Exploring the Influence of Large Language Models (LLMs) on English Learners and their Teachers

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Abstract. More and more English learners and teachers are using LLMs for different purposes in the contemporary world. Besides the multi-functional use of LLMs, most users are attracted by LLMs' convenience. LLMs do benefit students and teachers in numerous ways. Students can improve their paraphrasing techniques and acquire alternations on different linguistic features such as grammar. Teachers can save time in lesson planning and assessing students' work. These benefits are enormous, but simultaneously cause alarms on students and teachers. Specifically, LLMs are becoming a panacea and students and teachers tend to rely heavily on LLMs. If students want to paraphrase something, they will resort to QuillBot and copy and paste its result into their paper. Some students even lost confidence in writing. To reduce their work in teaching, teachers are also prone to replace human instruction with LLMs for the majority of the time. The over-reliance on LLMs leads to a lack of practice in problem-solving and critical thinking abilities. Students skip the analysis part and teachers fail to bring about human-generated unique creativity to class. Suggestions are made to help students and teachers use LLMs properly.

Keywords: Large Language Models (LLMs), English learners, paraphrase.

1. Introduction

Large Language Models (LLMs) such as ChatGPT, QuillBot, and Grammarly are becoming increasingly popular nowadays. Most English learners are willing to use them to detect grammatical mistakes and improve their writing pieces. Most of these LLMs are convenient to use. Even students who have not heard of them before can become familiar with them once they begin to use them. LLMs are also multi-functional. One LLM usually has a variety of functions and some functions of LLMs overlap with each other. English learners and their teachers can benefit from LLMs to a large extent.

Most current research on LLMs explores their effect on English learners and teachers which generate relatively positive results. For instance, Fitria found QuillBot effective in practicing students' paraphrasing skills [1]. Students can acquire particular paraphrasing strategies and can use those strategies while paraphrasing on their own. These two studies also indicate specific paraphrasing strategies students have developed while or after using QuillBot. However, almost all studies on LLMs also raise some concerns. Imagine this: What will happen if students want to save time and use LLMs to paraphrase, solve questions, and even write? Knowing how powerful LLMs are, students and even teachers tend to depend heavily on LLMs. This leads to various adverse outcomes.

This review analyzes the impact of the daily use of LLMs on students and teachers. It discusses the problems that arise when students and teachers use LLMs incorrectly. Suggestions are made to establish a cognition on how to use LLMs properly.

2. The Positive Influence of Large Language Models (LLMs) on Students and Teachers

Students are likely to encounter different kinds of problems in writing. Khazrouni found that university students tend to meet issues such as "structure, spelling, doubling of subjects, grammar, mistakes due to L1 interference" [2]. Moreover, Rahmat stated that students frequently make several

types of paraphrasing mistakes [3]. Academic writing proficiency is critical for success and students usually use LLMs to address the above two issues. Even though there are still some contradictions on how to use LLMs properly, LLMs could help students acquire paraphrasing strategies and learn particular linguistic features.

2.1. Student's Perspective

2.1.1 Paraphrasing Skills

Paraphrasing skill is significant in academic writing but it is also challenging to master. Most English learners are willing to use LLMs such as QuillBot to make paraphrasing more easily. One question that remains unsolved, however, is whether LLMs that have paraphrasing functions could improve English learners' paraphrasing skills. English learners can simply copy and paste QuillBot's paraphrasing piece into their paper and they do not analyze the text on their own. However, the research overturns this concern. Most research generates a positive result which confirms the use of LLMs in acquiring paraphrasing skills.

To begin with, Kurniati and Fithriani found that one participant reflected that using QuillBot allowed him or her to become more positive in writing and learned paraphrasing strategies through "synonyms, writing structures, and other means" [4]. Similarly, Xuyen concluded that around 86% of the participants agreed that they had learned paraphrasing skills on synonyms and how to use vocabulary more flexibly when using QuillBot [5]. The above two studies show that participants did not only mention the fact that their paraphrasing skills had been improved. Rather, they listed specific paraphrasing strategies they had learned while using QuillBot. This further corroborates the opinion that students can become proficient in paraphrasing with the help of LLMs such as QuillBot.

In summary, using QuillBot or other LLMs that have similar functions could help students develop proper paraphrasing strategies. Students could cultivate the awareness of using new paraphrasing strategies such as changing sentence structures they have never used before.

2.1.2 Alternations on Different Linguistic Features

When students use LLMs for diverse purposes, they will inevitably run across alternations on different linguistic features. This is saying students keep acquiring new aspects of language. For example, students are likely to see new words, expressions, new grammatical rules, ways to ensure clarity, etc., that they have never used or seen before. Students will learn different linguistic features depending on what LLMs have generated.

In Kurniati and Fithriani's study, one interviewee mentioned that he or she could replace the word, "perception", with "perceive" or "view" [4]. "Perceive" and "view" in this example are two alternations on this student's original word choice. The alternation is not only limited to word choices. Another example comes from Azizah and Erlangaa's study. They demonstrated that QuillBot could produce alternations in phrasing and meanwhile, encourage students to experiment with different writing styles [6]. Additionally, LLMs such as Grammarly can perform a grammar check on students and make pertinent suggestions for improvement. Specifically, students would be able to improve their comprehension of grammar rules gradually. The grammatical correction provided by these LLMs introduces another dimension of linguistic features.

In a nutshell, using LLMs properly is effective in producing alternations on different linguistic features such as synonyms, phrases, grammar rules, and so on. Students are self-learning and gaining new knowledge while using LLMs for different purposes.

2.2. Teacher's Perspective

Students indeed use LLMs for different purposes. Thus, some people are more interested in exploring the impact of LLMs on students. Nonetheless, LLMs can also generate a great number of benefits for teachers.

2.2.1 Lesson Planning

Lesson planning is a time-consuming process. Teachers need to consider lesson objectives, activities, teaching methods, etc. when planning a lesson. LLMs provide teachers with more time, resources, and opportunities to complete the lesson-planning process. Some LLMs such as ChatGPT could produce writing prompts and discussion topics. Thus, with the help of this "idea generator" function, teachers can spend less time brainstorming what to ask their students to write and discuss. Proficiency levels are also considered by LLMs. LLMs would be able to generate adequate difficulties with activities, questions, and prompts [8]. However, developing questions and activities that are appropriate for students' proficiency levels is a difficult task. Completing too easy or too challenging tasks inhibits potential learning opportunities. Students are in the stage of what they can achieve now if performing too simple tasks, but they remain in the stage of what they cannot accomplish even with help if completing too challenging tasks [8]. This is the concept, of ZPD (Zone of proximal development), raised by Vygotsky. Choosing appropriate levels of tasks is also beneficial in practicing students' critical thinking and problem-solving abilities [7].

2.2.2 Assessment and Evaluation

Teachers can use LLMs to assess and evaluate students' work in many ways. This does not mean that teachers use LLMs to assess everything. LLMs have some advantages over humans in assessing particular linguistic features. For instance, LLMs such as Turnitin can help teachers check for plagiarism and save a great amount of time [12]. Teachers can be efficient when checking for plagiarism in one sentence or one paragraph. Still, it is almost impossible for teachers to do a plagiarism check for an entire paper on their own. LLMs, however, can complete this process in a few seconds. Moreover, LLMs can also support teachers with automated paper grading. According to Kim et al., ChatGPT could accurately mark key features of a well-written paper [9]. When comes to grading, they found ChatGPT's grading has "a correlation of 0.86 with human grades" [9]. LLMs can mark students' positive and negative parts in many forms of writing [7]. Automated grading saves lots of time for teachers. Teachers can then conduct a careful evaluation and assessment of students' work based on LLMs' comments. Afterward, they can add more detailed information on LLMs' comments or features that LLMs have not observed.

3. Concerns

As mentioned previously, LLMs are too convenient in many aspects for both teachers and students. This can result in over-reliance on LLMs and skip the "human evaluation" process.

3.1. From the Student's Perspective

It is true that by using QuillBot, students have picked up some paraphrasing techniques including changing sentence structures. What can happen if these students later simply copy and paste everything from QuillBot each time without conducting any kind of personal analysis or assessment to paraphrase? This is the same for other LLMs. What will students feel if LLMs can help them answer everything? Effortless answers provided by LLMs can impair students' problem-solving and critical thinking abilities since the analysis part is simply skipped.

The study results are truly contradictory. Kurniati and Fithriani discovered that using Quillbot can boost students' confidence in their writing abilities [4]. On the other hand, Aqiilah found that QuillBot made 37.5% of participants lazy to paraphrase on their own and 25% of participants lost confidence [10]. The laziness makes logical sense. When students continue to use LLMs to paraphrase or answer questions, they gradually save more time. LLMs reduce a three-minute complex paraphrasing task or question into a thirty-second non-thinking automatic answering process. This is especially true when LLMs produce high-quality and comprehensive results. There is no need for students to complete tasks on their own. Additionally, the comparison is probably what causes students' loss of confidence. Upon comparing LLMs' results with their current language proficiency levels, students are likely to

realize the gap. For example, students could realize their limited vocabulary range when seeing many more word choices on LLMs. Even though more people gain confidence and learn various strategies, around one-fourth of participants still lose confidence while or after using different LLMs. This fact should not be ignored.

3.2. From the Teacher's Perspective

LLMs benefit teachers in numerous ways which save plenty of time for them. Similar to students, teachers may rely excessively on LLMs to complete their tasks without exerting too much effort. According to Kasneci et al., some teachers replace the majority of the class with LLMs in teaching [8]. This could result in three negative impacts. Firstly, problem-solving and critical thinking abilities acquired through traditional human instruction could not be guaranteed [8]. Secondly, dominant class time with LLMs fails to capture students' characteristics and learning styles [11]. Learners prefer diverse learning approaches due to individual differences. One method that suits perfectly well for most students does not mean every student likes it. Teachers continue to observe individual differences as they continue to teach in class. LLMs cannot take the position of humans in identifying students' characteristics and learning styles. Thirdly, LLMs can be creative in generating writing prompts and discussion topics but cannot continue this creativity in teaching [11]. Learning can occur more effectively as students receive new ideas and innovations from human creativity.

4. Suggestions

4.1. From the Student's Perspective

Students and teachers are assigned different roles to allow students to use LLMs more properly. The teacher's role is to educate students to use LLMs in particular ways. The student's part is to be a listener and an experimenter who should try out ways introduced by teachers. The following suggestions are given from the perspective of students' use of LLMs and both students and teachers should make every effort to resolve the above issue.

The first piece of suggestion to tackle the above issue is to develop students as self-regulated learners. Self-regulated Learning (SRL) is one element of effective learning and it is conceptualized by Zimmerman as "individuals are metacognitively, motivationally, and behaviorally active participants in their learning process" [12]. Self-regulated learners usually possess many advantageous characteristics: set goals and learning plans properly, utilize various learning strategies, monitor learning, and use time effectively [13]. Self-regulated learners are learning for themselves, not for the benefit of their parents or teachers. This is the nature of learning. If students passively use LLMs, they cannot make improvements. Once developed, self-regulation can be a lifelong habit that can be extended beyond learning. For instance, self-regulated learners are likely to use time effectively in their daily lives when dealing with other issues.

Secondly, Kasneci et al. argued that teachers should raise students' awareness of the limitations of LLMs [7]. Classes such as experimenting with different LLMs with their limitations should be implemented. Simply mentioning LLMs' limitations is unlikely to have any warning effect. In addition, while lesson planning, teachers should incorporate critical thinking and problem-solving abilities as key objectives of each class [7]. This aims to cultivate these two abilities in daily class.

4.2. From the Teacher's Perspective

In the above section, teachers are given important roles in instructing students on how to use LLMs properly because teachers impart knowledge to students. Thus, it is significant to consider the teacher training process when solving teachers' misuse of LLMs. Teachers become professional in the training process. Increasing teachers' knowledge on how to properly use LLMs through teacher training programs is vital to reducing the degree of reliance on LLMs. Firstly, it is crucial to emphasize the nature of LLMs as a complement, not a supplement, in giving instructions in class. Teachers are encouraged to incorporate LLMs into their regular lessons and consider how LLMs can

improve their instruction. However, they should also be exposed to the disadvantages of nearly exclusively using LLMs to teach in the classroom. Teachers should try dominating the class with LLMs and experience the drawbacks on their own. During the class, monitoring and reminding teachers use of LLMs is also necessary. Secondly, since LLMs cannot ensure practice in problem-solving and critical thinking abilities, practice in incorporating these two abilities into lesson plans should be implemented [13].

5. Conclusions

This article explores the influence of LLMs on students and teachers. Even though specific benefits of LLMs such as QuillBot have been mentioned in some sections, other LLMs with similar functions can also perform the same effect. For students, LLMs can help them practice their paraphrasing skills. Students can learn specific paraphrasing strategies such as using synonyms when using QuillBot. Students also have a lot of opportunities to encounter alternations on different linguistic features. For teachers, LLMs offer them help in lesson planning and assessment. However, since LLMs are too convenient, students and teachers are likely to be too dependent. The over-reliance tends to impair students' critical thinking and problem-solving abilities. A minority of students even lose confidence. The suggestions have been given from the teacher's perspective because students acquire knowledge from teachers. Teachers should educate students to be self-regulated learners and create chances for them to exercise critical thinking and problem-solving skills. Students are also encouraged to experiment with different LLMs to raise an awareness of limitations. From the perspective of some teachers, LLMs are wonderful replacements in class. Yet, LLMs do not succeed in replacing human creativity in instruction and capturing individuals' characteristics. Teacher training is responsible for obviating this problem. Teachers need to be aware of the disadvantages of over-reliance on LLMs.

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