The Impact of Adobe Connect Vs. Shaad Applications as Communicative Software on EFL Learners' Vocabulary Knowledge

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Abstract The current study, following a mixed-methods design, aimed at: 1) investigating whether internet-based applications including Adobe Connect and Shaad for online teaching could improve communication and vocabulary knowledge for pre-intermediate EFL learners, 2) examining if the difference varies with respect to the learners' gender and 3) detecting learners' reactions to the role of online learning in improving their vocabulary knowledge. In doing so, 34 Iranian pre-intermediate EFL students were selected to take part in the study. The results of one-way ANCOVA confirmed that the Adobe Connect group outperformed the Shaad group with respect to vocabulary knowledge. As for gender, the results of the t-test confirmed that there was statistically no significant difference in students' scores. The commonalities from the interviews indicated that it was a novel experience and a challenging task to learn new words. Finally, practical implications were offered for EFL students and teachers.

Keywords: Communication, Online platform, Application, Computer-aided materials, Vocabulary knowledge

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1. Introduction

According to Rosenberg (2000), the application of distance learning is welcomed for current education since there are learners who are in different channels and/or diverse time plans. As Shorkey and Uebel (2013) remark, instructional technology is becoming an integral part of education since the 1950s, and during these decades, technology integration in social work programs has evolved and expanded. Computer-aided materials are some of the manifestations of computer-assisted language learning (CALL), which refers to "the search for and study of applications on the computer in language teaching and learning" (Levy, 1997, p. 1). Second language acquisition is a major component of language and translation for both teaching and learning activities, which has been a topic of debate in teaching vocabulary skills (Saggara & Alba, 2006). Vocabulary is central to language and of critical importance to the typical language learner (Coady & Huckin, 1997). Many researchers claim that vocabulary is an essential part of language learning. As for second language acquisition and teaching, the focus on the role of computerized materials and web-based materials in learning a new language has been augmented in recent years (Lamy & Goodfellow, 1999).

As commented by Beldarrain (2006), the applicability of social software that assists learners to collaborate via the Internet has expanded online learning. The major problem lies in the fact that students majoring in ELT are not fully accustomed to the effectiveness of software tools in their learning practice, and they seem to hesitate to use and work with such software tools (Sukhija, 2013). Another problem is that they do not have adequate access to technological tools in the classroom. They are more used to working with paper-based materials than with computerized materials in class. Because of the Covid-19 Pandemic, the use of CALL has been prevailing, and in the Iranian context, some of the applications have been employed in the educational context, among which are Adobe Connect and Shaad applications. Abbasian and Modarresi (2022) reported that the Adobe Connect group outperformed the Skype group concerning listening skills.

This study mainly attempts to determine the effectiveness of two computerized tools entailing Adobe Connect and Shaad applications, as communicative software on the vocabulary knowledge of EFL learners. Adobe Connect is a web communication system that is typically used by universities for web connection solutions for online teaching and learning. Access to the software is not required for participants (i.e., students and field instructors); the field liaison can email a link, and the participants can join the meeting by following the link (Karabulut & Correia, 2008). Several components within the Adobe Connect meeting platform can be useful for site visits. These features include the ability to upload PowerPoint slides and FlashPaper files, share a single window or the entire desktop with meeting attendees, send text messages to all or selected attendees, and share files from users' computers (Bower, 2011). Shaad application is a free videoconferencing application that can be downloaded and operates through peer-to-peer VoIP linking computers over an internet connection. The software is compatible with Mac and Windows platforms, and once it is installed on computers, users can call or receive calls from other users and/or landline and cellular phones (Karabulut & Correia, 2008). Components of Shaad that can be useful for site visits include video and audio messaging, instant messaging, file sharing, and screen sharing. Such platforms offer the features of uploading and sharing files from a PC, sharing the screen, sending the students into breakout rooms, changing the role of a participant to host or presenter, and so forth (Thomas, 2013).

Nevertheless, the major problem is that EFL learners are not adequately familiar with using computer-mediated tools in their learning practice, and they seem to feel worried about working with such tools partly because most of them lack the needed facilities and equipment. They have a tendency to interact face-to-face with the teacher and make use of paper-based sources in classes. However, with the rapid expansion of technology and educational development, learners feel the need to learn how to work with them. To achieve this, the present study mainly seeks to find out the effectiveness of Adobe Connect and Shaad in making vocabulary learning and oral communication practice more effective.

2. Theoretical Framework

2.1. Vocabulary Acquisition in SLA

There is an almost unanimous agreement among learners regarding the importance of vocabulary. Horwitz (1999), using her "Beliefs about Language Learning Inventory (BALLI)", found that with respect to vocabulary learning, all groups of EFL students agreed that the important part of learning a language was learning vocabulary (agreement ranging from 42 to 79% of the subjects). The following excerpts are selected from some widely recognized studies: Wilkins (1972, p. 111) emphasized, "Without grammar, very little can be conveyed; without vocabulary, nothing can be conveyed". Cook's (1991) conclusion is consistent with Wilkins in that "Grammar provides the overall patterns, vocabulary the material to put in the patterns" (p. 37).

The previous literature acknowledges that without knowing a lot of words, learners are unable to speak, comprehend, read, or write a new language (Modarresi, 2009; Schmitt, 2000). Vocabulary learning is at the heart of mastering a foreign language (Meara, 1980). For many years it was a neglected area of serious linguistic research (Meara, 1980). Since the 1980s, the field of vocabulary studies has no longer languished as the neglected "Cinderella" of applied linguistics. The importance of vocabulary in the ESL/EFL learning process has been widely recognized and well-established, and a number of specific strategies for learning vocabulary have been identified by many researchers (Oxford, 1990; Schmitt,

2000). The mushrooming number of experimental studies and pedagogical and reference material indicates that language learners are increasingly aware of the importance and rapid development of vocabulary learning techniques.

Much of the research indicates that enlarging language vocabulary has been one of the objectives of many EFL learners, and there are different ways to achieve this objective (Nation, 2018; Webb, 2020). As Ellis and Beaton (1993) explain, knowledge of a lexical item entails different components, including its spelling, phonological representation, word class, morphological or syntactic features, basic meaning, and derived meaning. The lexical acquisition is indeed a very complex issue (Schmitt, 1990; Nation, 2001), and it cannot be assumed that the acquisition of a word's basic meaning will imply the acquisition of formal aspects of the words. Most research has measured L2 word acquisition as the acquisition of basic word meanings (normally via learners' recognition of written or oral words) (Webb, 2020).

2.2. Online Platforms

The difficult days of the Pandemic have forced teachers and students to move from traditional physical classrooms, where face-to-face communication is the most common mode of interaction, to a kind of digital classroom that relies on various websites and applications. Forced to migrate around the world. Studies conducted after the outbreak of the Pandemic address the acceptance problem of online learning platforms according to different models such as the technology acceptance model (TAM), use of technology model (UTAUT), and other external factors. These studies show that most TAM components, especially perceived ease of use and usefulness, have a significant impact on intentions to use technology during a pandemic (Chayomchai et al., 2020). On the other hand, other studies have explored the importance of TAM structure by examining performance expectations (PE), effort expectations (EE), social impact (SI), social isolation, and the impact on online learning platforms. Studies have shown that the quality of systems and information has a huge impact on students' perceptions of the practical use of online platforms (Chang & Tung, 2008).

2.3. Roles of Technology in SLA

CALL is a young branch of applied linguistics and is still founding its directions (Beatty, 2013; Hosseini & Modarresi, 2015). CALL's origin traces back to the 1960s (Delcloque, 2000). For example, the arrival of the personal computer led to the increasing development of CALL programs and a flurry of publications in the late 1970s (Davies, 2000). Warschauer and Healey (1998) divided the development of CALL into three phases: Behaviorist CALL, Communicative CALL, and Integrative CALL. Esling (1991) established a menu of task-based CALL tasks to improve email exchanges. Current advances in L2 learning and teaching have resulted in a mounting recognition of computerized materials for communication skills (Modarresi & Alavi, 2014). Recently, Al-Badi and Khan (2022) concluded that establishing an on-premise or custom enterprise resource planning system for an institution is useful for customization, time, and cost.

The method that emphasizes language learning through communication is called the communicative approach (Scott & Shane, 2014), which is one of the language-learning systems that largely highlight communication (Ogata et al., 2001). Indeed, the information and communication technologies (ICT) system and online learning material are still undeveloped in education (Scott & Shane, 2014). Sehlaoui (2001) provided a model for the application of computer technology to fortify a critical multicultural communicative competence in English as a Second Language (ESL)/English as a Foreign Language (EFL) for pre-service teachers. According to Zhytska (2012), shared CALL software comprises text reform programmers and models. New models of assessment can also be used for communication purposes.

The present study followed the guidelines by Warschauer (1999), tried to help teachers and students to have virtual interactions, and provide the students with the materials and leading questions and tasks as instances of interactive activities. The rise of the Internet has endorsed the employment of CALL for information retrieval, generating the notion of computer literacy, a term referring to the development

of skills for data retrieval, critical interpretation, and participation in online discourse communities (Warschauer, 1999).

3. Methodology

3.1. Participants

3.1.1. Quantitative Phase

A pool of 34 Iranian pre-intermediate EFL students (class A = 17 & Class B = 17) (females: n = 20, 59%; males: n = 10, 41%; Mean age = 20.11, SD = 2.05) participated in the study based on convenience sampling at Behravesh private English institute in Bojnord city, located in the northeast of Iran. They were EFL learners who had already studied English in the previous ten terms. They had four hours of English per week with an English instructor in order to make sure about the homogeneity of their language proficiency. Moreover, they were asked to participate in a pre-test of vocabulary skills. The participants were native Persian speakers having the same teacher. The students were introduced to the Textbook "*American English File 2*" (Oxenden et al., 2009), along with the vocabulary textbook "*504 Absolutely Essential Words*" (Bromberg et al., 2012), as supplementary material in each session.

3.1.2. Qualitative Phase

Finally, seven students were selected to participate in the qualitative phase of the study based on the data saturation method. The sample size seemed to be adequate since, according to (Dörnyei, 2007), an interview study with a sample size of six to 10 might work well.

3.2. Instruments

3.2.1. Quantitative Phase

3.2.1.1. Oxford Quick Placement Test (OQPT)

The first instrument used by the researchers was the Oxford Placement Test (OQPT) to homogenize the students in terms of their language proficiency. The test contains 60 multiple-choice vocabulary and grammar items. The scoring criteria categorize the test takers into four levels of English language proficiency: elementary (1-14), pre-intermediate (15-29), intermediate (30-44), and upper intermediate (45-50). Those volunteers who were classified at the pre-intermediate level were included in the present study.

3.2.1.2. Pre-Test

The second instrument used by the researchers was the pre-test of vocabulary consisting of the first four units, selected from "*American English File 2*" (Oxenden et al., 2009) and "*504 Absolutely Essential Words*" (Bromberg et al., 2012) used to measure students' knowledge of vocabulary. The test included 20 questions, and the scoring procedure was out of 20.

3.2.1.3. Post-Test

The third instrument used by the researchers was the post-test of vocabulary consisting of the first four units, selected from "*American English File 2*" (Oxenden et al., 2009) and "*504 Absolutely Essential Words*" (Bromberg et al., 2012) used to measure students' knowledge of vocabulary. The test included 20 questions, and the scoring procedure was out of 20.

3.2.2. Qualitative Phase

The last instrument utilized by the researchers was semi-structured interview questions asking the participants about their perspectives on the role of online applications in their vocabulary knowledge. The contents of the questions focused on the students' familiarity, experience, feelings, and senses regarding online teaching through CALL applications. The content validity of the tests was first checked by three experts in ELT and one expert in assessment and testing in ELT who had been teaching English language courses at private English institutes for many years. They asked these questions, respectively:

- Please tell a little more about yourself (your name, major, term, ….)
- Could you talk about your own experience and understanding of online learning?
- Have you ever had the chance or experience of working with Adobe Connect or Shaad in the classroom?
- To what extent do you think that working with online tools could improve your vocabulary knowledge?

3.3. Procedure

3.3.1. Quantitative Phase

The study followed a straightforward procedure. Before the treatment phase, the students became homogenous in terms of language proficiency by means of OPT, and following this, they were randomly assigned into two groups, including experimental group A and experimental group B. One group was exposed to Adobe Connect (Group A), and the other group was exposed to the Shaad application (Group B). To do so, the teacher worked with both groups on their textbook "*American English File 2*" (Oxenden et al., 2009) and vocabulary textbook "*504 Absolutely Essential Words*" (Bromberg et al., 2012), and the materials were presented through the web-based tools. The teacher worked with the students on the activities and tasks during class time, and they were asked to reproduce what was said in the audio clips in group A and in group B.

The treatment phase lasted for ten sessions, and the students attended the online classes twice a week, and each session lasted 90 minutes; however, the students were exposed to these activities during the last thirty minutes of the class to work on their vocabulary skills. Students who were exposed to web-based material were required to install the needed software or application on their PC or Laptop as they could make use of computer-aided materials simultaneously, including the text, the audio, and the test answers. The teacher worked with the students on the learning audio clips selected from their class textbook, and the students were learning and assessing their vocabulary skills through internet-based activities. Following the treatment, the teacher distributed the post-test of vocabulary, including 20 items, to see if there was any difference between the two groups in the post-test.

3.3.2. Qualitative Phase

Finally, to gather the participants' responses to the interview questions regarding the role of online learning in enhancing their vocabulary skills, the questions were written in the Persian Language, and the students were required to reply to the questions in Persian since using their native language they could express themselves more easily and precisely.

4. Results

To testify the truth or falsity of the research hypotheses, the results were presented in three major steps. In the first step of the study, both descriptive and inferential statistics were run, and it was examined whether there exists a significant difference between Adobe and Shaad with respect to vocabulary acquisition. In the second step of the study, it was investigated if the use of applications varies with respect to the gender of the participants. In the third step of the study, a qualitative semi-structured interview protocol was used to explore the learners' perceptions of online computerized tools in improving vocabulary acquisition for EFL learners.

4.1. Quantitative Phase

4.1.1. Internet-Based Application and Vocabulary Learning

As for the first phase regarding the significant difference between Adobe Connect and Shaad online teaching with respect to vocabulary acquisition for pre-intermediate EFL learners, One-way ANCOVA was run by the researchers since there were two groups exposed to the treatment phases. ANCOVA was run to compare the significant difference between the two groups since the researchers decided to control the pre-test scores as the covariance. Initially, the linearity for each group, the homogeneity of regression slopes between the covariate and the dependent variable for each of the groups, and the

assumption of equality of variance were checked. The general distribution of scores for the control group and the experimental group showed that there had been no indication of a curvilinear relationship. The relationship was clearly linear, so there was no violation of the assumption of the linear relationship. There had been no violation of the assumption of homogeneity of regression slopes because the Sig or probability value was .37, safely above the cut-off. Furthermore, Levene's test of equality of error variances was checked to see if there had been any violation of the assumption of equality of variance. And there was no violation of the assumption because the p-value value was .32, which was larger than our cut-off of .05. In this phase, the assumptions were tested, and the descriptive method was used.

Table 1
Descriptive Statistics for Post-Test Scores

Group	Mean	Std. Deviation	N
Experimental A	14.94	1.24	17
Experimental B	13.29	1.53	17
Total	14.11	1.60	34

As indicated in Table1, the means score of experimental group A who was exposed to Adobe Connect, was 14.94 with a standard deviation of 1.24, and the mean score of the experimental group B who was exposed to the Shaad application, was 13.29 with a standard deviation of 1.53. The number of participants in both groups was 17.

Table 2
Results of ANCOVA for Two Sets of Scores

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	56.851[a]	2	28.426	30.727	.000	.665
Intercept	19.697	1	19.697	21.292	.000	.407
Pretest scores	33.792	1	33.792	36.528	.000	.541
Group	12.412	1	12.412	13.417	.001	.302
Error	28.678	31	.925			
Total	6862.000	34				
Corrected Total	85.529	33				

[a]. R Squared = .665 (Adjusted R Squared = .643)

As shown in Table 2, since the p-value in the Group row was *less* than .05 (here, it was .00), the groups differed significantly. There was a significant difference in the students' vocabulary scores for subjects in experimental group A and experimental group B. Experimental group A who was exposed to Adobe Connect outperformed the experimental group B who was exposed to the Shaad application.

4.1.2. Internet-Based Application with Respect to Gender

As for the second phase of the study regarding the application of online teaching software with respect to the gender of the participants, an Independent-samples t-test was run by the researchers since there was one categorical independent variable with two levels, including male and female, and one continuous dependent variable.

Table 3
Descriptive Statistics for Students' Scores

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Post-test scores of vocabulary test	Male	14	13.78	1.42	.38
	Female	20	14.35	1.72	.38

As indicated in Table 3, the mean score for the male group was 13.78 with a standard deviation of 1.42, and the mean score for the female group was 14.35 with a standard deviation of 1.72. The number of participants in the male group was 14, while there were 20 female students in the study. Following this, a t-test was run to see if the difference between the two groups was statistically significant.

Table 4
Independent-Samples T-Test

	df	T	Sig.
Post-test scores of vocabulary test	32	-.1.0	.32

As displayed in Table 4, there was no significant difference in the mean scores of vocabulary with respect to gender since the value in the Sig. (2-tailed) column was *above* .05 [t $_{(32)}$ = -1, p = 0.32].

4.2. Qualitative Phase

Concerning the third phase of the study regarding the students' ideas about the role of online learning in enhancing their vocabulary knowledge, theme-based categorization was used, and interview sessions were held with the participants based on data saturation. Seven EFL learners were chosen based on convenience sampling, and the students were interviewed to find out in-depth information. The details regarding the venue and timing of the interview meeting were arranged based on the convenience and preferences of the participants.

Table 5
Interview Elements

Application	Adobe	Shaad
	Learn new words better	Learn new words in trouble
	Needs the highest internet speed	Needs the lowest internet speed
	Making break out room	Speak in group
	Heavy	Light

The results of the interviews with the learners who were exposed to Adobe Connect revealed that the students, initially became perplexed because online learning was a new and challenging experience. In fact, they had not adequate mastery over the use of computer-mediated tools for working on language skills and components. One of the students said, "*I already thought that online learning is not practical, but step by step, I realized it is useful in the difficult situation that we have due to Corona Virus. The teacher did her best to write the new words on the screen and upload and share the audio-related materials and the related texts with us. One problem was the internet speed and the connection that was breaking up at times*".

Another student believed that employing computerized tools was really dull since there was no face-to-face interaction. Nevertheless, he said that learning new words was rather good since, unlike listening and speaking skills, working on vocabulary acquisition does not need that much face-to-face social interaction. He stated, "*While working on conversational skills, I encountered words that were taxing to know their meanings and the teacher was there to assist and we could practice various activities on this platform*".

Furthermore, the information that emerged from the responses by the students who were exposed to Shaad revealed that the students were not focusing on the tasks, although the platform was suggested to be lighter than Adobe Connect, and they did not have focused participation and involvement. However, they believed that they had fewer internet problems. One of the students said, "*The experience was motivating for me as I could see the new words in the texts clearly provided by the application and since I can see that I'm fonder of being alone while studying. However, the need for extra equipment was a bit of a problem and I was deprived of effective feedback by the teacher*".

Another learner who was interviewed said that working on vocabulary skills by means of Shaad was really demanding, and she was eager to get back to the physical class as soon as possible. She said, "*To*

me, we are not accustomed to practicing on language by means of online courses and I myself tried to expert more endeavor, but it was a bit time-consuming to get acquainted with virtual environment".

The commonalities that emerged from the students' responses revealed that it was a novel experience and a challenging task to learn new words, and they could work on vocabulary better than other skills since they could focus on the task. However, they were not happy with the internet speed and inadequate access to computer-aided tools such as smartphones and laptops. Altogether, they believed that Adobe Connect as an online platform is better than Shaad, because the teacher can upload different media in Adobe Connect and can break out rooms to improve students' comprehension and ask them to practice new vocabulary in different activities. Although Shaad is lighter than Adobe Connect, the teacher cannot manage the class easily. Additionally, the teacher is able to manage time and class on Adobe Connect better than on Shaad application.

5. Discussion

The results of the current study indicated that there was a significant difference in the students' vocabulary scores for the EFL students exposed to different internet-based applications, and Adobe Connect group was confirmed to have better performance than the Shaad group. Moreover, the results of the study confirmed that there was no significant difference in the students' vocabulary scores with respect to the gender of the participants. The findings of the present study are in agreement with those of Yeh and Wang (2003), who found that providing online activities was effective for vocabulary acquisition. The obtained results of the present study are consistent with the existing literature like the study carried out by Fotos and Browne (2004), who demonstrated that online teaching contributes well to the development of language learning and students would like to work with the computer and computer resources as well as computer-based tools such as Adobe Connect, Skype or so. The results of the interviews conducted by the researchers of the present study showed that online learning could create a novel environment for EFL learners that would be more challenging for them as compared with conventional text-based instructions, and this strand of research has been consistent with the earlier research carried out (Cameron, 1999; Lambropoulos et al., 2006) who concluded that computerized means improve the opportunities for interactive learning. Moreover, different senses have to be integrated into the textbooks to improve communicative skills (Ebrahimi et al., 2022).

In line with the findings by Preece et al. (2002), who confirmed the importance of feedback from the computer to the development of learning, experts and teachers who have been using CALL in their classrooms have welcomed new technologies and new tools assisting learners in learning English more effectively.

Currently, EFL learners are known as a generation called "digital natives" (Prensky, 2001). They are accustomed to different technological devices like computers and mobile phones to search for and keep in touch with their friends. This became even more common with the spread of the Covid-19 Pandemic, requiring online classes and platforms for teaching and learning. The use of online software and applications is increasingly becoming more popular for learners to have their English classes virtually. In this regard, Kern and Warschauer (2000) concluded that the development of L2 pedagogy in CALL had created a teaching environment according to which the target language is acquired through online learning.

Additionally, the study provides a deeper understanding of the applicability of CALL resources and activities that can serve as a motivating factor and can make students participate actively in the virtual classroom, which has also been stressed by Anwaruddin (2013). The results from the interviews indicated that in the context of Iran, the new generation is becoming more and more interested in technological tools such as tablets and laptops in learning vocabulary. They use their tablets in their classrooms; there are also schools equipped with new computer-aided materials such as Smart Kapp, which is the newest in digital whiteboards.

The great possibilities of these technology-enhanced tools have provided an invaluable resource for teaching L2 target vocabulary. The present study provides deeper insight into the role of online learning in the Iranian context to measure students' learning development. It was concluded that, likewise, the

amalgamation of human materials and computer-aided materials has been supported by the interviewees and as rightly stated by Yaghoobi and Pishghadam (2015), Iran's culture would allow the replacement of EFL teachers with technology for at least another fifteen years.

Actually, students who have gained mastery over computers, the Internet, and typing skills are more efficacious in developing their language skills. The fact is that learners who are more familiar with computer-aided tools are more successful in international examinations on language proficiency tests such as TOEFL IBT because they are required to reply to the questions by means of the computer, and their knowledge of computer software assists them much to perform well on their examinations (Abbasian & Modarresi, 2022). Indeed, listening skills enhance students' language ability since they can make use of the software facilities to integrate language skills and language components and raise their awareness of work knowledge and improve their vocabulary repertoire.

The results of the present study have pedagogical implications for EFL learners and teachers. As for second language learners, they are expected to know more computer-aided tools and internet-based applications and exert more endeavor into communicating with other learners and their teachers using such tools as computerized versions of language resources. They can employ computerized activities like e-portfolio techniques to check their own learning and ponder on their own development. EFL learners are recommended to benefit from both instructional feedbacks provided by teachers and electronic feedback offered by the computer. As for second language teachers, they are required to participate in teacher education workshops and conferences on online learning to get familiar with new teaching agendas and utilize new technological tools in their classrooms and encourage the students to make use of the Internet and email to interact in the English language. They are suggested to provide appropriate situations in which students could express themselves via social networks and project their voices to the world to introduce their own identity and self. Educators can hold TTC courses for in-service and pre-service teachers to learn how to make use of internet-based applications.

The present study examined the effectiveness of online tools on EFL students' vocabulary knowledge. Further research is needed to be carried out with respect to other language components, including grammar and pronunciation. Another research may examine the moderating effect of language proficiency level and sociocultural variables on the relationship between online learning and L2 performance. Further research is recommended to examine the effect of new internet-based activities and guided discovery on the learners' self-efficacy and motivation. Finally, researchers are suggested to replicate this study to verify its validity and also to approve the effectiveness of online teaching on students' self-efficacy and communication ability.

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