PARAPHRASING IN ESAP: TEACHER-GUIDED, AI-ASSISTED OR COMMUNICATIVE ACTIVITIES

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ABSTRACT. Paraphrasing in ESAP: Teacher-Guided, AI-Assisted or Communicative Activities. At the heart of progress in academia lies the principle of building upon other people's ideas, linguistic expressions and/or scientific endeavours by taking note of invariably crediting the original author (Mori 2018). One way of doing this is by the usage of paraphrasing. Though paraphrasing is regarded as the prerogative of successful academic thinking and writing, what it means exactly is still ambiguous to some extent. After undertaking to formulate some working definitions, we discuss paraphrasing techniques and activities in the context of teaching English for Specific Academic Purposes to students majoring in Biology. The activities considered are grouped into three main categories with respect to the procedure involved: teacher-guided (with a focus on certain parts of a sentence/text as selected by the teacher), AI-assisted (linked to the usage of automated paraphrasing tools) and communicative (tasks having a connection to real-world communicative needs). Some examples are discussed with the purpose of determining their appropriateness in a teaching context. The article sketches an initial paraphrasing teaching toolkit, developing mainly the first category, and ends with considerations regarding future research, such as the development and implementation of AI-assisted tasks and the analysis of inferential and rhetorical processes.

Keywords: paraphrasing, English for Specific Academic Purposes, English as a Second Language teaching, ESP teaching activities, artificial intelligence in education.

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REZUMAT. Parafrazarea în engleza pentru scopuri academice si specifice: activități de predare dirijate de profesor, cu sprijinul inteligenței artificiale *sau comunicative*. În centrul progresului în mediul academic se află principiul dezvoltării cunoasterii prin întrebuintarea ideilor, expresiilor lingvistice si/sau întreprinderilor științifice ale altor oameni, făcând referire în mod invariabil la autorul inițial (Mori 2018). Una din modalitățile prin care se realizează acest fapt este prin intermediul parafrazării. Desi parafrazarea este considerată a fi apanajul gândirii și scrierii academice de succes, însemnătatea sa este încă înconjurată de o anumită ambiguitate. După ce elaborăm câteva definitii de lucru, vom discuta despre tehnici și activități de parafrazare în contextul predării limbii engleze pentru scopuri specifice și academice studenților de la profilul Biologie. Activitățile discutate sunt grupate în trei categorii în funcție de procedura aplicată: dirijate de profesor (axate pe anumite părți ale unei propoziții/unui text selectat(e) de profesor), cu sprijinul inteligenței artificiale (având o legătură cu instrumente automate de parafrazare) și comunicative (sarcini care au o legătură cu necesitățile de comunicare din lumea reală). Se discută câteva exemple cu scopul stabilirii funcționalității lor într-un context de predare. Articolul propune un instrumentar pedagogic initial, dezvoltând mai ales prima categorie si se încheie cu consideratii privind cercetări viitoare, cum ar fi dezvoltarea și implementarea unor activități *cu* sprijinul inteligentei artificiale si analiza proceselor de tip inferential si retoric.

Cuvinte-cheie: parafrazare, engleza pentru scopuri specifice și academice, predarea limbii engleze ca a doua limbă, activități de predare în ESP, inteligența artificială în educație.

Introduction

There is an acknowledged need for students in the academic environment to be involved in paraphrasing activities, which results from the fact that academic writing courses/modules are currently included in the curricula of both undergraduate and postgraduate students in Romania (and abroad). However, paraphrasing is still regarded as something difficult to master by students, this being oftentimes put down to what they perceive as a lack of sufficient or clear training (Mori 2018, 52). For this reason, the current study focuses first on discussing some definitions regarding paraphrasing (in the section titled *Working definitions. Paraphrasing, Rephrasing*) and then concerning plagiarism (in *Working definition. Plagiarism*). Next, a set of specific linguistic techniques are delineated in *Rephrasing and Paraphrasing. Techniques and activities.* This part will also include some examples of teaching activities designed for undergraduate Biology

students attending an ESAP course². The tasks are described cumulatively starting from *teacher-guided* (centred on practice³), moving on to *AI-assisted* ones (still practice-oriented) and finally to *communicative aspects* (empowering students to perform in real-life situations (Council of Europe 2020)). I conclude (in the section *Conclusions*) with a summary of what a paraphrasing toolkit should consist of, also mentioning some future steps to be taken in order to further the current research.

Working definitions. Paraphrasing, Rephrasing

Shi et al. (2018) make a presentation of research on *paraphrasing* defined either "as a faithful recast of the original text" (32) or as "an interpretation and evaluation of source information" (32), while ensuring the acknowledgement of your source (referencing) in both situations.

In the former case, *paraphrasing* is regarded as the rendering of a previously formulated text in your words without changing the original meaning. Oshima and Hogue (2006, 127) specify that this rendition should be almost the same size as the original, in contrast to *summarising*, which needs to be more concise. A similar approach is to be found in Bailey (2017, *Summarising and Paraphrasing*). Both Bailey (2017) and Oshima and Hogue (2006) treat summarising and paraphrasing together as essential strategies for avoiding plagiarism. The latter (136) state that both strategies are about *retelling* an idea in your own words, with the difference that in a summary you only render the main ideas in a condensed form (137). They establish what makes a good paraphrase with respect to three major principles: there must be a modification in vocabulary and in grammatical structure, the length needs to be almost the same as the original text and the meaning should not be changed (129).

Paraphrasing may be used in several areas in academic writing, such as summarising (Bailey 2003, 21; Mori 2018, 45), note-making (Bailey 2003, 21), or as supporting material when developing your written argumentation (Oshima and Hogue 2006, 135) - either by using one author's ideas or by combining various sources. It is put into practice in combination with (direct or indirect) quoting/reporting (Oshima and Hogue 2006, 39-54; Mori 2018, 45) or statistics (Oshima

The course mentioned was addressed to first-year undergraduates, enrolled at the Faculty of Biology and Geology, Romanian and Hungarian lines of study, Babeş-Bolyai University, located in Cluj-Napoca, Romania. The number of students having signed up for the one-year ESAP course was around 253. They had no anterior EMI experience. Their starting proficiency level ranged between B1-C1.

³ As per the PPP trilogy (Harmer 2007 [1998]).

⁴ I will refer to it as paraphrase of the first type further on.

⁵ I will refer to it as paraphrase of the second type further on.

and Hogue 2006, 39-54). In Mori (2018, 47-48) we are told that paraphrasing is a technique required of students in the university environment, because it is proof that they have grasped a particular content. Additionally, by paraphrasing learners demonstrate to have devoted themselves to the task as "voice" pertains to individuals (49).

In a more integrated, teaching-oriented approach, paraphrasing is a subskill employable not only in writing, but also in reading, listening, or speaking. Norris (2021) discusses about paraphrasing in the context of preparing students for the Cambridge B2 First exam, providing examples of teaching activities to be used in all four skills. Besides being evaluated in the *Key Word Transformation* exercises in the *Reading and Use of English* paper, it can be a helpful technique for explaining a word that you do not know when speaking, avoiding repetitions while writing, or making predictions about the listening texts.

When it comes to paraphrasing viewed from the first perspective, there seems to be consensus with regards to its general definition. However, in practice, several studies have demonstrated that what exactly represents 'correct' paraphrasing in terms of the amount or types of changes that need to be operated remains disputable among both students and instructors. (Shi et al. 2018, 32; Mori 2018, 2019). For example, recycling language chunks without using quotation marks may be viewed as acceptable practice among students. Or, when analysing text samples, instructors interpreted what actually constitutes plagiarism to varying degrees (Shi et al. 2018, 32).

Shi et al. (2018) also discuss the second type of paraphrasing (i.e., recasting some initial source's ideas in order to support the reporter's own argumentation. They do so by analysing some advanced students' performance. The reason for choosing advanced learners rather than undergraduates is that the latter can rather be expected "to paraphrase with linguistic changes" (Shi et al. 2018, 33), whereas graduates may be better-suited to perform higher rhetorical operations, which involve using other people's ideas for building your own discourse (33). This rhetorical process is subjective to a large extent as it implies a personal, sometimes distortive interpretation of the original ideas⁶ (for the purpose of building a new line of reasoning).

Yamada (2003) also treats the second type of paraphrasing by analysing some samples on plagiarism from 10 North-American college websites. Her study demonstrates that the common feature of the felicitous examples is the incorporation of inferential thought processes — "a kind of learning which enables people to construct new knowledge by thinking" (Seel 2012). This inclusion is the work of experienced writers, who may apply either deductive or analogical

⁶ See Shi et al. (2018, 33).

inference in the creation of a well-built paraphrase. By deduction, Yamada (2003, 251-253) refers to the logical reasoning in which, starting from a set of readily available data, a new conclusion is drawn. Put differently, it could be what allows the paraphraser to choose a certain reporting verb instead of another; e.g. what allows him/her to say that *X criticizes y*, rather than *X supports y*. Analogical inference is the novel application of an initial framework to a new topic (Yamada 2003, 253-254; Seel 2012). Using inferential analogies in writing is something that must be brought to the attention of ESL/EFL writers (Yamada (2003, 254), and therefore, we would add, of ESP/EASP learners. The main reason for this lies in the fact that in time this could result in moving from students' rephrasing somewhat mechanically (by repeating chunks of language) to their developing their interpretative skills (by identifying implicit points of view) and their abilities of recasting ideas in their own voice (Yamada 2003).

Paraphrasing is a demanding activity both when regarded as a (sub)skill that needs to be taught in language or writing classes and as something to be put into practice by university students. One of the reasons for the latter is the fact that there is always the fear of committing plagiarism, which may be the result of the constant 'threat' contained within academic writing guidelines (Mori 2018, 46). Sometimes, because of this, students who perform well in linguistic-oriented classroom activities may encounter difficulties when using paraphrasing as supporting arguments in their written assignments (46). In what concerns the former aspect, the difficulty stems from the lack of a universally agreed definition on paraphrasing (Mori 2019) and from a clear-cut set of linguistically and/or rhetorically-derived pedagogical practices for teaching it.

I believe that, overall, the distinction made by Shi et al. (2018) should be maintained when discussing paraphrasing techniques. However, for practical purposes, I would prefer the term *rephrasing* when dealing with the idea of *knowledge retelling*⁷ (Mori 2018, 46), or paraphrase of the first type, which strives for the preservation of the original meaning and aims at having almost the same length as the input text. The texts to be analysed could be presented in more or less decontextualized variants and would be mainly included in *teacher-guided activities*. Their main purpose would be to draw students' attention to the linguistic modifications that can be operated in the process of transforming a given/a string (of) sentence(s) into something retold in your own words.

This kind of rephrasing activities is not something new: it has been used in high school/adult General English classes or in various international English language exams, such as Cambridge. For example, see the explanation for the

See Mori (2018, 46), Shi et al (2018, 42) for explanations on knowledge retelling and knowledge transforming.

Key Word Transformation exercise, which is a rephrasing-type assignment given in the C1 Advanced Cambridge exam (Cambridge University Press & Assessment 2023, *C1 Advanced exam format*).

Paraphrasing would be the term reserved for the knowledge transforming variant, i.e., in situations when someone else's ideas are employed in the development of one's own argumentation (Mori 2018, 46). This second case⁸, in which the rhetorical variant is at work, is the one that I would include both in teacher-guided and communicative activities designed to practice paraphrasing in class.

Working definition. Plagiarism

Discussions regarding paraphrasing are closely linked to the issue of plagiarism. Nowadays it occupies a central place in certain academic cultures (North America, Europe) and it concerns aspects related to the work of both students and academics, viewed in their roles of either researchers or instructors.

The first and most obvious meaning of plagiarism is the one connected with the idea of an intentional act of copying from somebody else's work, usually without acknowledging the original author of the idea/text. Besides it being primarily an ethical issue, it can also be regarded as a sign of disrespect (Swales and Feak 1994, 125). A further distinction is made when it comes to intentionality – there are cases of what some call *prototypical plagiarism*, which has the intention to deceive at its core, and the opposite variant, *non-prototypical plagiarism*, characteristic of (but not limited to) ESL learners (Pecorari 2003).

Oshima and Hogue (2006, 41-42) define plagiarism as using outside information as if it were your own. Plagiarism avoidance involves utilising citation, described as a twofold procedure: employing first an *in-text citation* (mentioning the source in a shortened variant in text, between parentheses, the exact format depending on the type of citation style used), followed by the inclusion of the full reference in the *Works cited* part at the end of your text. They consider that there are two ways of committing plagiarism, the first referring to the omission of the actual source and the second consisting of paraphrasing "too similar to the original," even if the author is acknowledged (Oshima and Hogue 2006, 128).

There is also the instance of *patchwriting*, interpreted as ineffective paraphrasing or even a form of plagiarism. Patchwriting is the situation when the transformed text conserves the initial structure or some word for word parts of the source text can easily be identified (Mori 2018, 47). Another explanation

⁸ I will not tackle this aspect here.

might be that only some words are replaced with synonyms, with the voice of the original author clearly discernible in the paraphrased text (Jamieson 2015 *apud* Prentice and Kinden 2018, 3).

In my opinion, patchwriting is not acceptable as the final product in an academic piece of writing, but it could be admissible as a valid technique in academic contexts in which the teaching-learning of a second language takes place at the same time. A step in this process consists in the fact that language chunks are first used as they are and learnt through repetitions in various scenarios until the learner reaches a point in which he/she can use the repeated phrases in new, more creative ways.

A similar opinion related to patchwriting can be found in Mori (2018)⁹. Language in use in general, and even more so in the case of paraphrasing, is dialogic in nature, which sometimes leads to ambiguity when it comes to distinguishing between the author's and the paraphrasing person's voice. Pecorari (2003, 342-343) advocates for accepting patchwriting as a strategy which most inexperienced writers recur to during the development of their writing skills. As a final paraphrasing result, however, patchwriting is still considered to be an act of (albeit unintentional) plagiarism by academic instructors in general (Mori 2018, 50).

From my perspective, plagiarism can be interpreted as falling into three larger categories¹⁰: *citation*-related, *ethical misconduct*-related and *linguistic*-related. The cases presented next are extracted from several sources: Turnitin (2021), an Internet-based similarity detection service used by institutions at large, provides a guide to plagiarism practices, currently amounting to 12. Turnitin (2016) gives practical examples of 10 student plagiarism types as the result of a survey conducted on a large scale. Oshima and Hogue (2006) also discuss what constitutes or fails to be a good paraphrase by providing some examples.

a. Citation-related:

1. "Inadvertent plagiarism" (Turnitin 2021) – refers to situations when somebody uses as such or paraphrases a source text without making sure to mention the source correctly (by writing the correct, full reference) or by failing to employ the quotation marks appropriately; as the name suggests, it is deemed unintentional;

⁹ Mori's 2018 article is based largely on the Bakhtinian theory.

¹⁰ I chose to divide the types presented into 3 main working categories, but it needs to be mentioned that there may be some overlapping areas between them (e.g., "mosaic plagiarism" is a combination between the linguistic and citation-related categories, but the former category was preferred).

Here could be included the transgression of the academic principle which calls for mentioning the source next to its paraphrased idea, not only specifying it in the *reference* or *works cited* section (Pecorari 2003, 330).

2. "Paraphrase plagiarism" (Turnitin 2021) – still pertains to the idea of not acknowledging the source of a paraphrase in a proper manner;

The term seems somewhat misleading to us, so we would suggest calling it *Paraphrase source plagiarism* in order to avoid confusion with "too similar" paraphrases, for example; it is about the usage of just one source.

3. "Mosaic plagiarism" (Turnitin 2021) – combining texts extracted from several sources, without referencing them; it would be a 'replica' of paraphrase source plagiarism, but this time related to the inclusion of more than just one source.

There may be included several instances here, in my opinion:

- "Remix" (Turnitin 2016, #4 *Remix*) "paraphrases from multiple sources made to fit together" (Turnitin 2016, #4 *Remix*). From the example provided, it can be inferred that they are without citation.
- "Hybrid" (Turnitin 2016, #6 *Hybrid*) a combination of well-cited parts with texts lacking reference;
- "Mashup" (Turnitin 2016, #7 *Mashup*) copied texts from several authors;

Maybe it is here that *unacknowledged secondary citation* could be included, a situation which Pecorari exemplifies in her (2003) article. She explains this as an inappropriate citation of a secondary source in the form of a primary one, which misleads readers into believing that the author of the text consulted the cited work first hand and not just read about it through somebody else's study (Pecorari 2003, 330-333).

- 4. "Computer-code plagiarism" (Turnitin 2021) copying code without having been allowed to and without acknowledging your source;
- 5. "Source-based plagiarism" (Turnitin 2021) refers to the provision of reference details leading to the impossibility of retrieving the source; / "404 Error" (Turnitin 2016, #8 404 Error)
- 6. "Self-plagiarism" (Turnitin 2021) / "Recycle" (Turnitin 2016, #5 Recycle) means the unacknowledged inclusion of your own previously published work in a new one;

- b. Ethical misconduct-related:
- 7. "Student collusion" (Turnitin 2021) several students' involvement in producing work which had been individually allocated;
- 8. "Contract cheating" (Turnitin 2021) contracting written work and presenting it as your own;
- 9. "Manual text modification" (Turnitin 2021) utilising text belonging to somebody else in an exploitative manner to avoid plagiarism detection;
- 10. "Software-based text modification" (Turnitin 2021) the usage of Alresources to manipulate text with the purpose of presenting others' work as your own.
- 11. "Data plagiarism" (Turnitin 2021) altering study data in any way possible (falsifying, fabricating, omitting data etc.);
- 12. "Aggregator" (Turnitin 2016, #9 Aggregator) although the text specifies sources appropriately cited, there is no original part included;
 - c. *Linguistic*-related:
- 13. "Word-for-word plagiarism" (Turnitin 2021) the copy-paste phenomenon / "Clone" (Turnitin 2016, #1 Clone) taking an entire text which belongs to somebody else and presenting it as yours;
- 14. "CTRL+C" (Turnitin 2016, #2 CTRL+C) a notable amount of text is copied from one source, without modifying it;
- 15. "Find-Replace" (Turnitin 2016, #3 Find-Replace) / "Too similar" (Oshima and Hogue 2006) / "Patchwriting" (Mori 2018) only a few key words or phrases are rephrased, no credit given;
- 16. "Re-Tweet" (Turnitin 2016, #10 Re-Tweet) / "Too similar" (Oshima and Hogue 2006) / "Patchwriting" (Mori 2018) a category close to "Find-Replace", but this time the stress is on the retention of the source's sentence pattern or vocabulary, even if the source is mentioned.

The word substitutions occurring in patchwriting are described as part of a manual manipulation process. The question has arisen whether software-based word replacements (through the usage of online paraphrasing tools) can still be considered *patchwriting* or rather fall into the category of *illicit paraphrasing* (Curtis and Vardanega 2016 *apud* Prentice and Kinden 2018, 4). Although the primary purpose of the present article is not concerned with the idea of *Academic Dishonesty* (Roe and Perkins 2022, 1), it cannot be completely evaded due to the nature of the topic. The initial purpose of machine-based

paraphrasing tools was "text-spinning"¹¹ for improving website rankings in Google Search (Prentice and Kinden 2018; Roe and Perkins 2022). Next followed the use of these paraphrasing tools in academia with the purpose of avoiding plagiarism detection software relying on text-matching algorithms, especially put into practice by ESL students (Roe and Perkins 2022). Put differently, this second situation is an instance of plagiarism *when* it is *citation*-related.

This brings into discussion the following aspects: can AI-assisted paraphrases still be considered plagiarism attempts when such a tool is used for helping with paraphrasing, or if an appropriate citation is included? Also, could/should online paraphrasing tools be used in class in the context of an ESAP course? A discussion on how automated paraphrasing tools (APTs) can be used in fraudulent ways can be found in Roe and Perkins (2022). Additionally, they (4; 7) suggest that APTs could be a useful pedagogical tool for EFL students in an instructor-guided framework. But, they express concern linked to the possibility of disorienting students in terms of what is/is not considered appropriate if such a tool is employed in classroom activities, which echoes my thoughts on the matter (4). However, here I will only briefly address *how* such a tool could be used in class.

Rephrasing and Paraphrasing. Techniques and activities

Having taken on paraphrasing as part of the second semester practical ESAP course I taught to first year students in Biology in the year of study 2022-2023, I could observe that students found the idea of tackling paraphrasing activities demanding because they were struggling with deciding what and to what extent to change. This was contrary to the fact that most of them apparently knew what paraphrasing a text meant¹². This was why I decided to move from paraphrasing tasks to what I called rephrasing exercises. Depending on the topic of the course at that point, some rephrasing exercises were devised with the purpose of focusing on certain vocabulary and/or grammar parts. Starting from this experience, I decided to gather up a set of techniques for the rephrasing-paraphrasing skills.

[&]quot;Spinning is a technique used to produce a new document, or documents, from an original text source by replacing words in such a way as to retain the overall meaning of the text, while avoiding machine-based text matching tools used to identify plagiarism." (Prentice and Kinden 2018, 5).

¹² At the beginning of the second semester, I applied the *Academic Writing Quiz* devised by Bailey (2017, *Academic Writing Quiz*). Out of a total of 120 persons answering the quiz, 63.3% (76 students) answered that paraphrasing a text means "changing a lot of the vocabulary", 21.7% (26) chose "adding more detail" and 15% (18) equated paraphrasing to summarising by choosing the answer "making it shorter". Although, as discussed above, all three variants can be seen as true to some extent, the first was the correct option (according to Bailey).

The *rephrasing exercise typology* below is a representation of Mori's (2019) classification regarding linguistic changes that can be operated when "paraphrasing," to which explanatory details from several other sources were included. As suggested by her, the typology may be applied in class while also concentrating on grammatical aspects, which need to be regarded as an integral part in the mastering of the writing process (Mori 2019, 892).

- I. Morpholexical (Mori 2019, 888-890)
- i. "Morphological"
- 1. "Inflectional" changes pertaining to the inclusion of words into various grammatical categories, such as person, number, gender, case, tense, aspect without producing changes in the part of speech of the word they are added to; (Britannica 2023, "inflection"; Lieber 2015, 101-102; Nation 2013, 389-390);
- 2. "Derivational" changes referring to the formation of a word through modifications in the form of a word or through the usage of affixes; the resulting word may be a different part of speech, or it may acquire a new meaning apart from that of its stem (Lieber 2022, Britannica 2016, "derivation"; Lieber 2015, 101-102; Nation 2013, 389-390);
- 3. "Modal"
 - ii. "Lexical"
- 1. "Same polarity (synonym);"

Here it needs to be specified that there are certain situations when providing synonyms to certain (noun) phrases is not recommended. One example is that of *phrases that are of common use* ("Industrial Revolution" – Bailey 2017). Another case refers to what was named "*immutables*" – words that are classified as fundamental to a certain community's discourse (Hyland 2006 *apud* Prentice and Kinden 2018, 8) - for instance, "the discharge summary" should not be substituted with "the release precis" in a medical text (Prentice and Kinden 2018, 8).

- 2. "Opposite polarity (antonym);"
- 3. "Synthetic/Analytic" changes for example, the transformation of the genitive 's into the phrase *x* of *y*, replacement of a noun with an equivalent phrase (Mori 2019);
 - II. Structural (Mori 2019, 889-890)
 - i. "Syntax"

- 1. "Diathesis (Voice);"
- 2. "Clause reordering" when two clauses occur in a (compound/complex) sentence and the order is reversed;
- 3. "Coordination changes" for example, changes in connecting words;
- 4. "Subordination" e.g., an independent clause becomes dependent or the other way round; substitutions in subordinating linking words;
 - ii. "Discourse"
- 1. "Modality" involving, for instance, changes from declarative to negative;
- 2. "Punctuation."

The following activities illustrate some ((de)contextualised) rephrasing exercises aimed at drawing students' attention to certain rephrasing techniques. They can be furthermore grouped into three categories with respect to the procedure involved: (A.) teacher-guided (with a focus on certain parts of a sentence/text as selected by the teacher), (B.) Al-assisted (linked to the usage of automated paraphrasing tools) and (C.) communicative (tasks having a connection to real-world communicative needs).

Examples:

A. Rubric (examples 1-5): Rewrite the following sentences using words containing a prefix. In some cases, the prefix is given between brackets. Do not change the words given in any way:

(1) Ethylene is a rather stable molecule that $undergoes\ polymerisation^{13}$ only upon contact with catalysts. 14

Ethylene is a rather stable molecule that ... only upon contact with catalysts. ¹⁵ (*polymerises*) ¹⁶

- derivational change from noun in verb-noun collocation to verb;
- usage of the *technical word* "polymerisation" ¹⁷ with a verb formed with the help of the prefix "under;"

¹³ The italicised parts are meant to point out that some changes need to be operated in that area.

¹⁴ Example retrieved from [https://en.wikipedia.org/wiki/Polyethylene], accessed on 10.07.2023.

¹⁵ My adaptation.

¹⁶ The suggested answer is provided between brackets.

¹⁷ See [https://www.biologyonline.com/dictionary/polymerization#:~:text=Polymerization%20is %20the%20act%20or,monomers%20link%20through%20chemical%20bonds].

- The teacher can point out that the meaning of the prefix *under* added to the verb *go* in this case is *not* "not enough" because *to undergo* means "to experience something," which is a different situation as compared to verbs such as *underfund*, *undervalue* (examples borrowed from Gillet since April 29th, 1999, *Building Vocabulary. Affixes and roots*) where the meaning of the prefix *under* is preserved.
 - (2) The problem *that lies under the surface* is a very serious one. (UNDER)¹⁹

The ... is a very serious one. (underlying problem)²⁰

- derivational change: verb to noun;
- The focus is on an *academic word*: to *underlie* (word included in the *Academic Word List (AWL)*, cited in Richards (2017, 51)). The noun *problem* is also included in the gap in order to practise the adjective-noun combination as a collocation, as it is generally recommended to learn "new words in phrases not in isolation." (McCarthy and O'Dell 2017, 10).
 - (3) The advantages of genetic modification *are more significant* than the disadvantages. $(OUT)^{21}$

The advantages of genetic modification \dots the disadvantages. (outweigh) 22

- same polarity (synonym) example;
- focus on the prefix out, used in the formation of verbs meaning "more or better than others" (Gillet since April 29th, 1999, *Building Vocabulary. Affixes and roots*); the purpose for choosing this example is to practise a common expression in academic writing.
 - (4) In a 'shapeless' polymer the molecules are oriented randomly and are intertwined, much like cooked spaghetti, and the polymer has a glasslike, transparent appearance.²³

¹⁸ Both the Oxford dictionary online and Gillet's website present the meaning of the prefix "under" used with verbs as being *not enough*, which does not fit the given example. (Oxford Learners' Dictionary, definition available at [https://www.oxfordlearnersdictionaries.com/definition/english/under_3?q=under-], accessed on 10.07.2023; Gillet since April 29th, 1999, definition available at [https://www.uefap.org/vocabulary-building-affixes-roots/], accessed on 10.07.2023).

¹⁹ My example.

²⁰ My adaptation.

²¹ My example.

²² My adaptation.

²³ Example adapted from Britannica 2021, available at [https://www.britannica.com/science/amorphous-polymer], accessed on 7.07.2023.

In a(n) ... polymer the molecules are oriented randomly and are intertwined, much like cooked spaghetti, and the polymer has a glasslike, transparent appearance. (*amorphous*)²⁴

- Here the aim could be the practising of the technical noun phrase *amorphous polymer*. Apparently, we deal with a simple case of same polarity, since *shapeless* is considered a synonym of *amorphous*²⁵. However, at closer inspection we realize that *amorphous polymer* is an immutable technical collocation, as *shapeless* in conjunction with *polymer* is preferably used between inverted commas.²⁶
 - (5) (a) A callus consists of *an amorphous* mass of loosely arranged thinwalled parenchymatous cells arising from the proliferating cells of the parent tissue.

(Bhatia 2015. Plant Tissue Culture)²⁷

- (b) According to ... a callus is made up of a(n) ... mass "of loosely arranged thin-walled parenchymatous cells arising from the proliferating cells of the parent tissue." (Bhatia (2015, *Plant Tissue Culture*); *shapeless*)²⁸
- (c) A callus is made up of a(n) ... mass "of loosely arranged thin-walled parenchymatous cells arising from the proliferating cells of the parent tissue," according to (shapeless; Bhatia (2015, Plant Tissue Culture))²⁹
- This example could be employed to contrast between the usage of *shapeless* in a mutable noun phrase (example (5)) versus its usage in an immutable one (example (4)). Additionally, an *in-text* citation could be included in order to introduce the concept of *(in)direct quotation* with the help of *according to* in the rephrased sentence(s). Now it could be highlighted that maintaining *verbatim* the initial sentence cited from a source needs to be marked with the help of the quotation marks (*direct quotation*). Otherwise,

25 Oxford Learners' Dictionary, definition available at [https://www.oxfordlearnersdictionaries.com/definition/english/amorphous?q=amorphous], accessed on 10.07.2023.

²⁴ My adaptation.

²⁶ "That's how the molecules of amorphous or "shapeless" polymers tend to distribute themselves." Example retrieved from "Polymer Properties," available at [https://www.employees.csbsju.edu/cschaller/Advanced/Polymers/CPxtal.html], accessed on 10.07.2023.

Example retrieved from https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/callus#:~:text=A%20callus%20consists%20of%20an,cells%20of%20the%20paren t%20tissue, accessed on 10.07.2023.

²⁸ My adaptation.

²⁹ My adaptation.

when it comes to paraphrasing (and not rephrasing), this could be interpreted as an instance of patchwriting or plagiarism.

- The places occupied by *according to* at the beginning or end of the quoted information, and not in the middle (Oshima and Hogue 2006, 43-44), are also practised.

Rubric (example 6): Complete each sentence so that it means the same as the preceding one(s). Use the words in brackets, but do not change the words given in any way. 30

- (6) (a) Cattle ranching is very popular in Brazil. As a result, the rainforest is cut off. (SO ...THAT)
- (b) ... popular is cattle ranching ... (So popular is cattle ranching in Brazil that the rainforest is cut off.)
- (c) As a result of, ... is cut off. (As a result of cattle ranching popularity in Brazil, the rainforest is cut off.) 31
- (d) As cattle ..., the ... (As cattle ranching is popular in Brazil, the rainforest is cut off.) 32
- Example (b) illustrates the structural change of subordination: there is a change from the "transition phrase" *as a result*, followed by an independent clause expressing an effect (Oshima and Hogue 2006, 102) to an emphatic syntactic structure. The teacher can illustrate the pattern mentioned in its non-emphatic usage: *so + adjective/adverb + that + result (Cattle ranching is so popular in Brazil that the rainforest is cut off)* and then explanations can be given referring to changes occurring due to the fronting of the adverb *so* (subject-predicate inversion).
- Example (c) could be provided in order to show that the transition phrase *as a result of* precedes a noun phrase expressing *cause*.
- The third example shows how the subordinator *as*, which is a "cause signal word" (Oshima and Hogue 2006, 101), changes the sentence. It is an exemplification of modifications relating to different subordinating linking words expressing different meanings (i.e., semantic modification from *result* to *cause*).

³⁰ Rubric and examples (a) and (b) borrowed from [http://autodidact.granturi.ubbcluj.ro/en/files/eco_u13_c.pdf], accessed on 11.07.2023.

³¹ My adaptation.

³² My adaptation.

- Thus, students could be made aware that opting for coordination over subordination or choosing a certain way of rendering ideas through subordination represents a rhetorical choice. The speaker highlights "[...] equally important ideas" by using them in coordinated clauses, while what is considered less relevant occurs in subordinate clauses (Preda 2013, 185). Additionally, the "more important element is usually situated at the end of the sentence, benefitting of more weight" (186).

Rubric (example 7): Rewrite the following sentence by completing the steps below:

(7) In the 1960s and 70s, independent groups of scientists began to describe genetic regulation and the phenomenon of transposition in bacteria. 33

Source: an online article published online on May 20, 2018 8:00 PM (EDT).

The author: Yewande Pearse.

Title: Meet Barbara McClintock, who used corn to decipher "jumping genes".

Subtitle: Through meticulous crossbreeding, she showed that DNA is far more complicated than scientists originally thought.

Paragraph: 15.

- 1. Change the sentence into Passive Voice: ... (*In the 1960s and 70s, genetic regulation and the phenomenon of transposition in bacteria began to be described by independent groups of scientists.*)
- The teacher may address the following question: *Do you think that changing a sentence from Active into Passive Voice is enough for a felicitous paraphrase*? The expected answer is *no*, because the rephrased sentence would be 'too similar' to the original. Also, a discussion could be held related to the need for maintaining the *by*-phrase in the reformulated sentence.
 - 2. Find equivalents for the following words/phrases and then change the initial sentence accordingly: "In the 1960s and 70s," "genetic regulation," "began," "to describe," "phenomenon of transposition" (*Starting with the 1960s, over the next 20 years; gene regulation; started; to depict/to explain; translocation*)
 - derivational change (*gene regulation*): adjective (*genetic*) to noun (*gene*);

³³ Example retrieved from [https://www.salon.com/2018/05/20/meet-barbara-mcclintock-who-used-corn-to-decipher-jumping-genes_partner/], accessed on 11.07.2023.

- Students could be asked to consult an online dictionary providing synonyms, such as *Collins Thesaurus*, to check the meaning of the synonyms provided for *to describe*³⁴ and choose the one(s) that fit the context. One of the first synonyms suggested by the dictionary is "to relate" with the meaning "to tell (a story) or describe (an event)"³⁵, which means it is not the best fit in the given sentence. One possible answer could be *to explain* choosing it entails a move from a more 'neutral' meaning (*to describe*) to a more specific one (*to explain*³⁶ "to make something easily understandable, esp. by giving a clear and detailed account of it.")
- Or, other typical academic words could be offered as alternatives, e.g., *investigate, conduct (research), analyse*, headwords which can be found in the AWL (Richards 2017, 47-51)³⁷.
- If it comes to finding a synonym for *transposition* by using the online dictionary mentioned above, no results are yielded. Finding a synonym will be possible either from specific-subject knowledge or by browsing the internet. A discussion might ensue related to accepting or not *translocation* as a synonym for *transposition*.
- Is the sentence obtained after operating these synonymic modifications sufficient for a correct paraphrase? The expected answer is no, since we have just replaced words from the original text.
 - 3. Rewrite the initial sentence by using the following techniques: find synonyms, change word class(es), use clause reordering, change from Active to Passive Voice. Make sure to cite the source. (According to Pearse (2018), gene regulation and (the phenomenon of)³⁸ transposition in bacteria started to be investigated by autonomous research teams, starting with the 1960s, over the next 20 years.)
 - The last step would result in a felicitous paraphrase of the first type.

³⁴ Collins Dictionary, definition available at [https://www.collinsdictionary.com/dictionary/english-thesaurus/describe], accessed on 13.07.2023.

³⁵ Collins Dictionary, definition available at [https://www.collinsdictionary.com/dictionary/english-thesaurus/relate], accessed on 13.07.2023.

³⁶ Collins Dictionary, definition available at [https://www.collinsdictionary.com/dictionary/english-thesaurus/explain], accessed on 13.07.2023

³⁷ The students could be advised to consult the *Headwords of the Academic Word List*, made accessible by the author, Averil Coxhead, available at [https://www.wgtn.ac.nz/lals/resources/academicwordlist/awl-headwords], accessed on 14.07.23.

³⁸ The part between brackets could be left out.

B. (8) (a) In the 1960s and 70s, independent groups of scientists began to describe genetic regulation and the phenomenon of transposition in bacteria. 39

(Pearse 2018, para. 15)

(b)

In the 1960s and 70s, independent groups of scientists began to describe genetic regulation and the phenomenon of transposition in bacteria.

Independent scientific teams started describing genetic control and the bacterial transposition phenomenon in the 1960s and 1970s.

Figure 1 - first variant provided by an online paraphraser

In the 1960s and 70s, independent groups of scientists began to describe genetic regulation and the phenomenon of transposition in bacteria.

Independent research teams first started describing bacterial transposition and genetic control in the 1960s and 1970s.

Figure 2 – second variant provided by the online paraphraser



Figure 3 – third variant provided by the online paraphraser⁴⁰

- After having worked on the sentence in (a) in terms of a teacher-guided activity from a more 'traditional' perspective in e.g. (7), now the same sentence has been inserted in an online paraphraser, *Quillbot*, which resulted in the obtention of three variants, quoted in (8 b, c, d). The reason for choosing *Quillbot* is that it is the first suggested paraphraser in a Google search of the word *paraphrase*. In terms of paraphrasing, it provides seven modes, out of which the standard variant (free, used here) has as purpose keeping the original

³⁹ Example retrieved from [https://www.salon.com/2018/05/20/meet-barbara-mcclintock-who-used-corn-to-decipher-jumping-genes_partner/], accessed on 11.07.2023.

⁴⁰ Examples (b)-(d) retrieved from [https://quillbot.com/], accessed on 14.07.2023.

meaning unchanged. It puts to work two techniques, as indicated by the explanations it offers:

- i. "changed words" marked with orange
- ii. "structural changes" underlined words
- iii. "longest unchanged words" blue highlighting
- Furthermore, the paraphraser acts as an online thesaurus, by providing lists of synonymic words or phrases. Some exemplifications will be given for the first rephrased variant.
- The first alternative provided, (b), 41 makes use of substitution of the noun phrase *groups of scientists* with *scientific teams. Independent* is not replaced, which means that an important aspect of meaning is preserved. It does not remove *the phenomenon of*, which was something suggested by us above. It can be remarked that *transposition* is not replaced, thus avoiding the discussion also mentioned above. Clause reordering is also employed by the postpositioning of *in the 1960s and 1970s*. We appear to be in the presence of a felicitous rephrased sentence.

Next, a short discussion follows about the list of words/phrases provided as alternatives in the case of (b).

(List of words/phrases available for the first rephrased sentence ((b) above):

"scientific" – first 10 out of the 39 synonyms provided: "research, academic, scholarly, science, experimental, scientist, researcher, mathematical, technological, academic. [sic], etc."

"teams" – first 10 out of 35 synonyms provided: "groups, organisations, parties, team, companies, studies, researchers, squads, collaborates, individuals, etc."

"started describing" – first 10 out of 45 synonyms provided: "began to describe, began describing, began to explain, began examining, began explaining, began discussing, began defining, began to investigate, began analysing, began addressing, etc."

"(genetic) control" - first 10 out of 49 synonyms provided: "genetic regulation, the control of genes, genetic manipulation, gene regulation, the regulation of genes, the manipulation of genes, the control of genetics, genes, the role of genes, genetic modification etc."

"(the) bacterial" - first 10 out of 50 synonyms provided: "the microbial, the microbe, the yeast, the bacteria-mediated, the bacteria-induced, the protozoan, the viral, the fungal, the bacteria's, the microorganism etc."

⁴¹ The other variants are also presented, but without an analysis (due to space constraints).

"transposition" - first 10 out of 33 synonyms provided: translocation, inversion, translation, trans, transcription, transformation, transfer, the repositioning, repositioning, conversion" and so on.

- If we look at the first variants for the word *scientific*, we notice that there are two occurrences of the word *academic*, one of which is followed by a full stop (which shows that the synonyms proposed are automatically extracted according to some algorithms). *Scholarly* is a close synonym for *academic*⁴². Other words proposed are part of the same word family of *scientific* (*science*, *scientist*). *Mathematical*, *technological*, *experimental* are more specific replacements of *research*, which means that a human mind should decide whether they are appropriate in the given context⁴³.
- When we look at the list of words for *teams*, we observe the singular variant is suggested, which would be incorrect if we consider that there were distinct groups of researchers working. A *scientific squad* is an inappropriate phrase, because the words do not collocate. *Collaborates* would be an incorrect form of speech.
- For *started describing* the two syntactic patterns of the verb *begin* (can be followed by a *to*-infinitive or an *-ing* verb) are then filled in with various synonym of *describing*.
- "Synthetic/analytic" changes are employed in *the control of genes, the manipulation of genes*, etc. *The control of genetics* would be an inappropriate use in the given context.
- Establishing if *bacteria-mediated* or *bacteria-induced* can be employed here involves a specific-subject knowledge of the process of transposition. If we replace *(the) bacterial* with *the protozoan*, it means that we equate a prokaryotic⁴⁴ organism with a eukaryotic⁴⁵ one, which again implies using specific-subject knowledge. *The microorganism* represents a hypernym of *bacterium*.

⁴² Collins Dictionary, definition available at [https://www.collinsdictionary.com/dictionary/english-thesaurus/academic], accessed on 17.07.2023.

⁴³ When we have a look at how paraphrasing is presented in science popularising articles, we learn how paraphrasers are designed (in general). What stands out is the fact that paraphrases are trained to generate content recurring to certain techniques (linguistic) and using an online-based corpus. Some such programmes involve "unsupervised learning," (Masab 2023) which is why infelicitous examples may result; accordingly, we are told that human supervision is necessary. (Masab 2023, Robots Science 2023).

⁴⁴ BiologyOnline, definition available at [https://www.biologyonline.com/dictionary/bacteria], accessed on 17.07.2023.

⁴⁵ BiologyOnline, definition available at [https://www.biologyonline.com/dictionary/protozoa], accessed on 17.07.2023.

Some possible applications in class could be rendered through the following rubrics:

Rubric 1 (example 8): Look at the three paraphrased texts and identify what linguistic techniques have been used.

Rubric 2 (example 8): Look at the three paraphrased texts and decide which (if any) is a felicitous alternative.

Rubric 3 (example 8 b): Look at the synonyms proposed for "scientific," "(genetic) control," "(the) bacterial," "transposition." Decide which are wrong and which are possible correct alternatives in the given context.

At this point we can say that an APT can be a useful tool if one needs a quick list of possible words/phrases which can replace certain words in each text, if one is interested in learning what some current usages are. If a more specific term or, on the contrary, a hypernym is needed, it is more likely to find one by using such an instrument rather than by appealing to a classical dictionary. However, there is a clear need for a person to decide what is or is not appropriate⁴⁶.

C. Rubric (example 9): Write a short definition paragraph (50-100 words) regarding the phenomenon of transposition. Use the information from the two sources provided below:

(9) (a) In the 1960s and 70s, independent groups of scientists began to describe genetic regulation and the phenomenon of transposition in bacteria. 47

(Pearse 2018, para. 15)

(b) In genetics, the term transposition refers to the removal and the transfer of a segment of DNA from one site to another of the same or different chromosome. 48

(BiologyOnline 2001-2023, "transposition.")

- This kind of activity is closer to a fluency-oriented or *communicative activity*. If the task were to be assigned in class, it would be designed on the lines of the example provided in (9) (due to time constraints).

⁴⁶ See also Roe and Perkins (2022), Prentice and Kinden 2018, Masab (2023), Robots Science (2023).

⁴⁷ Example retrieved from [https://www.salon.com/2018/05/20/meet-barbara-mcclintock-who-used-corn-to-decipher-jumping-genes_partner/], accessed on 11.07.2023.

⁴⁸ Example retrieved from [https://www.biologyonline.com/dictionary/transposition], accessed on 11.07.2023.

In order to mimic real-world needs, the task immediately above could be transformed into a project-based activity. This constitutes an example of a *communicative activity having a connection to real-world (communicative)* needs. The rubric could be:

(10) Write a 300-word essay regarding the phenomenon of transposition, including an extended definition. Set in bold the areas in which you have paraphrased information from other authors. Your "Works cited" section should contain at least 4 articles, including the two sources provided in (9). (You will be evaluated with respect to the correct use of citations and paraphrases (5 points) and for accuracy and fluency of language (5 points).)

The type of activities presented here can be developed even further, but this will constitute the topic of future research.

Conclusions

Paraphrasing continues to be a topical aspect that can be analysed not only linguistically, rhetorically, or ethically, but also including a collaboration with the computer sciences, especially when related to the usage of APTs. When viewed in terms of teaching ESAP, it needs to be stated that developing paraphrasing skills in L2 students is a process that takes time and consists of intermediary stages that cannot be overlooked. Even though patchwriting is criticisable, it can be regarded as an inherent, and thus acceptable part of the academic writing training process.

As discussed in the present article, in order to learn how to avoid plagiarism, students should first be introduced to a typology of plagiarism categories; these were divided into three classes: *citation*-related, *ethical misconduct*-related and *linguistic*-related. After that, a wide array of class activities should be put to work with the purpose of illustrating both infringements and good practice examples. Here, we focused on *linguistic*-related tasks (i.e., a set of *rephrasing* activities, which could be expanded even more in future research), immediately accompanied by *citation*-related ones. A next step in developing this teaching toolkit would involve the presentation of various scenarios for *ethical* misconduct. Finally, *paraphrasing* activities need to be worked out by referring to inferential and rhetorical aspects⁴⁹. Another future endeavour could involve a more developed analysis of APTs in terms of both their teaching potential and the ethical issues they entail.

⁴⁹ For the second type of paraphrasing as discussed previously.

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