



The Effect of AI-Powered Autonomous Learning via Social Media on Familiarity with the Indian English Accent and on the Accuracy and Fluency of Simultaneous Interpreting

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Abstract. The Indian English accent has posed tremendous challenges to both veteran and novice simultaneous interpreters. This paper probes into students' utilization of social media with AI-driven recommendations in their effort to get familiar with the Indian English accent and the impact of such a practice on the fluency and accuracy of simultaneous interpreting. An 18-week semester's AI-powered autonomous learning was documented with reflection journals. Both quantitative and qualitative data were collected and processed with SPSS based on the students' learning records, an online questionnaire and interviews. The findings showed that exposure to the Indian English accent for 18 weeks via social media could bring about positive changes to the students' attitudes towards the Indian accent and form accent familiarity advantage, thus enhancing the fluency and accuracy of their simultaneous interpreting performance.

Keywords: AI-powered autonomous learning · Social media · SPSS · Indian English accent · simultaneous interpreting

1 Introduction

The implementation of the Belt and Road Initiative has witnessed a drastic increase in bilateral trade between China and India, and a growing presence of Indian speakers at international conferences. However, the Indian English accent gained relatively low scores in four parameters, namely accuracy of pronunciation, acceptability in international communication, pleasantness to the ears and familiarity to respondents [1], posing great challenges to simultaneous interpreters, since accent is one of the variables in the source language [2]. Such challenges have been verified by the findings of a large survey conducted by Chia-chien Chang & Michelle Min-chia Wu in 2014 among interpreters in Taiwan, China, to the effect that conference interpreters have to bear the brunt of various accents as English has become a Lingua Franca [3]. The impact of non-native English accents on interpreting quality has been brought to the front and center by many scholars. For instance, Kurz and Basel (2009), in their empirical research, had found that it was rather difficult for veteran interpreters to interpret the source text with a strong accent into the target language fluently [4], let alone student interpreters or novices.

For one thing, non-native English accents, the Indian accent in particular, has brought about seemingly insurmountable challenges to conference interpreters; for another, Chinese students have been mostly exposed to standard English, to be exact, English of the inner circle, without much knowledge about English variants, including their accents. To better prepare the interpreters-to-be for the challenging task of understanding the Indian accent, the present study aims to find an effective autonomous learning method through empirical research to familiarize the millennials, also known as the digital natives, with the said accent and improve the fluency and accuracy of their simultaneous interpreting.

2 Literature Review

English as a lingua franca is the major language for exchanges among the Belt and Road countries [5], with a great variety of accents being the biggest obstacle for communication. Comprehensibility of accents depends on the interaction between the speaker and the listener. The positive attitude of the latter is serving as an impetus, i.e., if the listener expects to comprehend what the speaker is talking about, the comprehensibility of the speaker's utterance is higher. Contrarily, the passive attitude of the listener towards the speaker's accent will lead to speech incomprehensibility. As an English variant of the outer circle, Indian English, calls for an active attitude of the interpreters if they seek for a better understanding of the Indian accent in simultaneous interpreting.

In order to verify if World Englishes teaching intervention could improve the students' attitude to the English accents of the Belt and Road countries, scholars conducted studies among students and found that they unanimously presented a positive attitude towards the English accents after the interventions. A case in point is a longitudinal study carried out by Pei and Wei (2021) [6] for three semesters with quantitative and qualitative data collected seven times via direct and indirect approaches among 85 English and non-English majors, the findings of which have revealed that teaching intervention could effectively improve students' attitude with a relatively long-lasting effect. The World Englishes teaching intervention approach was employed in English listening classes, consisted of lectures on features of accents and interactive activities, such as exchanges with overseas students from the Belt and Road countries, presentations, interviews, and role-plays. Likewise, the authors of the present study expect to find out how students' attitude towards the Indian English accent in simultaneous interpreting will be changed but from the angle of social media-aided autonomous learning.

Typical empirical research into the influence of English accents on interpreting performance was conducted by Bai and Chen (2018) [7], probing into the effects of non-native English accent degree and familiarity on English-Chinese consecutive interpreting performance through interpreting tests with different degrees of the Southeast Asian English accents, with 48 undergraduates from two Chinese universities as the subjects. The findings have demonstrated that the degree of non-native English accents has a significant effect on interpreting performance while familiarity with non-native English accents has none.

The impact of accent on interpreting quality is two folds: first, the accented source text has influenced the interpreters' impression of its difficulty; second, such a source text leads to more information loss in the interpretation [8]. Such impact has been explained

by some scholars from the perspective of the Effort Models proposed by Gile to the effect that more efforts have to be made into the listening comprehension and analysis of the accented source language, thus reducing the efforts for memory and information processing, and jeopardizing the efficiency and quality of interpreting, and information exchanges as well [9].

In light of the influence of accent on interpreting quality and the difficulty of the Indian English accent, social media has been chosen as a premium platform for students to familiarize themselves with the Indian English accent, for the reason that many previous studies have already corroborated the significance of social media-assisted English learning. Social media has been defined as “forms of electronic communication (such as websites for social networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (such as videos)” on Merriam-webster.com, which includes but is not limited to Facebook, Twitter, Wikipedia, Blog, microblog, Instagram, Youtube, Podcast, WeChat, LinkedIn, Douyin, and such social networking platforms as Kuaishou, Zhihu, Xuexitong, Xiaohongshu.

The integration of social media has been seen as a positive inclusion for teaching speaking skills, revealing not only an improvement in speaking skills per se, students’ confidence to speak and a decline in speaking anxiety [10], but also an enhancement to writing styles, reading skills, listening and lexical variation, communication skills and grammar usage [11].

In addition to speaking skills, social media platforms have many advantages in terms of enhancing medical students’ English proficiency, for instance, broadening their ways of communication and levels of interaction, and improving their macro English language skills (i.e. listening, speaking, reading and writing) and micro ones (i.e. grammar, vocabulary, pronunciation) [12]; such platforms have also generated positive response and high satisfaction level from the Facebook-tutored students [13]; they have been found to be useful in English learning for first-year accounting majors in South Africa [14]. Apart from English proficiency, mobile learning technologies could significantly improve behavioral, social, cognitive and emotional engagements and English learning outcomes [15].

The purpose for learning English on social media has been delved into by Huangchun Wang et al. by interviewing 20 university students on their experience of watching YouTubers’ English-teaching videos, the results of which show that the most highlighted purposes were to explore more learning resources, to seek the attraction of learning English, and to explore cultural knowledge [16].

Check-in services of the mobile English learning applications have been studied by Jia Nie et al., revealing that attitude and perceived behavioral control were positively related to the intention to use mobile English check-in services, and social image mediated the relationship between subjective norms and intention, which has shed some light on how to help learners develop good learning habits.

So far, little research has been done on the influence of the Indian English accent on the accuracy and fluency of simultaneous interpreting, with a shortage of effective approaches to train student interpreters for purposes of equipping them with a positive attitude towards the Indian accent and high caliber to deal with the formidable task of simultaneous interpreting for Indian speakers at international conferences. To this end,

the present study is probing into the effect of AI-powered autonomous learning via social media with AI-driven recommendations on students' familiarity with the Indian English accent, on the accuracy and fluency of simultaneous interpreting, and on the change of their attitude towards the Indian English accent.

3 Research Design

3.1 Research Questions

The present study aims to answer the following three questions :

- (1) How do students use social media with AI-driven recommendations to familiarize themselves with the Indian English accent?
- (2) Will AI-powered autonomous learning on social media improve the accuracy and fluency of simultaneous interpreting of Indian-accented English speeches?
- (3) Will AI-powered autonomous learning change students' attitude towards the Indian English accent and why?

3.2 Hypothesis

Students familiarize themselves with the Indian English accent by watching pertinent videos on social media with AI-driven recommendations. Such AI-powered autonomous learning can improve the accuracy and fluency of simultaneous interpreting of Indian-accented English speeches and change students' attitude towards the Indian English accent by enhancing their accent familiarity advantage.

3.3 Research Tools and Subjects

There were five research tools: SPSS, projective test, questionnaire, interview and reflection journal.

The subjects of the present study were junior students of English majors in Guangzhou Xinhua University. Both the experimental group and control group were made up of 35 students, 70 students in total, all novices of simultaneous interpreting, with an average age of 21 years. Since digital divide would hinder students' autonomous learning with electronic products, a questionnaire was done to survey the electronic tools they used in their autonomous learning on AI-powered social media. The result, as shown below in Fig. 1, has revealed that there is no obvious digital divide among the experimental group since 100% of the students owned and used smart phones for English learning.

3.4 Research Procedures

- 1) Projective test: Independent t-Test of SI exercise with English accent of the inner circle at the beginning of the semester showed that the capacity of both groups in SI exercise was equal. A follow-up projective test of an audio clip with moderate Indian accent indicated that the mean scores of the two groups were 18 and 19 respectively, without

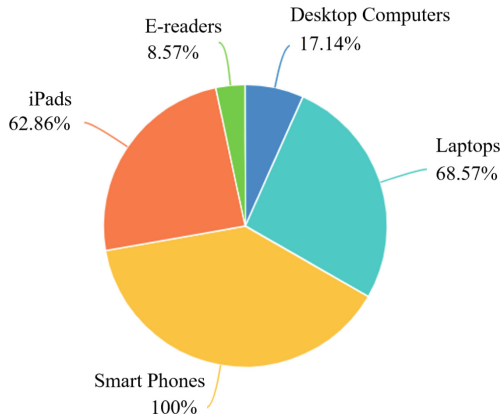


Fig. 1. Percentage of student users by electronic devices for English learning

significant differences in terms of their familiarity with the Indian English accent. Besides, a questionnaire was conducted among both groups, finding no differences in their attitude, as the majority of students indicated their dislike of the Indian accent because of its unfamiliarity and less pleasantness.

- 2) Teaching intervention via reflection journal: The experimental group, at the outset of the semester, was assigned the task of learning the Indian English accent via social media with AI-driven recommendations. They were divided into five teams, with seven students each and one leader for each team. The team leaders were responsible for keeping reflection journals, collecting the materials about the Indian accent recommended on social media based on AI algorithm, uploading and sharing them among the experimental group, and noting down the materials they have learned. After autonomous learning, at the end of each week, they would convene for a discussion on what they had learned about the Indian accent, such as its pronunciation and intonation. In the later stage of their study, their discussion even touched upon such aspects as the Indian culture. Minutes of their discussions have been taken down in their reflection journals, too.
- 3) SI test, interview and questionnaire: At the end of the semester, which lasted for 18 weeks, both the experimental group and control group were subject to an SI test of a text with moderate Indian English accent. The result below has demonstrated that there is significant difference between the performance of the two groups in terms of accuracy and fluency of the SI performance. Based on the reflection journals, an interview and a questionnaire were conducted to gain more insights into their attitude towards the Indian English accent and the utilization of social media in autonomous learning of the experimental group.

4 Results

4.1 The Results of the SI Tests

SPSS 26 was used to analyze the scores of the SI test in terms of fluency and accuracy, with the following results shown in Table 1.

Table 1. Descriptive statistics and *t*-test result of fluency and accuracy

Groups	No.	Fluency				Accuracy			
		Description		T-test		Description		T-test	
		mean	sd	t	p	mean	sd	t	p
Experimental	35	81.89	5.417	8.361	0.000	79.37	5.030	8.181	0.000
Control	35	68.74	7.559			65.40	8.762		

Table 2. Results of The Questionnaire on Attitudes towards the Indian English Accent

Groups	No.	Before Intervention					After Intervention				
		<i>Statement: I like the Indian English Accent.</i>									
		HA	A	U	D	HD	HA	A	U	D	HD
Experimental	35	0	0	11	20	4	5	23	7	0	0
Control	35	0	0	13	19	3	0	0	15	18	2

Notes: HA stands for highly agree; A, agree; U, uncertain; D, disagree; HD, highly disagree

As shown above, the *t* value for fluency is 8.361, with the *p* value being 0.000, which indicates a significant difference between the two groups. Likewise, the *t* value of accuracy stands at 8.181, with the *p* value being 0.000, which also represents a significant difference. In addition, the scores of the experimental group are higher than the control group.

4.2 The Results of the Questionnaire on Students' Attitude Towards the Indian English Accent

A comparison of students' attitude towards the Indian English accent has been made before and after the intervention, the result of which can be seen below.

4.3 The Results of the Questionnaire on Social Media Utilization

The types of social media (mainly AI-powered ones) that the students use frequently in their autonomous learning of the Indian English accent can be known from their reflection journals, including those popular in China, such as Bilibili, WeChat, Xiaohongshu, Xuexitong, TED Talk and microblog, and those prevalent in foreign countries, for example, YouTube, Twitter, Instagram, Facebook. Their preference among students can be seen from Fig. 2, in which their utilization frequency is rated and ranked based on the average scores given by the students: the higher the score, the more frequently they are used.

Obviously, Bilibili is the most popular social media among students in their autonomous learning, followed by WeChat, Xiaohongshu and Xuexitong. Social media popular in foreign countries are not that well-received.

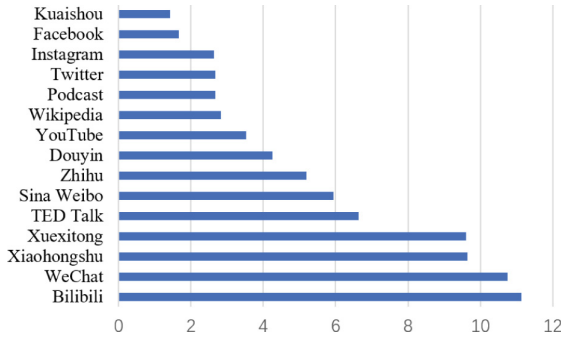


Fig. 2. Utilization frequency of social media among the students

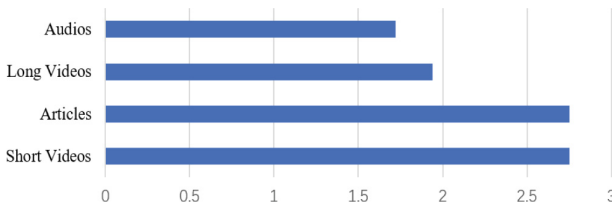


Fig. 3. The students’ preference-based scores of information formats

Based on the scores of the information formats rated by the students, the questionnaire has also shed some light on the students’ preference for articles and short videos (no longer than five minutes) to long videos (longer than five minutes) and audios in their acquisition of information from the social media (see Fig. 3).

5 Discussion

The result of the present experiment has demonstrated that, thanks to the autonomous learning of the Indian English accent on AI-driven social media, the scores of the experimental group, regarding fluency and accuracy in the SI test, are significantly higher than those of the control group. The impact of students’ AI-powered autonomous learning via social media will be probed into in the following part.

5.1 Changes of Students’ Attitude Towards the Indian English Accent

Before the experiment, a questionnaire was conducted among both groups of students, asking them whether they like the Indian English accent or not. There was no significant difference between the two groups, which can be revealed from the similar data in Table 2 above. The majority of them, 66%, disliked the Indian accent. Some respondents even left such messages on the questionnaire as “The Indian accent is weird”, “I will go crazy when I listen to Indian English”, or “I don’t like it because I don’t know what they are talking about”. However, after the intervention, despite the control group’s attitude remained more or less the same, the attitude of the experimental group towards the Indian accent

has changed dramatically. With regard to the statement “I like the Indian English accent”, five students (14%) said they highly agreed; while 23 students (66%) claimed that they agreed with the statement, and only 7 students (20%) said “uncertain”. Such a result has further corroborated the research findings of previous studies: teaching intervention can bring positive changes to university students’ attitude towards English accent of the Belt and Road countries, and students of English major tend to be reserved before the intervention and turn to be more open after the intervention [7]. The students’ reflection journals and the post-experiment interview have offered more information about the changes of their attitude. The students in the experimental group had approached the Indian accent mainly from articles and bloggers’ teaching videos on the pronunciation and intonation of Indian English in the first half of the semester. They gradually expanded the coverage of their autonomous learning to speeches given by Indians, Indian movies and news, from which they learned more about the Indian culture.

5.2 Familiarity with the Indian English Accent

Long-term exposure to a certain accent and acquisition of experience will enhance familiarity with such an accent; familiarity with a certain accent will enable the listeners to decode the pronunciation more accurately and skillfully, fostering their listening comprehension [17]. Accordingly, Ockey & French (2016: 708) coined the term of “accent familiarity advantage” [18]. After one semester’s autonomous learning, on the strength of their familiarity with the Indian English accent, the fluency and accuracy of the experimental group were much better than the control group. Some comments made by the students in the post-experiment interview have made clear the benefits they gained from the accent familiarity advantage.

- Student 1: “During the SI test, I found the Indian English accent very familiar, and I could recall the regularity of its pronunciation and intonation that we had come up with at our discussions.”
- Student 2: “I think it easier for me to understand the meaning of each word after the autonomous learning”.
- Student 3: “It is a lot easier to follow the Indian speeches”.
- Student 4: “When I am listening to Indian-accented speeches, I become more confident and relaxed, which helps me a lot in understanding.”

5.3 Pedagogical Implications

It is very common for simultaneous interpreters to encounter speakers of various accents. To equip student interpreters with the capacity to deal with such a challenge in their future job, accented teaching materials shall be used reasonably. Even the top-performing students will find it daunting to listen to such materials. Therefore, it is suggested that the following measures shall be taken to guide the students so that they can slip into the Indian English accent gracefully.

- 1) Preparation: Taking into account students’ preference for articles and short videos, students are expected to read pertinent articles on the Indian English accent and watch short videos in this regard, be it bloggers’ courses or news reports, rather than

listening to audio clips or watching long videos. They will gain their first impression of the Indian English accent from their pre-class autonomous learning.

- 2) Material selection: Materials of light accent or heavy accent shall be avoided, since materials of moderate accent will bring students' accent familiarity advantage into full play [7]. Moreover, teachers can obtain materials from such social media as bilibili.com, the reasons for which have been listed by the students during the interview. First, resources are highly available there. Second, bloggers of English courses, with rich life experience abroad, present knowledge about accents in a humorous and appealing manner. Third, the advertisement-free short videos can be watched by the students in their odd moments.

6 Conclusions

The present study has focused on the familiarity with the Indian English accent via AI-powered autonomous learning on social media and its impact on the accuracy and fluency of simultaneous interpreting, which has come to the following conclusions: students prefer articles and short videos to long videos and audio clips from social media in their English learning. The exposure to the Indian accent in a semester (18 weeks) via social media with AI-driven recommendations can bring about positive changes to students' attitude towards the Indian accent and form accent familiarity advantage, thus enhancing the fluency and accuracy of their simultaneous interpreting performance.

When designing teaching interventions for students, it is suggested that materials of moderate accent can be used, which can be taken from such social media as Bilibili and some other popular networking platforms, which can push up AI-driven recommendations according to the user's view history and preference. Articles and short videos are preferred by students due to the reasons mentioned above in the Material Selection section.

There is a great variety of accents in the outer circle and expanded circle, which have a huge influence on the performance of simultaneous interpreting. The present study still needs improvement with further empirical research because of the limited number of samples involved, student interpreters' language proficiency, and the scoring standard employed, which is far from perfect.

Acknowledgments. This research was funded by the Foreign Language Teaching and Research Project from Higher Education Institutions in China: The Impact of English Accent on the Quality of Simultaneous Interpreting and Relevant Pedagogical Implications (2020GD0049).

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