

The Application of FiF Oral Training APP to College Students' Extracurricular Oral English Learning

Yajun Luo, Cong Liu
Dept. of Foreign Languages
Hengyang Normal University
Hengyang, Hunan, China
adelejane@sina.com

Abstract—Based on the Theory of Distributed Cognition, this paper applies FiF Oral Training APP (FiF APP) to college students' extracurricular oral English learning, and analyzes the feasibility of mobile-learning with smartphone APP in college students' extracurricular learning. 154 students from 3 classes participated in the one-semester teaching experiment. The results of tests show that the application of FiF APP improved college students' oral English ability. Questionnaires also indicate students' recognition and acceptance of mobile-learning. Applying FiF APP mobile learning to college English extracurricular learning provides a new perspective for college English teaching, which is a very meaningful attempt for college English teaching reform.

Keywords—Distributed Cognition; mobile-learning; FiF APP; college students' extracurricular oral English learning

I. INTRODUCTION

Extracurricular learning is an important part of teaching, with its significance not inferior to curricular learning. "For language learning, the significance of extracurricular learning can not be emphasized too much"[1]. Supported by wireless mobile equipment (smartphone, IPAD, etc.), and obtaining learning resources via wireless network, mobile-learning is a new learning method characterized by 4As (anyone, anytime, anywhere, anything) [2]. Different from traditional English teaching, the emergence of mobile-learning enables learners not to be restricted by space and time. It helps expand learning space and compensate practicing time which is rather limited in traditional class. As smartphones are more and more popular, kinds of APPs (applications) appear, which provide multiple learning platforms for English learners. The purpose of instructing students to have autonomous learning with APP in extracurricular time is to improve students' learning motivation and effect.

Nowadays, foreign language teaching based on information technology has become a major approach to foreign language teaching in institutions of higher learning [3]. According to *The Teaching Requirements for College English Courses*, a single teaching mode based on teacher-led teaching should be improved by a new mode, i.e. computer-based and classroom-based English teaching mode. The new teaching mode should

be supported by modern information technology, especially network technology. Thus, without restricted to the extent of time and place to a certain degree, English teaching and learning will develop towards the direction of individualization and autonomous learning [4]. By applying FiF APP to college students' extracurricular oral English learning, we try to respond positively to *The Teaching Requirements for College English Courses* set by Department of Higher Education, Ministry of Education of the People's Republic of China.

II. THEORETICAL BASIS

A. Distributed Cognition

Developed by Edwin Hutchins, distributed cognition is the theory that knowledge lies not only within the individual but in the individual's social and physical environment [5]. It is a branch of cognitive science that proposes cognition and knowledge are not confined to an individual; rather, it is distributed across objects, individuals, artifacts, and tools in the environment. It emphasizes the decentralization of learning resources. All factors, such as teacher, student, teacher and student, student and student, learning contents, which are related to learning are in different places, and teaching and learning can be conducted in different time and space. The interaction for some activity between individual and tool is highlighted.

B. Distributed Cognition & Mobile-learning

The practice of extracurricular mobile-learning needs the instruction of an appropriate theory. By comparing the features of Distributed Cognition and mobile-learning, we can find the elements emphasized in Distributed Cognition like individual, artifact, culture and strategy can relatively well match those in mobile-learning like learner, network environment, learning atmosphere, teaching strategy. Mobile-learning is carried out in a distributed network environment with lots of learners, which, obviously, is of distribution. Mobile-learning is based on the interaction of individual cognition and distributed cognition. It is not only individual cognition, but the interaction of individual and mobile-learning equipment. The theory of Distributed Cognition is very useful in analyzing human-computer interactions and educational technologies, especially in relation to computer-supported collaborative learning and

This paper is sponsored by 2016 Hunan Provincial Teaching Reform Project "The Research on the Application of Smartphone APP Mobile-learning to College English Extracurricular Learning" (Project No.: Xiang Jiao Tong [2016] No. 400-No. 576).

other computer-supported learning tools. By providing a new angle for mobile-learning, Distributed Cognition can be the theoretical basis of college students' extracurricular mobile-learning.

III. THE FEATURES AND FUNCTIONS OF FiF APP

FiF Oral Training APP (FiF APP) is an oral English teaching and managing application developed by Beijing Foreign Research Flight Education Technology Co., Ltd. On the basis of the leading intelligent voice technology and the professional intelligent oral assessing training materials, FiF APP is characterized by various authoritative high-technologies like Speech Recognition, Text To Speech. The main functions are as follows:

- The intelligent system of FiF APP can make immediate feedback after its intelligent assessment, and accurately diagnose students' oral English problems;
- There are systematic training materials, and rich and diverse oral exercises to cater to the needs of most students;
- Teachers can also create their own oral teaching item bank and all the exercises can be assessed by FiF APP intelligent system.
- Teachers can efficiently carry out oral teaching activities and monitor students' learning activities to master students' learning status.

IV. STUDY DESIGN

A. Subjects

The major participants are a total of 154 sophomore students from Law Class 1 (49 students), Law Class 2 (47 students), and Math Class 1 (58 students) of one university in Hengyang who take the course of College English, and each one of them has at least one mobile device in hand and downloads the APP for oral practice. All these students are students of the authors' for 2 semesters (2017 and 2018 academic year) by the end of June in 2018. But the experiment lasted for only one semester.

B. Instruments

This study is conducted with the help of two kinds of instruments: tests (pre-test and post-test), and questionnaire survey. SPSS (Statistical Product and Service Solutions) is applied to analyze the data. All the instruments mentioned above are designed cautiously to make sure the whole experiment scientific and convincing.

C. Procedures

At the beginning of the experiment, a questionnaire was distributed to know students' attitudes towards mobile-learning and oral English learning [6]. The questionnaire shows that 100% of the students have smart phones, 96.1% of the students have ever used smartphone apps related to English learning, 85.3% think oral English learning is important. Only 1.3% don't know mobile-learning, and 2.6% take negative attitude towards mobile-learning, which indicates that there is a good foundation for the implementation of mobile-learning in

extracurricular learning. Of the most difficult thing, 76.9% of the students think it is flexible communication, 71.2% accurate pronunciation, and 70.5% diverse diction and correct grammar. On the basis of the result, we make specific plans for the experiment.

1) Plans

- First, get students to review phonetics in class. Next, assign simple phonetic exercises in FiF APP to consolidate their basic phonetic knowledge, including vowels, consonants, and so on. Then some exercises like intonation, pause, liaison of sentences, are assigned one by one to consolidate students' skills of pronunciation and reading.
- After phonetic knowledge, an oral English task of a special topic is assigned to students every week. The deadline for the task to be completed should also be set. Before each task, we illustrated some difficult points and background information to help students have a clear understanding of the task. Students should have a reasonable plan for this task and avoid to complete the task right before the deadline in a hurry. After the task, we selected several groups of students to act the task out in class, and helped to correct some possible mistakes.

2) Materials

- To synchronize with the progress of class, we used the textbook, *New Century College English*. Give students an assignment before each class for their preview.
- After class, choose relative topics from the item bank of FiF APP for students' reviewing. For example, after students finish learning Unit 3, "Let's Eat", get them to practice the topic from FiF APP, "Local food".
- Assign students model tests of CET4-SET (CET4: College English Test-Band Four, SET: Spoken English Test), which includes the following question types: self-introduction, short passage reading, short question answering, individual stating and group interaction.

3) Key Points

- For tasks of reading and retelling, students should learn the questions carefully, imitate the standard pronunciation provided by FiF APP system, and then challenge repeatedly to refresh and improve their marks.
- For tasks of conversation, in addition to exercise on the APP, one should also form a study group with other students. They can practice the task before class and act it out in class.
- For tasks of personal statement, students should think carefully to have a deeper understanding of the topic and analyze the positive or negative effect the topic may have. We organized students to give a speech on the topic in the first five minutes of the class. The audience should express a personal opinion on the speech. In addition, we also guided students to exchange ideas with other students in the community section of FiF APP.

4) *Assessment*

As for assessment, there are two parts, one from FiF APP intelligent assessing system, the other from teachers.

- The report from FiF APP intelligent assessing system covers the following four aspects: score distribution, grade ranking, completion status, and competence training. Score distribution shows the number of students in different score segments by the percentage system; grade ranking shows students' specific scores and completion time in the order of highest to lowest scores; completion status shows students' completion on time or on extension, in-completion or non-participation; ability training shows students' specific drills from the perspective of the whole class and each student, according to the five dimensions of pronunciation accuracy, reading fluency, vocabulary grammar, discourse length and coherence, communication flexibility and relevance.
- These data can reflect students' self-assessment, mutual assessment among students, etc. from multiple angles, so the assessment is more objective. Teachers should promptly give guidance and encouragement to students based on the results of the assessment, stimulate students' enthusiasm for learning, and adjust the teaching plan according to the students' learning situation at any time. Teachers should also assess students' learning methods, learning attitudes, teamwork and performance skills in a timely manner, reflecting the diversity of assessment content. In addition to the report from FiF App, teachers can also organize students to conduct small tests, class

presentations, competitions, etc., and assess the results of oral practice in various aspects.

D. *Results and Analyses*

1) *Pre-test and post-test average marks of CET4-SET model test*

At the beginning of the experiment, we released a pre-test (CET4-SET model test) on FiF APP. At the end of the experiment, we released a post-test (CET4-SET model test) with the same question type and difficulty level. Table I shows the comparison results of the two assessments of the three classes. We used SPSS to conduct statistical analysis of students' pre-test and post-test average marks. The results show that the three P values in Table I are less than 0.05, indicating that the marks of the three classes have improved, among which the marks of Math Class 1 improved most.

TABLE I. PRE-TEST AND POST-TEST AVERAGE MARKS OF CET4-SET MODEL TEST

Class	Pre-test	Post-test	T-value	P-value
Law Class 1	89.00	90.88	-3.390	0.001
Law Class 2	89.28	91.02	-2.639	0.011
Math Class 1	87.78	89.93	-3.590	0.001

^a P<0.05 is significant

At the same time, FiF APP system shows that in the five dimensions of competence training: pronunciation accuracy, reading fluency, vocabulary and grammar, discourse length and coherence, communication flexibility and relevance (see Table II), students' average marks of the three classes in post-test generally show an increasing trend, indicating that students' marks of the three classes improved.

TABLE II. MARKS OF COMPETENCE TRAINING FOR PRE-TEST AND POST-TEST

Competence Training	Full Marks	Average Marks of Law Class 1		Average Marks of Law Class 2		Average Marks of Math Class 1	
		Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
Pronunciation Accuracy	70	46	50	53	55	50	55
Reading Fluency	30	24	24	27	26	25	27
Vocabulary & Grammar	40	29	32	33	34	31	35
Discourse Length & Coherence	50	36	39	41	42	38	42
Communication Flexibility & Relevance	10	6	7	8	8	7	8

2) *Questionnaire survey*

In this study, two questionnaires were prepared and distributed by the online questionnaire tool "Questionnaire Star" (an online questionnaire tool). The first questionnaire "College Students Using Mobile APP to Learn Oral English" was distributed at the beginning of the experiment to know students' attitude towards mobile learning. The second questionnaire "The Application Effect of FiF APP" was distributed at the end of the experiment to understand the experience of students using FiF APP and their suggestions for mobile-learning. Students filled out and submitted questionnaires online via mobile phones, and we teachers collected data through "Statistics and Analysis" in "Questionnaire Star". Both questionnaires were validly and fully retrieved by a total of 154 in three classes. The following

is a detailed analysis of the second questionnaire (Refer to "Procedures" above to know the first questionnaire).

a) *Current situation of students' using FiF APP*

The questionnaire surveys the time that students spend on their smartphones to practice oral English (multiple choices). 65.6% of the students study anytime, 38.3% study in some fragment time, and 25.3% study at a fixed time. This shows that the mobile learning method is very suitable for students to make use of their extracurricular time.

For each task of FiF App, 30.5% of the students practice as many times as possible to get higher scores, 59.1% practice a little, and 10.4% do not practice but complete it directly. This shows that the enthusiasm of students using the app needs to be

strengthened. At the same time, teachers should also adjust the content of tasks in time and strengthen teaching supervision.

b) Students' Level of Satisfaction with FiF APP's Functions

TABLE III. STUDENTS' LEVEL OF SATISFACTION WITH FiF APP'S FUNCTIONS

Functions	Level of Satisfaction (N: number of students)									
	very unsatisfied		unsatisfied		so-so		satisfied		very satisfied	
	N	%	N	%	N	%	N	%	N	%
Intelligent Assessing	1	0.7	6	3.9	27	17.5	79	51.3	41	26.6
Dual Mode: Autonomous Learning & Teacher's Tasks	1	0.7	3	2.0	23	14.9	76	49.4	51	33.1
Specialized Training	2	1.3	3	2.0	26	16.9	73	47.4	50	32.5
Recording	1	0.7	3	2.0	28	18.2	73	47.4	49	31.8
Marks Ranking	5	3.3	1	0.7	36	23.4	78	50.7	34	22.1

c) Students' views on using smartphone to practice oral English

Compared with traditional learning methods, the advantages of learning oral English on smartphones are (multiple choices), 88.3% of the students agree to "study anytime and anywhere", 71.4% support "a wider range of learning content", 62.3% support "timely feedback and assessment", and another 44.2% and 46.8% support "clear learning objectives".

In addition, the questionnaire also investigates whether students will continue to use FiF APP to practice oral English after the experiment. 48.7% of the students will continue to use, 44.2% are not sure, and only 7.1% will not use.

3) Analyses

By comparing students' two results of oral English tests and analyzing the results of the questionnaire survey, this paper analyzes the application effect of FiF APP in college English oral learning:

- Students can learn anytime and anywhere after class.
- Rich materials can meet students' different demands.
- Intelligent assessing system can help students master their learning status and teachers get instant feedback.
- By group learning, students can strengthen communication with each other and improve learning effect.

V. CONCLUSION

This study has explored the application of mobile-learning with smartphone APP to college English extracurricular learning. FiF APP has provided a new channel for college students' oral English learning, so that oral English learning was no longer restricted to limited in-class time and traditional classrooms. The intelligent assessing system has also made oral learning a relatively objective assessment basis. The tests and questionnaires conducted in this study reflected to some extent

Table III shows the students' satisfaction with the functions of FiF APP. For each function, "satisfied" and "very satisfied" together are at least 72.7%. This shows that FiF APP has gained high acceptance with students.

the improvement of students' oral English level after using FiF APP, and also proved students' recognition and acceptance of mobile-learning.

However, this study still has the following shortcomings: 1) The number of students involved in this experiment is relatively limited, and no control class is set to compare, so students' learning differences can't be found directly. 2) The whole experiment lasted for only one semester, which is relatively short. It's better to study students' learning status in the long term.

Students also made a lot of good personal suggestions for FiF APP, such as: intelligent judgment can be more precise; the content can be more interesting; more introduction of American culture is welcome; set time reminders for students' practicing in FiF APP; enhance the stability of FiF APP system, etc. These all make higher demands on FiF APP system as well as teachers' teaching, which is also the direction of our future efforts.

REFERENCES

- [1] Huang Yuanshen, "The time for English learning is mainly outside the classroom", in foreign language world, China, vol. 6, pp.12-14, June 2007. (In Chinese)
- [2] Xue Jianqiang, "Research on the construction and development of college English mobile-learning model", in Practical technology and Management, China, vol. 31, pp.176-179, March 2014. (In Chinese)
- [3] Hu Jiasheng, Chen Jianlin, "Outline of Foreign Language Education Technology", in Foreign Language Electrotechnical Teaching, China, vol. 2, pp.12-14, Feb.2013. (In Chinese)
- [4] Department of Higher Education, Ministry of Education of the People's Republic of China, Eds. The Teaching Requirements for College English Courses, Shanghai, China: Shanghai Foreign Language Education Press, 2007. (In Chinese)
- [5] E. Hutchins, Cognition in the Wild, Cambridge, MA: MIT Press, 1995.
- [6] Xu Dan, "The application of mobile phone oral training app in oral college English teaching", in Modern Business Trade Industry, China, vol. 27, pp.157-158, July 2018. (In Chinese)