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Teacher Acceptance of Automatic Writing Evaluation Technology in the Context of COVID-19 Pandemic

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Abstract:

It has been a recent trend to use automatic writing evaluation platforms in college English education under the background of COVID-19 pandemic. The study focused on the part of teachers, exploring their acceptance of automatic writing evaluation technology. An overwhelming majority of the teachers interviewed reported positive attitudes to its perceived usefulness and perceived ease of use. The role of teachers also changes, from lecturers and correctors to facilitators, as they give added weight to the construction of contents and expression of ideas in writing.

Keywords:

Teacher Acceptance, Automatic Writing Evaluation, Perceived Usefulness, Perceived Ease of Use

1. Introduction

The COVID-19 has changed the normality of English teaching, and has subverted the evaluation method of English writing teaching. For example, many colleges and universities have adopted iWrite and other writing platforms for English writing courses or writing tasks for the first time. The change brought about by this external force is not only a temporary measure, but also an opportunity for the extensive application of online writing platforms, and will continue to have a profound impact on the future college English writing teaching. According to the Beijing News on May 14, 2020, online teaching will move from "freshness" to "new normal" after the resumption of school. However, whether these new technologies can be successfully applied to foreign language teaching practice depends to a large extent on the users' acceptance and application of the online writing platform [1].

In the context of the COVID-19, users of online writing platforms differ greatly in their participation motivation, information literacy and teaching philosophy. Understanding their technology acceptance will help the platform gradually guide users to make full use of platform advantages. The existing research mainly starts from the overall acceptance of the platform, lacking detailed exploration of acceptance from the teachers' perspective. The automatic evaluation function of

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online writing platform is its key technology. Teachers, as the main group of users, have different specific requirements, expectations and uses of technology. Studying their acceptance of this function will also provide reference for the development and operation of the platform.

The design and use of tools should consider both students and teachers, another important subject of evaluation. How do teachers view online automatic evaluation tools, what are the problems in the process of using online evaluation tools, and what are the main factors that affect their use of online evaluation tools? Related problems involve not only technology acceptance [2], but also technology integration [3]. The answers to these questions will help us better understand and improve the digital teaching platform, and also have direct practical significance for its promotion.

2. Previous Studies On User Acceptance and Automatic Writing Evaluation Technology

At present, research on new technology acceptance is usually based on Davis' Technology Acceptance Model (TAM) and its modifications, including indicators such as perceived usefulness, perceived ease of use, and behavioral intention [4]. Perceived usefulness refers to the extent to which technology users believe that their benefits may be improved through the new technology; Perceived ease of use refers to the ease with which users feel the use of the new technology; Behavior intention refers to how users tend to use this technology [5]. Relevant empirical studies attach importance to the construction and reconstruction of theoretical models to predict the acceptance and utilization of technology.

As for automatic evaluation of writing, its development for the nearly 50 years can be divided into three stages: single score evaluation stage, cooperative score evaluation stage and human-computer interaction evaluation stage [6]. It can be seen that the development of automatic evaluation technology pays growing attention to the interaction between participants and machines, and the role of "human" activities in automatic evaluation. Therefore, it is in line with the development trend of automatic evaluation to fully understand the acceptance of users of technology to automatic evaluation tools. In recent years, domestic acceptance research on online writing platforms mainly focuses on the constituent elements of technology acceptance from the perspective of learners, as well as the relationship between the elements, including learners' technology acceptance and self-regulated learning [7], the relationship between the ease of use, usefulness, specificity and behavioral intention of the system and learners' technology acceptance [5, 8]. These studies enrich the understanding of the online platform in the academic community, and contribute to the further research and development of the platforms. However, previous research still is: first of all, the object is relatively single, usually considering the relationship between learners' technology acceptance, ignoring the participation of teachers, another subject in teaching; Secondly, the current research is often carried out in the form of cross section, lacking in revealing the transformation process in the process of technology acceptance.

3. Methods

Based on the theoretical framework of TAM, this study will adopt the interview method to explore teachers' acceptance of the online writing platform evaluation tools in college English classes, and find out effective solutions to the problems

encountered in the use of the automatic evaluation function of the online writing platform.

The study selected 10 teachers engaged in college English teaching for interview, including 3 teachers who have been teaching for less than 5 years, 4 teachers who have been teaching for 5 to 15 years, and 3 teachers who have been teaching for more than 15 years. The interview is divided into four parts: expectation, status quo, influence and user perception, so as to find out the full picture of the transformation process of teachers in the use process and make targeted comparison. The interview outline is as follows:

Expectations

1) Which software have you used? When did you start using machine correction software?

2) Why did you start using machine correction software?

Status quo

3) Can you talk about your experience when you first used the machine for correction? And now?

4) How does the participation of machine correction in teaching and writing evaluation affect your teaching methods? Can you give an example?

5) Do you think students' compositions have changed after using the machine marking system? Please give an example.

6) After using the machine for correction, how do you and the machine divide work in writing teaching and correction?

Influence

7) Will you continue to use the machine correction system in future teaching and writing evaluation? If not, why not? If you continue to use it, what adjustments will you make next?

User perception

8) What do you think of the evaluation of automatic correction on the language quality of students' compositions?

9) What do you think of the evaluation of automatic correction on the content of students' compositions?

10) What do you think of the evaluation of automatic correction on the text structure of students' compositions?

4. Results and Discussion

The integration of automatic writing system into English writing teaching has a broad and positive impact on teachers and their teaching. However, due to the differences between teachers in terms of user time, teaching experience, educational information literacy, teaching and research input, there are differences between teachers in many aspects of using automatic writing evaluation system for teaching.

4.1. Expectations

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Among the 10 teachers interviewed, 9 teachers held positive views towards the automatic writing evaluation systems, while 1 teacher said it was difficult to adapt.

Four teachers started to use automatic writing evaluation systems before 2020, such as iWrite or Pigai. Six teachers started to use it after the outbreak of the epidemic in 2020, and the large-scale online courses played a certain role in promoting the popularization of the automatic writing evaluation tools.

Teachers generally mentioned that they hope to reduce the workload, provide more detailed and immediate feedback to students, and increase the frequency of writing practice through the automatic writing evaluation system. Therefore, most teachers welcome them:

In the past, only one or two compositions could be corrected for the whole class, and students often received feedback after a long time. After using iWrite, students can receive feedback immediately, and it is more detailed than I did. The workload of teachers has also been greatly reduced. (Ms. Chen)

4.2. Status quo

The automatic writing evaluation system mainly used by the interviewed teachers is iWrite. Two teachers have also used the correction website. In general, teachers are positive about the ease of use of the automatic writing evaluation tools. They believe that the platform interface is clear, the operations are simple, and senior teachers can also learn to use it quickly and skillfully.

The operation of the system is not difficult, and it is easy to get started. But the website interface is more friendly and stable than the mobile interface. (Mr. Luo)

The research shows that the automatic writing evaluation system provides effective guidance and monitoring for the language form of students' compositions, and teachers no longer spend a lot of time correcting and explaining the linguistic problems. Therefore, writing teaching has changed from focusing on language forms to focusing on contents and its expression, and from focusing on results to focusing on process. Then comes the reconstruction of writing teaching. For example:

iWrite has helped me get rid of the tedious homework correction. Now with this system, teachers explain less, but students practice more. Teachers and students spend more time analyzing and discussing together. (Ms. Du)

I focused on writing results before, but now I put more emphasis on writing process. I also think more about how to help students improve their writing step by step in response to their weaknesses. Students' autonomous learning ability has also been improved. (Ms. Yi)

The study also found that the system gave general feedback on the content and style of students' compositions, which made it hard for students to get the gist of revision. In order to help students improve the quality of writing content, some teachers have set up a pre-writing step in teaching, focusing on formulating personalized evaluation standards, and helping students understand them, expanding their thinking, and exploring the writing content. In the evaluation stage, teachers closely follow the evaluation criteria, guide students to appreciate excellent compositions together, and evaluate problematic compositions accordingly. For example:

In order to help students understand these criteria, I explained each of them to students in teaching, and further explained each model article, so that students have a

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clear goal at the beginning. Students can also have the criteria in mind when they revise their writing. (Mr. Luo)

As the focus on writing teaching turns to content and ideas, students have a clearer grasp of the evaluation criteria, rather than focusing on the correction of linguistic forms alone.

When I talked to my students, they reported that because of the use of this system and the teacher's discussion on writing criteria, they were very clear about the core elements of an article, and their understanding of writing was different from before. (Ms. Zhang)

How are system feedback and teacher feedback combined and complementary in the teaching process? The following are teachers' understanding and practice:

The obvious advantage of the system is that it allows me to quickly have a general understanding of each composition of the students, as well as the learning situation of the whole class and each student. However, the feedback from the system is extensive and can only tell me the general level of the students. My feedback is very specific, related to specific topics and context. I pay more attention to the ideological content and the coherence of the text, which is lacking in the system. Maybe my feedback can complement the machine corrections. (Ms. Chen)

4.3. Influence

In general, teachers are positive about the usefulness of the automatic evaluation system. Among the interviewees, 9 teachers said that they would like to use the automatic writing evaluation system to varying degrees in future teaching, while only 1 teacher said that it is difficult to adapt to using computers or mobile phones to correct compositions for a long time. Teachers can hand over the heavy task of detail corrections to the automatic evaluation tools, so as to shift the focus of teaching to higher levels such as writing content and text organization. The automatic evaluation system has played a huge role.

However, some teachers reported that when using iWrite, it is necessary to classify the error types, which is cumbersome to operate, and it is not easy to define the error types. The comments fed back by the system are also too general, especially those related to the text structure, which cannot point out the parts where students have problems and cannot play a clear guiding role.

The problems in some compositions cannot be classified as language errors, but are inappropriate words or incoherent logic. Machine evaluation cannot effectively identify such problems, which needs teachers to supplement. (Ms. Zhang)

Paper review presents structure problems directly with correction symbols, such as circles and arrows, but machine review cannot. (Ms. Yi)

4.4. User perception

The research shows that teachers believe that the language modification suggestions given by the automatic evaluation system are more accurate, and some students will modify many times according to the suggestions, which is conducive to improving the lexical complexity and syntactic complexity of students. However, some students, especially those with poor language foundation, do not understand the suggestions. In

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the long run, some teachers still have reservations about whether the feedback given by the automatic evaluation system will definitely improve students' language ability.

Although some feedback are incorrect, and some language problems have not been found by the system, in general, the feedback from the machine evaluation are quite accurate, and the teacher only needs to supplement and modify them. (Ms. Wang)

Many students have revised quite a few times according to the feedback, and these students also pay more attention to language errors. However, some people turn a blind eye to the suggestions for modification. Therefore, whether feedback and suggestions can help students improve their language proficiency may vary from person to person. (Ms. Shi)

The evaluation of article content and text structure is still the weakness of automatic evaluation tools. For example, iWrite only gives grades for the content and structure of the article, and students do not know what they need to improve. The teacher can only give a general evaluation in the comments column, and the guidance and suggestions given to the students are not detailed enough.

In iWrite, I can only give general comments. If I want to change the order of sentences, or tell students which parts to write more and which parts to write less, it is not convenient in this interface. (Mr. Li)

Students can only know whether their own writing has met the requirements, but they may not know where the specific problems are. They often have to revise and modify by themselves with the teacher's explanations in class. (Ms. Yi)

5. Conclusions

The use of information technology that assists English writing teaching conforms to the spirit of the Outline of the National Medium-and Long-term Educational Reform and Development Plan, and the teaching requirements/outline spirit of college English and professional English. This research shows that college English teachers welcome the introduction of the automatic evaluation system, and give positive comments on its usefulness and ease of use. The research found that when teachers use the automatic evaluation system, the role of teachers also changes, from lecturer and corrector to facilitator, and students' autonomous learning ability has also been improved. However, teachers also expressed hopes to improve the evaluation on the contents and structure of students' writing.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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