters in words that are not pronounced but make a huge difference to the meaning and sometimes the pronunciation of the word' (Rudling , 2014, p.117) There are many patterns for silent letters in English. For instance, the letter 'k' is often silent before 'n', the letter b is usually silent after the letter 'm', and 'e' is often silent at the end of words.</p>	<p>Knights Know Lamb Doubt Dumb Hustel Answer Listen Mortgage Bridge Hate</p>	<p>The letter 'b' is not silent in the word 'Number' The letter 'e' in the word 'Catastrophe' is not pronounced.</p>
<p>Adding 'ly'toWords</p>	<p>We usually add 'ly' to words ending in 'l', and 'full'. We add 'ly' to whole words and we keep the final 'e'. In words that end with a consonant and 'le' (ble, kle, tle), we change the letter 'e' to 'y'. The 'y' is changed to 'i' in words that end in 'y' and have more than one syllable. However, it stays the same if the word has only one syllable.</p>	<p>Beautiful→ Beautifully Extreme→ Extremely Terrible→ Terribly Easy → Easily Shy →</p>	<p>Full→ Fully True → truly Day →Daily</p>

	In words ending in 'ic', we add 'ally' instead of 'ly' only (Rudling, 2014, p.62).	shyly dramatic→ dramatically	
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1.5. Grapheme-Phoneme Correspondence in English

Serrano and Defior claimed that when a language has a strong and consistent relationship between its phonemes (sounds) and graphemes (a letter or groups of letters), it is regarded as 'transparent'. In a completely transparent orthography, each phoneme is represented by a single grapheme. Spanish, Finnish, Italian, and Greek are examples of languages with relatively transparent writing systems. (As cited in Moxam, 2014, p. 340). English on the other hand, has more than 40 different speaking sounds (phonemes) of the spoken language which can be represented in the written language by a variety of letters and letter combinations (graphemes); many graphemes have more than one pronunciation (Brooks, 2015, p. 2). For instance, the vowel phonemes /æ/ in /cab/, /ə/ in 'canal', /eɪ/ in 'angel', /ɔ/ in 'also' and /ɛ/ in 'many' are represented with the grapheme 'A/a' (Berndt, Reggia, & Mitchum, 1987, p. 6); /tʃ/ is spelled as 't' in 'tube', 'ch' in 'chin' and 'tch' in 'pitch' (Brooks, 2015, p. 55); and the phoneme /f/ can be spelled as 'ph' in 'philosophy', 'ff' in 'cliff' and 'f' in 'fish' (Brooks, 2015, p. 59).

1.6. Categorizing Spelling Errors

English spelling errors are systematic misrepresentations of words, which may be attributed to over-generalizations, lack of knowledge about the grapheme-morpheme correspondences, and lack of awareness about the rules of spelling. It is worthy to note that the words 'error' and 'mistake' are two terms that people use interchangeably. However, although both an error and a mistake indicate that something is wrong and incorrect, there is a subtle difference between the two. In the case of learners of English as a second or foreign

language, spelling errors occur when a learner repeatedly misspells words due to the lack of knowledge of the correct spelling. On the other hand, spelling mistakes refer to occasional misspellings of words that are usually spelled correctly by the learner (Ellis, 1997, as cited in Kusuran, 2016, p. 5).

1.6.1. Sound-Based Spelling Errors

Sound-based errors, also referred to as orthographic problems, were defined by Al-Jarf (2008): “those instances in which the misspelled word sounds like the written target word but the written form or grapheme used for the misspelled part does not correspond with the target word or target grapheme” (p. 4). In other words, this type of errors occurs when the words are spelled according to how they sound rather than their grapheme representations. Some examples of sound based errors are pointed out by Elliot and Johnson (2008): “homophones, incorrect consonant, e for y, vowel sound error, and morpheme error”(p. 6). An example of homophones is writing ‘two’ instead of ‘too’. Moreover, writing ‘s’ instead of ‘c’ in ‘necessary’ is an example of using an incorrect consonant, and writing ‘empte’ instead of ‘empty’ is an example of using ‘e’ for ‘y’, which can also be a vowel sound error. Lastly, writing ‘unactivate’ instead of ‘deactivate’ is a morphemic error.

1.6.2. Rule-based Spelling Errors

Rule-based errors occur when the writer lacks understanding and awareness of the different spelling rules. Examples of rules-based errors are: “doubling/singling, text-speak” (Elliot& Johnson, 2008, p. 6). These examples imply the act of not doubling letters in words when it is required to ‘, also called ‘singling’, ‘occured’ instead of ‘occurred’, or doubling letters when it is not required to ‘walkked’ as well as using ‘text-speak’, which refers to: “the kind of language and spelling, often containing short forms of words, that people use

when they are writing text messages” (Cambridge Dictionary, 2023). For instance, writing ‘u’ instead of ‘you’, ‘idk’ instead of ‘I don’t know’ and ‘btw’ instead of ‘by the way’.

1.6.3. Omission, Commission and Transposition Errors

Letter omission errors are: ‘spelling errors where one letter in a word is not spelled out’ (Kusuran, 2016, p. 5), as in spelling ‘plesant’ instead of ‘pleasant’. In contrast, letter commission errors, also called letter insertion, occur when words are spelled with an extra letter (Kusuran, 2016, p.5). An example of inserting a letter mistakenly is writing ‘amaizing’ instead of ‘amazing’. Last, letter transposition refers to those spelling errors which occur when two consecutive letters in a word are switched or swapped, such as writing ‘decieve’ instead of ‘deceive’(Kusuran,2016, p.6).

1.6.4. Writing Errors

Two forms of errors have been classified as 'writing' errors. These errors involve spacing, such as separating a word, or combining two words into one, as well as omitting the final letter of a word (Elliot& Johnson, 2008, p. 8). An example of separating a word incorrectly is writing ‘to gether’ instead of ‘together’. Moreover, an example combining two separate words into one is combining ‘a lot’ as ‘alot’.

1.6.5. Multiple Errors

Some misspellings are a result of the combination of a number of errors in a single word. These errors represent a severe category of misspellings, with a significant effect on the overall appearance of the word. Common misspellings result from the combination of two errors. For instance, the word "impa(i)tientl(e)y" comes from the insertion of two separate letters. In addition, whole parts of words could be missing or spelled incorrectly, as in writing ‘Prest’ instead of ‘pressed’ (Elliot & Johnson, 2008, p. 9).

1.7. Spelling Assessment

In a general sense, assessment is seen as a task which includes all activities that teachers and students undertake to get information that can be used diagnostically to alter both teaching and learning (Black & William, 1998). Spelling assessment has different tools which can be used in order to find about the learners spelling level as well as identifying their areas of strength and weaknesses such as spelling inventories, spelling tests and dictation.

1.7.1. Spelling Inventories

Spelling inventories are a collection of carefully selected word lists that aim to encompass various spelling features or patterns, progressively increasing in difficulty. The chosen words are specifically designed to evaluate students' proficiency and knowledge concerning essential spelling features in relation to different stages of spelling development (Helman. Bear, Invernizzi, Tempelton, & Johnston, 2011, p.28). Oakley and Fellowes (2016) stated that: “through analyzing students’ spelling attempts using spelling inventories, teachers can gauge their stage of spelling development, and can find out which word features need to be taught” (p.107). To clarify further, spelling inventories provide a more comprehensive understanding of learners’ spelling abilities which allows educators to adjust instruction in order to meet the needs of each student.

1.7.2. Spelling Tests

Similar to spelling inventories, spelling tests are designed to assess an individual’s ability to spell words correctly. According to Oakley and Fellowes (2016), there are 3 different types of tasks that can be found in a spelling test: production tasks, where the student writes down a word uttered by the teacher, error recognition tasks, in which the learner is required to recognize the correct form of spelling and editing/correction tasks, which require the student to correct or edit misspelled words in sentences (p. 113).

1.7.3. Dictation

One commonly used method for assessing spelling skills is dictation. Students are presented with sentences read aloud by the teacher and they are required to write them down. This method is considered to be more effective than simply writing isolated words. Once the dictation task is completed, teachers analyse the errors made by the students. It is important noting that some students may face difficulties in both remembering the sentence and correctly spelling the words within it (Reason & Boote, 1994, as cited in Oakley & Fellowes, 2016, p. 108).

Conclusion

Developing a good proficiency in spelling is indispensable for students of English. This chapter, hence, aimed at introducing spelling and its important role in effective communication. In addition, it presented the evolution of English spelling over time, which explains the nature of the current English spelling system. It also listed some common spelling rules that students of English have to master, along with major techniques for assessing spelling.

Chapter Two: Autocorrect

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Chapter Two: Autocorrect

Introduction

Autocorrect, as a technological innovation, is a software that is incorporated in both computers and smartphones; it is omnipresent and consumed regularly by the majority of people. This chapter opens with a definition of autocorrect, followed by its history of how it came to be, then a brief explanation of how it works on both computers and smartphones. Next, a few of its advantages and disadvantages are mentioned, followed by a comparison of autocorrect, spellchecker and predictive text. Finally, the chapter is closed by another definition of autocorrect but as a form of automated feedback.

2.1. Presentation of Autocorrect

In the core of the writing operating systems of our mobile phones and computers exists the phenomenon known as autocorrection. According to Terrell-Hanna (2022), “Autocorrect is a word processing feature that identifies misspelled words, and uses algorithms to identify the words most likely to have been intended, and edits the text accordingly”, autocorrect detects misspellings with the help of algorithms which are, according to Denny (2020), “... series of instructions telling a computer how to transform a set of facts about the world into useful information”. Algorithms aid autocorrect in collecting useful data from all over the web to function adequately.

Autocorrect makes suggestions or corrections automatically for both spelling and grammatical errors whilst we type (Pykes, 2020). It can be found on smartphone messaging platforms, word processors, and almost every program that involves writing (Royal Examiner, 2021). Despite being potent, autocorrect has a presence that is understated, yet prominent as it is a technological advancement that almost every person uses daily and sometimes without

even being aware of it (Lewis-Kraus, 2014). The correction software exists to correct mistakes and errors while composing digital content by offering instant aid to the users in a variety of electronic writing contexts (Wood, 2014, p. 5). This technology strives to comfort the users by doing most of the tedious work of the writing process providing immediate correction for whatever kind of writing error committed.

2.2. The History and Development of Autocorrect

Royal Examiner (2021) claims that the birth of autocorrect dates back to the early 90s, where the large computer software company Microsoft employee Dean Hachamovitch worked on improving the capability of the already existing Word glossary because he realized that this appliance could also be adjusted to automatically correct common typographical errors and various other spelling errors. Hachamovitch initially designed and released autocorrect as a software limited to only replacing typographical errors such as *teh* with *the* and *seperate* with *separate* by merely hitting the spacebar (Zhang, 2014). This came about once the inventor realized that the words of the English language are space-delimited (Lewis-Kraus, 2014). Moreover, regardless of its simplicity, the program quickly turned into a reliable and indispensable attribute in the consumers' lives which resulted in the expansion of the software's capabilities.

As a result of the expansion, autocorrect switched from relying uniquely on a long-assembled list of mistakes inserted into the software's dictionary, to depending on data and algorithms alongside analyzing the public's words to decide whether a word demands correction or not (Free, 2014). In addition, Microsoft extended autocorrects' abilities by allowing it to look through other dictionaries, but they were proved to be insufficient to provide great assistance because words like "CDs" or "abuzz" were not officially accepted as dictionary worthy words. However, this issue was short-lived because autocorrect was

originally drafted for users with the possibility to add custom words to their personal dictionaries which not only enhanced autocorrect, but also permitted Hachamovitch and his team to add words of their own into the dictionaries to offer even more correction options for the users (Royal Examiner, 2021).

Autocorrect creators aimed at covering every possible facet of digital language writing, including obscenities. Lewis-Kraus (2014) pointed out that after autocorrect reached ubiquity, certain users emailed Bill Gates himself; the founder of Microsoft, complaining that each time they typed their unique last names on Word, the software would correct them into inappropriate terms. In order to handle the profanity dilemma, Christopher Thorpe took out all the conventionally indecent words to offer an adequate software to all the consumers (Lewis-Kraus, 2014)

Later on, following the immense success it witnessed as a computer software along with the crucial smartphones' takeover around the late 2000s, digital experts seized the chance of making it even more cardinal by placing it directly into the publics' hands. Autocorrect took over the spelling chore of any digital writing especially after reaching the smartphones market. The inventors of the iPhone designed a device that delivers both innovation and comfort, and integrated autocorrect because they knew that typing on a small digital screen would be challenging (Orr, 2018). The autocorrect software offered assistance to the user, yet many decisions needed to be made regarding how much the algorithms should be able to make recommendations or interfere to fix typing errors (Kocienda, 2018). The autocorrect developer designed it with a learning algorithm that has been exposed to sequences of words that go together frequently and wrote the code for it based on an investigation of the words we type most regularly, the frequency of words relative to others, and the errors most likely to be made on a touchscreen keyboard. As for obscenities, Kocienda (2022) conducted a study to find out everything that people consider as profanity and inserted them into the

software's dictionary, but in a manner that the software recognizes them but would not aid the user in writing them. Over time, the system became more sophisticated and based on what people are writing on the internet, and complex machine learning gave the system plenty of new data on what people are attempting to type and this is one of the many indications that autocorrect is in a constant state of progression (Stern, 2022).

2.3. The Difference between Autocorrection, Spell Checker and Predictive Text

Autocorrect, spell checkers and predictive text are similar software technologies that assist in spelling words. The three automatic spelling software help us daily in writing any sort of digital written documents, and apart from an exam classroom, there are only a few situations where it is necessary to spell words correctly without the help of any spellchecker (La Force, 2009). The spelling technologies work together and may even work interchangeably and, as much as they appear the same, they all have different properties. While autocorrect is a software that corrects grammar and misspellings, and makes word suggestions as the user types (The Grammarist, 2023), a spellchecker evaluates writing to identify misspelled words, but only indicates them and provides suggestions of the correct spellings (Craiker, 2022).

The primary contrast between spell checker, and autocorrect is that autocorrect alters an error without the user's permission, whereas a spell checker uniquely notifies the user when a word is spelled incorrectly and then offers a list of recommendations for correction to choose from (Wood, 2014, p. 7). As for predictive text, it is a tool that assists most users in any kind of smart device. Unlike autocorrect, predictive text is an input method that exclusively provides word suggestions for a user to utilize or include in a text. These predictions are mostly accurate because they are derived from the words the user types in the sentence and the first letter that is written and if the user's desired word is displayed in the

recommendations, he/she simply can click on it to use it (Bueno, 2023). Though none of these automatic correctors are perfect, they continue to be indispensable and highly demanded and are only upgrading to the better.

2.4. How Autocorrect Works

Spelling errors are committed on a daily basis as a result of the millions of messages and texts written all over. This kind of errors causes great embarrassment and in the majority of cases, our smart devices, especially the computer and the phone rescue the users (Manjoo, 2010).

2.4.1. In Computers

At first, autocorrect was essentially an advanced version of spellchecker. It was as simple as if one typed 'bfeore'; it replaced it with 'before'. Then in 2007, Microsoft came out with the "contextual speller" also known as Grammar Checker for Office and suddenly curved green lines showed up in Word Documents. The green lines indicated that there is a problem between multiple words and not just one. For instance, if the verb used in a sentence was not properly conjugated for the subject, it would propose a replacement (Dictionary.com, 2013).

In addition, this contextual speller indicates the words that its system considers to be wrong with a curved blue underline, in opposition to Word's red underline for misspellings, and its recommended corrections are ready in a list. This system is not restricted to a set of commonly confused words only as it not only functions on content words but also closed-class words like: *too* and *to*. It is also able to identify instances where a word has been spelled incorrectly and got split into two as in *through out* for *throughout* (Hirst, 2008, p. 1). Moreover, in cases where autocorrect does not recognize a word because it is not in its dictionary, the software will as previously mentioned underline it in red, the user can then

right-click on the incorrect word to choose the correct version from the recommendations. The software will then save the rectification for later application (Terrell-Hanna, 2022).

The more advanced the autocorrection system is, the more of these contextual elements get taken into consideration when recommending other options and making corrections. The words proposing algorithms also take into account the format of the user's keyboard in order to predict which key they intended to click on when they missed one or clicked on multiple keys at the same time (Manjoo, 2010).

2.4.2. In Phones

In The Wall Street Journal, Stern (2022) explained that:

As you type the autocorrect algorithms try to figure out what you mean by looking at various things, including where your fingers hit the keys, and other words in the sentence all while it's comparing your words to the words in its dictionaries.

This means that autocorrect attempts to interpret what the user types as quickly and accurately as possible, to comprehend what they mean using its system. According to Kocienda (2022), autocorrect is designed with a system containing two built-in dictionaries; a static dictionary, which holds common words or the words found in a standard dictionary alongside a second one called the dynamic dictionary, which is a running list of the user's words such as their custom words to help them type words that are in their own personal vocabulary. These two dictionaries are continuously updating because language never ceases to evolve and they work alongside each other to ultimately achieve the job of autocorrecting adequately. In addition, the autocorrect system is intentioned to learn a word and will stop correcting it into something else after typing it twice. Though it does not always accomplish its tasks perfectly as it does

not learn everything the users type which is due to different factors. In instances such as this one, the users can resolve the problem by adding the word in the software settings where they can also just simply deactivate it (Stern, 2022).

2.5. The Advantages of Autocorrection

Autocorrect brings about several notable advantages in the realm of digital communication. The first advantageous and most obvious aspect of autocorrection is that it is automatic. Most spell checkers usually have an embedded feature that marks misspelled words by underlining them in red or other colors. Meaning, while you are writing, the device will find your mistakes and correct them for you. Relying on your device to find misspellings is convenient since it identifies misspellings automatically and rapidly. Secondly, it can be a learning tool. Some students face serious difficulties with spelling and though this takes time and effort, they can learn a great deal about spelling if they pay attention to what the software detects and how corrections are made. In addition, it is also advantageous for people with dyslexia. This condition is wide spread, it affects one's spelling and writing ability but spell checkers provide great help for dyslexic people as it betters their writing and spelling process. Furthermore, autocorrection increases accuracy if used correctly as it can greatly improve the accuracy of any kind of written text. It offers you feedback on your own accuracy, and enhances its own by adding words to its database. Finally, since spell checkers are automatic, they can save a writer a great amount of time and effort when writing. Instead of inspecting for their own misspellings, an autocorrection program can complete users' work within seconds and provides precision and correctness quickly (Pros and Cons of Spell Checkers, 2018).

2.6. The Disadvantages of Autocorrection

Although there are many advantages to having and using autocorrect, there are some disadvantages that need to be appraised. First, autocorrect is most likely to miss homonyms which are words used in varied contexts but spelled or pronounced in a similar manner. “There” and “their” is a common example of a homonym and a software such as autocorrect often fails to detect these errors. Moreover, autocorrect is not made for the inattentive because it provides a sense of confidence when in reality it fails to find many spelling errors; this is why when using software such as autocorrect to edit an essay or other types of papers, the user must give their full attention. In addition, there are some mistakes these programs will not correct because they are not common. For instance, some old and uncommon words are labelled as incorrect when spelled correctly because these kinds of words are missing from the software’s data base. As a result, a user occasionally has to add words and different grammatical constructions to the program’s dictionary (Pros and Cons of Spell Checkers, 2018). Finally, the automatic correction of our spellings backlashes because it takes away our chance to learn and identify accurate spellings; hence, autocorrect makes users less involved or motivated to both write or learn the correct spelling. As a result of their dependence on the program, most users have become less willing to put effort into writing and spelling correctly (Verbeek, 2020).

2.7. Autocorrect as a Form of Automated Corrective Feedback

Studies have shown that facing challenges with spelling may affect or even hinder the learner from making improvements in other writing skills, and despite its significance, as a skill, spelling is neglected in the second language classroom. As a result, learners often resort to automated corrective feedback to learn and correct their spelling by using standard spell checkers such as Autocorrect (Heift, Nguyen, & Hegelheimer, 2021, p. 227). Moreover, to successfully build an foreign language knowledge, students require instruction and corrective

feedback which is “an indication to the learner that his or her use of the target language is incorrect” (Lightbown & Spada, 1999, p. 172), and since it is an important aspect in effectively acquiring a FL, its absence leads students to finding a substitution. Automatic corrective feedback is the simple solution for problems of this sort. It can obstruct the learners’ level or elevate it helping them in detecting their mistakes and errors in their foreign language output therefore it enhances their FL development, something that is not easily attained in the conventional language classroom (Heift, Nguyen, & Hegelheimer, 2021, p. 226). Spell checkers such as autocorrect, however, are not crafted for FL learners and, thus, they have their restrictions in relation to identifying FL misspellings and offering efficient suggestions as corrective feedback. In addition, considering the limited performance of common spell checkers with FL students, several have been developed specifically for FL learners. These programs were designed to tackle certain error categories, such as phonology or morphology related misspellings in order to offer students adequate corrective feedback in the form of automatic suggestions and reduce the damage caused by their dependence on the programs (Heift, Nguyen, & Hegelheimer, 2021, p. 229).

Conclusion

In general, autocorrection is a double-edged sword; it provides great assistance for some users and obstructs the level of some. Students are where its impact is shown the most as their spelling skills have been in a noticeable delay as a result of their overindulgence in the internet and the poor instruction provided in the foreign languages classrooms. Though it is neither a new nor a virtuous invention, autocorrect is firmly rooted. It dispenses help in different professional settings as well as day to day situations. With how unstoppable technology has become, it only makes sense to adjust accordingly.

Chapter Three: Field Work

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Chapter Three: Field Work

Introduction

This chapter presents the practical work of the research which was carried out with third-year EFL students at the Department of English, Jijel, to investigate the relationship between the participants' perceptions and practices of using autocorrect and their spelling proficiency. This section starts out by describing what research tools were used to collect the data along with the population and sample. Then, it gives a description of both the questionnaire and the test followed by the analysis, discussion and interpretation of the results.

3.1. Research Methodology

3.1.1. Research Design

The current study is both exploratory and descriptive; hence not only a quantitative but also a qualitative research approach was relied on to investigate the relationship between students' perceptions and practices of using autocorrection and their spelling proficiency. The reason behind using a quantitative method is to measure numerical data obtained from both the students' questionnaire and the spelling test. On the other hand, a qualitative method was opted for to interpret the acquired results.

3.1.2. Data Collection Procedures

For the purpose of collecting data, two research tools are deemed appropriate to be employed in our study: a questionnaire, and a spelling test. The questionnaire was designed for third year Licence students of English at the Department of English, Jijel University, for the purpose of exploring their practices and perceptions of using autocorrection. It sought insights to how students perceive, approach and engage in autocorrection when writing in

English. In addition, the spelling test is divided into two parts: a recognition test which was used in order to assess the students' ability to recognize and identify the correct spelling of words. Moreover, a production test (dictation test) which was used to assess the students' proficiency of producing correctly spelled words without the aid of autocorrect. The objective behind using two different data collection tools is to draw a connection between the students' engagement with autocorrection, through the data collected from the questionnaires, and their spelling proficiency, by analyzing their tests scores.

3.1.3. Population and Sampling

The sample of the study consists of 100 third-year Licence students at the Department of English at Mohammed Seddik Ben Yahia University, Jijel, during the academic year 2022/2023. The participants were selected on the basis of immediate convenience sampling to answer both the questionnaire and the test. As regards the Third-Year-Licence-level selection, it was based on the fact that they have reached the level where they can officially be licensed teachers of English as they have been exposed to sufficient English instruction, which suggests that they have a decent spelling level of the language.

3.2. The Student Questionnaire

3.2.1. Description of Student Questionnaire

The questionnaire comprises two sections with a total number of 11 close-ended questions; each section explores a different aspect relevant to the topic treated. While the first section aims at exploring the students' usage of autocorrect to spell the English language, the second section aims at investigating the students' perceptions about the relationship between autocorrect and spelling.

In the first section, which is made up of five questions, the first question (Q1) aims at finding out how frequently students engage in English language typing activities using their smart devices. The second question (Q2) seeks to know whether students use autocorrect to rectify words they are unaware of their spellings after they type them. The next question, (Q3), attempts to find out whether students use autocorrect to edit for slips and errata after typing a word they can spell accurately. The last two questions, (Q4) and (Q5), aim at knowing whether students use autocorrect to assist them in completing the spelling of words while typing, both when they are sure and unsure about their spellings, respectively.

In the second section, which is made up of six questions, the first question (Q1) intends to know how frequently students attempt to learn the corrections of the misspelled words provided by autocorrect. The second question (Q2) aims at finding out whether students think relying on autocorrect will improve, hinder or not affect their ability to detect spelling errors on their own. The third question (Q3) seeks to find out how often students misspell words when typing without the use of autocorrect. Question four (Q4) asks students whether they think repeated exposure to autocorrected words helps them to learn their spellings. Q5 is a multiple-choice question that attempts to find out students' opinions about the most effective ways for learning spelling. The last question, (Q6), seeks to know if students practice and learn rules and spelling strategies from tutorials and teaching materials.

3.2.2. Analysis of Students' Questionnaire

Section One: Students' perceptions of using autocorrect

1. How often do you type texts in English (emails, essays, SMSs, etc.) using your smartphone or PC?

- a) Always b) Often c) Sometimes d) Rarely e) Never

Table3.1:

Students' Frequency of Writing Texts in English Using Smart Devices

<u>Option</u>	<u>%</u>
a.	33
b.	37
c.	20
d.	10
Total	100

The table above shows that all students reported using their smartphones and PCs to type texts in English. While 70% of students reported that they regularly type texts in English using their technological devices (always, often), 30% of the students use them on less frequent rate, moderately or rarely.

2. After you type a word, which you don't know how to spell or you are not sure about its spelling, how often do you use autocorrect to correct it?

- a) Always b) Often c) Sometimes d) Rarely e) Never

Table 3.2:

Students' Frequency of Using Autocorrect for Rectifying Unknown Spellings of Words after Typing

<u>Option</u>	<u>%</u>
a.	24
b.	40
c.	27
d.	09
Total	100

All students claimed they use autocorrect for rectifying unknown spellings of words after typing them. 64% of the participants reported frequent use autocorrect while the remaining 35% use autocorrect to check and edit words moderately (sometimes or rarely).

3. After you type a word, which you know how to spell very well, how often do you use autocorrect to edit it for slips and typos (typing mistakes)?

- a) Always b) Often c) Sometimes d) Rarely e) Never

Table 3.3:

Students' Frequency of Using Autocorrect for Editing Familiar Words after Typing

<u>Option</u>	<u>%</u>
a.	09
b.	24
c.	28
d.	25
e.	14
Total	100

The table reveals mixed results, demonstrating that 33% of the students usually use autocorrect for editing familiar after typing. More than half of them (53%) use it on a less frequent rate (sometimes or rarely), while 14% never do.

4. While typing a word, how often do you use autocorrect to complete its spelling if you are unsure about how to spell it?

- a) Always b) Often c) Sometimes d) Rarely e) Never

Table 3.4:

Student's Frequency of Using Autocorrect for Completing Unknown Spellings of Words while Typing

<u>Option</u>	<u>%</u>
a.	24
b.	40
c.	27
d.	09
Total	100

All students reported using autocorrect while typing for completing the spelling of unfamiliar words: 64% of them reported that they regularly (always and often) use it in such context and 36% stated that they sometimes or rarely do so.

5. While typing a word, how often do you use autocorrect to complete its spelling even when you are sure about how to spell it?

- a) Always b) Often c) Sometimes d) Rarely e) Never

Table 3.5:

Students' Frequency of Using Autocorrect for Completing Familiar Spellings of Words while Typing

<u>Option</u>	<u>%</u>
a.	15
b.	25
c.	28
d.	16
e.	16
Total	100

While 44 % of students reported using autocorrect moderately or rarely to complete the spelling of familiar words, 40% of them regularly do whereas 32% of them rarely or never do.

Section Two: Perceptions about the Relationship between Autocorrect and Spelling

1. How often do you try to learn the corrections of the misspelled words provided by autocorrect?

- a) Always b) Often c) Sometimes d) Rarely e) Never

Table 3.6:

The Frequency of Learning Corrections of Misspellings from Autocorrect

<u>Option</u>	<u>%</u>
a.	27
b.	37
c.	24
d.	11
e.	01
Total	100

Most students, representing 64% of the participants, regularly attempt to learn the corrections of misspellings provided by autocorrect whereas 35% of them do so less frequently. Only one student reported never having learned more about autocorrected words.

2. In your opinion, relying heavily on autocorrect will...

- a) Improve your ability to detect spelling errors on your own.
- b) Make you less effective in detecting spelling errors on your own.
- c) Not affect your ability to detect spelling errors on your own.

Table 3.7:

Students' Perceptions about the Potential Effect of Overreliance on Autocorrect

<u>Option</u>	<u>%</u>
a.	38
b.	52
c.	10
Total	100

The table demonstrates that more than half the students (52%) claimed that autocorrect makes them less effective in detecting spelling errors, 38% of the participants thought that it improves their spelling ability, while only 10% believed that autocorrect does not have any significant effect.

3. How often do you find yourself misspelling words you write or type without the use of autocorrect?

- a) Always b) Often c) Sometimes d) Rarely e) Never

Table 3.8:

Students' Frequency of Misspelling Words without Using Autocorrect

<u>Option</u>	<u>%</u>
a.	04
b.	25
c.	53
d.	17
e.	01
Total	100

The majority of the students, representing 70% of the sample, occasionally encounter difficulties when spelling words without the help of autocorrect, 29% regularly misspell without the aid of autocorrect and only one student reported never encountering problems at spelling in the absence of autocorrect assistance.

4. Do you think that repeated exposure to an autocorrected word helps you in learning its spelling?

- a) Strongly agree b) Agree c) Neutral d) Disagree e) Strongly disagree

Table 3.9:

Students' Perspectives about the Effect of Repeated Exposure to Autocorrected Words on Learning Spelling

<u>Option</u>	<u>%</u>
a.	18
b.	51
c.	21
d.	10
Total	100

The table above shows that 69% of students agreed that repetitive exposure to autocorrected words assists in learning their spelling, 10 % of them disagreed with the statement, and 21% were undecided on the matter.

5. Which of the following is more effective for learning spelling? You can tick more than one box.

- a. Using a physical dictionary
- b. Using a digital dictionary
- c. Using autocorrect

- d. Classroom instruction
- e. Asking other peers
- f. Spelling lessons in books and websites

Table3.10:

Students' Opinions about Effective Methods for Learning Spelling

<u>Option</u>	<u>N</u>	<u>%</u>
a.	34	16
b.	59	27.8
c.	54	25.8
d.	13	6.1
e.	17	08
f.	35	16.5
Total	212	100%

The results above reveal that the highest percentage of students (27.8%) presumed that using a digital dictionary is the most effective way of learning spelling. Using autocorrect for learning spelling was chosen as the second most effective way with a percentage of 25.5%. In addition, using a physical dictionary and learning spelling lessons from books and websites ranked third with similar percentages, 16% and 16.5%, respectively. With a significantly low percentage, only 8%, participants thought that asking other peers is a constructive way for learning spelling. Furthermore, the least favourite way to learn spelling according to the students is classroom instruction (6.1%).

6. How often do you practice and learn spelling strategies and rules from tutorials and teaching materials?

- a) Always b) Often c) Sometimes d) Rarely e) Never

Table 3.11:

Students' Frequency of Using Tutorials and Teaching Materials to Learn Spelling

<u>Option</u>	<u>%</u>
a.	06
b.	30
c.	46
d.	15
e.	03
Total	100

The table above demonstrates that most students use tutorials and teaching materials to learn spelling moderately at a percentage of 61%, while 36% of them regularly do so and only 3% of the participants reported never having relied on instructional materials to improve their spelling abilities.

3.2.3. Discussion and Interpretation of the Student Questionnaire Results

The first section of the students' questionnaire revealed the frequency of using autocorrect along with how the participants use it. Q1 revealed that most of the participants often write different texts using their smart devices. Next, the remaining questions demonstrated that most participants use autocorrect regularly to spell unfamiliar words, to edit texts for spelling mistakes, or to help them complete the spelling of both familiar and unfamiliar words. In the second section of the questionnaire, Q1 revealed that most students often try to learn the corrections of the misspelled words provided by autocorrect; Q2 indicated that the majority of students think that autocorrect makes them less effective in detecting spelling errors; Q3 showed that most of the students occasionally misspell words when typing without the aid of autocorrect; Q4 showed that the largest portion of participants

agreed that repeated exposure to an autocorrected word helps at learning its spelling, indicating that autocorrect has a positive effect on them; Q5 revealed that students think that using a digital dictionary and autocorrect are the two most effective ways for learning spelling.

3.3. The Students Spelling Test

3.3.1. Description of Students Spelling Test

The spelling test consists of two parts: a recognition test and a production test. The aim of the recognition test is to measure the students' ability to recognize the correct spelling of 9 words in 9 different sentences. Students were required to circle the right option from a set of 4 options which represents the correct spelling of a word. Each target word tackles a different rule-based and sound-based aspect of spelling. Moreover, the production test (dictation test) was designed to assess the students' ability to accurately produce and spell spoken language. The students were asked to listen to 9 different sentences, where each sentence contains one target word that was pronounced 3 times; students then handwrote the words; each target word was chosen to evaluate the same aspects that were tackled in the recognition test.

For the purpose of exploring whether students face problems when adding the correct prefixes to words, the word 'deactivate' was included in the recognition test and the word 'misunderstood' in the production test. Moreover, the words 'occurred' and 'jogger' were employed in order to investigate the doubling rule. The words 'guaranteed' and 'valuable' were picked to find out whether students are proficient enough about the 'dropping the e' spelling rule. Additionally, the words 'shield' and 'ceilings' were chosen to test the students' ability to apply the 'i' before e except after 'c' rule. The word 'subconscious' was chosen to know whether students can recognize the /ʃ/ sound as 'sc' and the word 'colonel' was chosen for detecting the students' ability to spell the /k/ sound as 'c'. Furthermore, the words

‘monkeys’ and ‘supplies’ were added to find out whether the participants find it difficult to recognize and produce the ‘y’ to ‘ies’ or ‘s’ spelling rule. In order to test the students’ recognition of silent letters the words ‘knight’ and ‘mortgage’ were selected. In addition, for the purpose of detecting whether students are able to recognize the /s/ sound as ‘c’ and to produce the sound /f/ as ‘f’, the words ‘necessary’ and ‘definitely’ were chosen. At last, the words ‘easily’ and ‘luckily’ were picked in order to find out whether students can appropriately add the suffix ‘ly’ to words.

3.3.2 Analysis of Students Spelling Test

3.3.2.1 Analysis of Students’ Spelling Recognition Ability

Part One: Spelling Recognition

Table 3.12:

Students’ Spelling Recognition Results

Spelling Aspects	Percentage of Correct Answers
Prefix	21%
Doubling	25%
Dropping the « e »	76%
‘I’ before ‘e’ except after ‘c’	59%
/j/ sound as ‘sc’	89%
Turning ‘y’ into ‘ies’	84%
Silent letters	67%
/f/ as “f”	63%
Adding the suffix ‘ly’	53%

The table above demonstrated that the majority of students succeeded at recognizing the right spelling of the /j/ sound when written as ‘sc’ in the word “subconscious” with 89% of correct answers making it the spelling aspect with the highest score. The rule for turning the ‘y’ into ‘ies’ was second with 84% of correct answers. More than half the students succeeded at applying the two spelling aspects of the ‘I’ before ‘e’ except after ‘c’ rule and adding the suffix to ‘ly’ to words. On the other hand, two aspects proved problematic for most students: doubling consonants (25% correct answers) and identifying the right prefix (21% correct answers).

3.3.2.2 Analysis of Students’ Spelling Production Ability

Part Two: Spelling Production

Table 3.13:

Students’ Spelling Production Results

Spelling Aspects	Percentage of Correct Answers
Prefix	66%
Doubling	38%
Dropping the « e »	45%
‘I’ before ‘e’ except after ‘c’	46%
/k/ sound as ‘c’	16%
Turning ‘y’ into ‘ies’	54%
Silent letters	10%
/s/ sound as “c”	67%
Adding the suffix ‘ly’	77%

The table above shows that the spelling aspects where students performed best in the production test are adding the suffix ‘ly’ to words, writing the /s/ sound as “c” and writing the correct prefix with 77%, 67% and 66% of correct answers, respectively. Students recorded average performance of three others rules: the rule for turning the ‘y’ into ‘ies’, the ‘I’ before ‘e’ except after ‘c’ rule, and the rule for dropping the “e”. On the other hand, two aspects proved problematic for most students: writing the /k/ sound as ‘c’ (16% correct answers) and the silent letter in the word “mortgage” (10% correct answers).

3.3.2.3. Discussion and Interpretation of the Test Results

Table 3.14:

Students’ Spelling Recognition and Production Results

Spelling aspects	Correct Recognition	Correct Production	Average
Prefix	21%	66%	43,5
Doubling	25%	38%	31,5%
Dropping the « e »	76%	45%	60,5%
‘I’ before ‘e’ except after ‘c’	59%	46%	52,5%
/ʃ/ sound as ‘sc’ and /k/ sound as ‘c’	89%	16%	52,5%
Turning ‘y’ into ‘ies’	84%	54%	69%
Silent letters	67%	10%	38,5%
/s/ sound as “c” /f/ as “f”	63%	67%	65%
Adding the suffix ‘ly’	53%	77%	65%
Total	59,67%	46,56%	53,12%

The data in the table reveals that the overall students' score represents 53.12% of the total, indicating an average spelling proficiency level:

- With regard to 'turning the 'y' into 'ies'' spelling rule, which represents the highest percentage of the students' scores (69%), with 84% in the recognition test and 54% in the production tests. This indicates that most students do not face any difficulty when applying the spelling rule.
- Two different spelling aspects, both considered as the second easiest, possess an equal percentage of accuracy (65%). In adding 'the suffix 'ly' spelling rule, students scored 77% in the recognition test and 53% in the production test. 67% of the students were able to transcribe the /s/ sound as 'c' in the word 'necessary', and the 63% recognized the sound /f/ as 'f' in the word 'definitely'.
- While (76%) of students recognized the correct spelling of the word 'valuable', less than half of them (46%) applied the dropping the 'e' rule in the recognition test. This indicates that a significant portion of the students who were able to recognize the correct spelling in the recognition test failed to apply the rule in the production test.
- With regard to applying the "'I' before 'e' except after 'c'" spelling rule, 59% of the participants were able to do so in the recognition test and 46% in the production test.
- 84% of the participants were able to identify the correct spelling of the /ʃ/ sound in 'subconscious', only 16% correctly produced the /k/ sound as 'c' in the word 'colonel' suggesting that students have a higher level of familiarity with the spelling of the former aspect compared to the latter.

- With an average percentage of 43.5%, 66% of the students correctly spelled the prefix in the production test, whereas only 22% succeeded in identifying the correct prefix.
- With a low percentage of 38.5%, 67% of the participants were able to recognize the silent letter and only 10% of the students were able to produce the silent letter.
- The ‘doubling consonant’ spelling rule marked the student’s lowest scores (31,5%), with 25% in the recognition test and 38% in the production test indicating that students lack knowledge about the latter.

To conclude, it is observable that there is a slight difference between the performance of students in the production and recognition tests. Students performed better in the recognition test with a difference of 13.11%, suggesting that they have better spelling recognition skills.

3.4. Overall Interpretation of Results

In order to investigate whether there is a statistically significant relationship between students’ beliefs and practices and their spelling test scores, Spearman correlation was computed. The Spearman correlation coefficient is a statistical indicator that measures the strength of a monotonic association between two sets of data. It is indicated by a particular symbol in a sample and is intentionally constrained as follows: $-1 \leq R_s \leq 1$

3.4.1 The Relationship between Checking Words Using Autocorrect after Typing them and the Students' Test Scores

The following table explores the possible relationship between Q2 & Q3 (section one) and students spelling test scores to find out whether checking the spelling of words after typing them using autocorrect corresponds positively to their higher test scores.

Table 3.15:

Correlation between Using Autocorrect for Checking the Spelling of Words after Typing Them and the Students' Test Scores

		Test scores	Question number 2 & 3 results
TEST	Spearman correlation	1.000	.220*
	Sig. (1-tailed)	.	.014
	N	100	100
Q2Q3	Spearman correlation	.220*	1.000
	Sig. (1-tailed)	.014	.
	N	100	100

*. Correlation is significant at the 0.05 level (1-tailed).

The results of the spearman correlation indicated that there is a weak positive relationship between students' usage of autocorrect to double check spelling of words and their spelling performance as measured by the spelling test, ($R_s[100] = .220, p < .05$).

3.4.2. The Relationship between Using Autocorrect while Typing and the Students' Test Scores

The table below presents the possible relationship between Q4 & Q5 (section one) and students spelling test scores to know whether using autocorrect while typing relates negatively to their lower test scores.

Table 3.16:*Correlation between the Usage of Autocorrect while Typing and their Spelling Test Scores*

		Test scores	Question number 4 & 5 results
TEST	Spearman correlation	1.000	.098*
	Sig. (1-tailed)	.	.167
	N	100	100
Q4Q5	Spearman correlation	.098*	1.000
	Sig. (1-tailed)	.167	.
	N	100	100

*. Correlation is significant at the 0.05 level (1-tailed).

The results of the Spearman correlation indicated that there is a significant very weak positive relationship between students' perceptions of autocorrect and their spelling performance as measured by the spelling test, ($R_s [100] = .098, p \leq .05$)

3.4.3. The Relationship Between Learning Autocorrected Words and the Students'

Tests Scores

The table below investigates the possible relationship between Q1(section two)and students spelling test scores to discover whether learning autocorrected words is associated positively with their performance on the test.

Table 3.17:*Correlation between Learning Autocorrected Words and their Spelling Test Scores*

		Test scores	Question number 1 in section two results
TEST	Spearman correlation	1.000	-.113*
	Sig. (1-tailed)	.	-.131
	N	100	100
Q1	Spearman correlation	-.113*	1.000
	Sig. (1-tailed)	-.131	.
	N	100	100

*. Correlation is significant at the 0.05 level (1-tailed).

The results of the Spearman correlation indicated that there is a very weak negative relationship between students learning autocorrected words and their spelling performance as measured by the spelling test, ($R_s [100] = -.113, p \leq .05$)

3.4.4 The Relationship Between Frequency of Using Autocorrect and the Students' Tests Scores

The table below inspects the possible relationship between Q6 (section two) and students' spelling test scores to discover whether the frequency of exposure to autocorrect will be associated with their performance on the test.

Table 3.18:

Correlation between the Frequency of Using Autocorrect and the Students' Spelling Test Scores

		Test scores	Question number 6 in section two results
TEST	Spearman correlation	1.000	.095*
	Sig. (1-tailed)	.	.172
	N	100	100
Q6	Spearman correlation	.095*	1.000
	Sig. (1-tailed)	.172	.
	N	100	100

*. Correlation is significant at the 0.05 level (1-tailed).

The results of the Spearman correlation indicated that there is a significant very weak positive relationship between the frequency of using autocorrect and students' spelling performance as measured by the spelling test, ($R_s [100] = .095, p \leq .05$)

The data collected from the questionnaire indicate that most of the participants use autocorrect on a daily basis as they use it to correct double check and complete the spelling of words. Moreover, students expressed their perceptions of autocorrect revealing that the

majority of them believe that continuous exposure to autocorrect hinders their ability to detect spelling errors on their own as their spelling ability is undermined as a result of their reliance on the software. The students considered using digital dictionaries and autocorrect as the most effective ways to learn the spelling of words, meaning that the students perceive the software, as well as technology in general, as a positive tool for learning, and indicating that students today have abandoned the traditional way of learning and switched over to modern ways.

The test results indicated that there is a small difference in students' performance when asked to recognize or produce some spelling aspects. The test results revealed that most students failed at recognizing the spelling of the prefix suggested while, at the production stage of the test, most participants were unable to identify the spelled silent letter.

The results collected from the test were numerous and miscellaneous, but they contributed to answer the research questions and provided a relatively clear view on the students' academic spelling proficiency. Hence, based on the Spearman correlation coefficient, positive-though weak-relationships between students' practices and perceptions about autocorrect and their test scores were established. We conclude that students using autocorrect for editing their spelling of different texts has a correspondence with their higher test scores. In other words, the more students use autocorrect for its primary purpose, the better their spelling skills are.

However, there is a very low but significant association with students using autocorrect while typing to their lower spelling test scores. To state it differently, the more students depend on autocorrect while typing the lower their spelling level becomes. Moreover, from the data we also established that students learning from the autocorrected words and suggestions provided by the software have no association with their good performance on their

test results. Finally, as it can be seen from the results obtained, students' frequency of exposure to autocorrect is strongly associated with their performance on the spelling test.

General Conclusion

1. Putting it All Together

2. Limitations of the Study

General Conclusion

1. Putting it All Together

With the growing claims that using technology has a great influence on different aspects of the language in that it can either help or hinder language learning, the present study was conducted with EFL students at Mohammed Seddik Ben Yahya University, Jijel. It set out to investigate the relationship between students' practices and perceptions about autocorrect and their spelling proficiency.

This study consists of three chapters, each served a specific purpose. The first chapter introduced spelling and its importance, English spelling and its development and spelling assessment techniques. The second chapter focused on defining autocorrect and its related concepts. It explored its functionality and usage. A comprehensive understanding of the key concepts related to spelling and autocorrect is provided. As far as the third chapter is concerned, it explained the field work of the study. It described the research methodology used, including the participants and data collection procedures; in addition, it analyzed the results yielded by means of the students' questionnaire and the spelling test. Finally, the overall results were introduced, followed by an interpretation of the data, aligned with the research questions.

To conclude, the findings of the study illustrated the existence of a weak relationship between students' usage and perceptions of autocorrect and their spelling proficiency. This implied that while some students may rely on autocorrect, their proficiency in spelling may not necessarily be impacted by it. This suggests that other factors may play a significant role in determining students' spelling proficiency.

2. Limitations of the Study

The study counts two main methodological limitations:

- 1.** The inclusion of a limited range of spelling aspects in the production and recognition tests was not sufficient to cover a broad topic like spelling.
- 2.** The pronunciation of the words in the production test might have had an impact on the students' choice of spelling words, thus, leading to variations in spelling based on pronunciation rather than students' spelling deficiency.

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Appendices

Appendix (A)

Appendix (B)

Appendix (C)

Appendix (D)

Appendix (A)

Students Questionnaire

We appreciate you taking the time to answer this questionnaire it would help us collect data that is necessary to investigate your perceptions about and uses of autocorrection

Please read attentively and answer each question by ticking the (√) box (es) that best describe(s) your opinions.

Definition of autocorrection:

Autocorrect is a software found on smartphone messaging apps, Microsoft Word processors, and other programs. When activated, it offers immediate automatic spelling correction when you are typing any kind of digital writing.

Section One: Using Autocorrection to Spell English Words

1. How often do you type texts in English (emails, essays, SMSs, etc.) using your smartphone or PC?

Always Often Sometimes Rarely Never

2. **After you type a word**, which you don't know how to spell or you are not sure about its spelling, how often do you use autocorrect to correct it?

Always Often Sometimes Rarely Never

3. **After you type a word**, which you know how to spell very well, how often do you use autocorrect to edit it for slips and typos (typing mistakes)?

Always Often Sometimes Rarely Never

4. **While typing a word**, how often do you use autocorrect to **complete** its spelling if you are unsure about how to spell it?

Always Often Sometimes Rarely Never

5. **While typing a word**, how often do you use autocorrect to **complete** its spelling even when you are sure about how to spell it?

Always Often Sometimes Rarely Never

Section Two: Perceptions about the Relationship between Autocorrect and Spelling

1. How often do you try to learn the corrections of the misspelled words provided by autocorrect?

Always Often Sometimes Rarely Never

2. In your opinion, relying heavily on autocorrect will ...

d) Improve your ability to detect spelling errors on your own.

e) Make you less effective in detecting spelling errors on your own.

f) Not affect your ability to detect spelling errors on your own.

3. How often do you find yourself misspelling words you write or type without the use of autocorrect?

Always Often Sometimes Rarely Never

4. Do you think that repeated exposure to an autocorrected word helps you in learning its spelling?

Strongly agree Agree Neutral Disagree Strongly disagree

5. Which of the following is more effective for learning spelling? You can tick more than one box.

g. Using a physical dictionary

h. Using a digital dictionary

i. Using autocorrect

j. Classroom instruction

k. Asking other peers

l. Spelling lessons in books and websites

6. How often do you practice and learn spelling strategies and rules from tutorials and teaching materials?

Always Often Sometimes Rarely Never

Appendix (B)

Students Recognition Test

Question: circle what you think is the correct spelling of each word below:

1. One of the many features of autocorrect is that you can it.
a. unactivate b. Deactivate c. inactivate d. disactivate
2. It never me to bring an extra pen.
a. occurred b. ocurred c. occured d. ocured
3. The phone is old and slow but still
a. valueable b. valueble c. valuable d. valuyable
4. The was painted a pale-yellow color to create a calming atmosphere.
a. cieling b. seeling c. cealing d. ceiling
5. The mind plays a big role in shaping our behaviors and habits.
a. subcontious b.subconscious c. subconscious d. subconshious
6. The campers brought enough food
a. supplies b. supplys c. supplies d. supplyes
7. The king's were recognized for their courage and chivalry.
a. nights b. kniths c. nites d. knights
8. It will rain tonight.
a. definitely b. dephenitly c. diffinetely d. deghinitly
9. I missed the bus, but, my colleague offered me a ride.
a. luckyly b. luckyily c. luckly d. luckily

Appendix (C)
Students Production Test

This test is designed to evaluate your spelling abilities, listen to the following sentences and write down the target words repeated 3 times:

1. His sarcastic humor is often **misunderstood**.
2. The **jogger** ran across the park.
3. The new security system is **guaranteed** to protect your house from invaders
4. The army formed a **shield** wall to protect the land.
5. The **colonel** gave passionate speech to inspire the soldiers.
6. **Monkeys** have very human like behaviors.
7. Honest communication is **necessary** to maintain strong relationships.
8. After a few tries the kid **easily** learnt to ride a bike.
9. He became a house owner after years of paying off his **mortgage**.

Appendix (D)

Q2+Q3 results	Q4+Q5 results	Question 6 results	Question 9 results	TESTS SCORES
8	10	3	3	14
4	6	1	1	12
5	6	1	2	16
8	8	3	2	10
4	5	3	3	9
6	7	3	2	11
6	5	3	3	10
7	8	2	2	12
6	5	1	1	8
6	6	2	3	4
4	4	4	2	4
4	2	3	2	11
4	5	2	2	10
3	8	3	3	12
6	6	2	2	13
7	7	2	2	7
3	3	2	2	4
8	7	3	4	9
3	5	1	1	12
6	8	2	2	7
6	9	3	2	5
6	8	2	3	11
5	5	2	2	2
6	6	1	3	8
6	6	2	2	8
2	2	1	2	11
6	4	3	3	3
3	2	2	1	12
6	7	4	4	9
7	5	2	2	8

6	10	3	3	7
8	8	1	4	14
3	5	1	2	2
5	7	4	4	10
4	5	2	2	9
5	2	5	3	12
6	6	1	2	17
6	4	2	2	11
4	5	2	2	7
5	5	1	1	14
6	4	3	3	7
5	6	1	1	15
2	4	2	2	11
5	4	2	2	11
6	8	1	2	11
4	4	2	2	4
5	4	2	4	12
8	8	4	4	13
7	4	2	1	6
7	4	3	2	10
3	4	1	2	10
5	4	1	2	4
7	5	3	2	5
5	5	2	2	8
6	7	3	2	5
5	7	2	1	5
7	5	1	2	9
9	8	1	2	12
7	3	4	3	17
4	4	2	3	6
4	6	2	4	12
5	5	4	3	11
2	8	3	2	8

3	9	3	2	10
7	6	1	3	13
8	6	1	3	10
9	6	1	2	16
4	5	2	2	8
2	5	1	2	1
8	5	3	1	7
3	4	2	1	9
7	8	1	4	12
6	7	3	1	10
4	3	2	2	12
3	3	2	1	10
3	2	2	3	14
5	5	3	2	5
2	3	3	1	4
6	6	2	2	13
6	5	1	1	15
6	3	4	2	17
4	7	2	1	10
5	4	3	3	12
5	6	1	1	12
5	7	2	2	6
4	4	2	3	6
6	4	1	1	12
3	2	4	2	12
7	8	2	2	12
6	7	2	4	12
6	7	3	3	6
3	3	1	2	9
10	10	2	4	14
6	7	4	2	11
8	5	4	2	14
7	3	1	1	6

4	6	1	2	5
5	5	3	2	4
5	4	2	2	12
5	3	4	3	8

Résumé

La présente étude visait à déterminer les pratiques et les perceptions des étudiants en matière d'autocorrection par rapport à leur compétence en orthographe. 100 apprenants de troisième année de l'EFL à l'Université Mohammed Seddik Ben Yahia, Jijel, ont répondu à un questionnaire qui explorait leurs perspectives et pratiques d'autocorrection via un test d'orthographe divisé en deux sections pour tester leurs capacités de reconnaissance et de production orthographique. Selon des approches qualitative et quantitative de la collecte et de l'analyse des données, on a émis l'hypothèse que les pratiques et les perceptions appropriées des étudiants en matière d'autocorrection correspondront positivement à leur compétence en orthographe. Les résultats obtenus ont révélé que les participants utilisaient fréquemment la correction automatique pour modifier des textes à partir d'errata et l'orthographe automatique des mots lorsqu'ils connaissent l'orthographe et lorsqu'ils ne la connaissent pas. Il a également montré que les étudiants considéraient l'autocorrection comme un moyen efficace d'apprendre l'orthographe. Des relations positives, mais faibles, ont été établies entre les perceptions et les pratiques des élèves en ce qui concerne l'utilisation de la correction automatique et leurs résultats aux tests d'orthographe, surtout entre leur fréquence d'utilisation de la correction automatique et leur utilisation pour vérifier l'orthographe des mots après avoir tapé différents textes. On a constaté une relation faible mais négative entre les résultats aux tests des élèves et leur tentative d'apprentissage de mots autocorrigés.

ملخص

سعت الدراسة الحالية إلى معرفة ممارسات الطلاب و آرائهم حول التصحيح التلقائي و علاقته بكفاءة الطلاب في التهجئة. حيث أجاب مئة طالب يدرسون اللغة الانجليزية كلغة أجنبية في السنة الثالثة ليسانس بجامعة محمد الصديق بن يحيى، جيجل، على استبيان استكشف ممارساتهم و وجهات نظرهم حول التصحيح التلقائي جنبًا إلى جنب مع اختبار إملائي مقسم إلى قسمين، قسم مخصص لاختبار قدرة الطلاب على التعرف على التهجئة الصحيحة للكلمات و القسم الآخر مخصص لاختبار قدرتهم على إنتاج و كتابة كلمات صحيحة. لقد افترض أن ممارسات و وجهات نظر الطلاب السليمة للتصحيح الذاتي ستوافق بشكل إيجابي مع كفاءتهم الإملائية. بإتباع نهج نوعي وكمي لجمع البيانات وتحليلها، كشفت النتائج التي تم الحصول عليها أن الطلاب المشاركين غالبًا ما يستخدمون التصحيح التلقائي لتحضير النصوص من الأخطاء الإملائية و لإكمال كتابة الكلمات التي يعرفون تهجنتها و التي لا يعرفونها. كما أظهرت أن الطلاب يعتبرون التصحيح التلقائي وسيلة فعالة لتعلم مهارات التهجئة. تم إيجاد علاقات إيجابية لكن ضعيفة بين وجهات نظر الطلاب حول التصحيح التلقائي و استخدامهم له مع درجات اختبار التهجئة الخاصة بهم. خاصة بين وتيرة استخدامهم للتصحيح التلقائي واستعماله للتحقق من تهجئة الكلمات بعد كتابة النصوص. كما تم العثور على علاقة ضعيفة ولكنها سلبية بين علامات الاختبار ومحاولة الطلاب في تعلم الكلمات المصححة تلقائيًا