The Effectiveness of Autonomous Listening Study and Pedagogical Implications In the Module of Artificial Intelligence

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Abstract: The artificial intelligence (abbreviated as AI) technology promotes the change in listening studying. An AI robot named as King of Listening Study is applied. To assess its effectiveness, an interview was made with the learners. The AI-aided study was more effective in promoting learners' confidence. The inclusion of AI functions arouses students' motivation to improve listening skill. Some points needs discussing. Listening can be integrated with speaking. Visual support is necessary. The investigation also indicates some pedagogical implications.

1. Introduction
The artificial intelligence (abbreviated as AI) technology promotes the reform of learning methods. Such methods as online learning, mobile learning and MOOC learning, have brought great impact on traditional idea. Autonomous learning aided by AI technology in foreign language acquisition is considered as a fundamental change in language education. The neural network, machine learning and other AI technology makes the mining of massive speech, text data and personalized information more accurate in the process of listening learning in language study, which strongly guarantees to stimulate learners' desire to take listening practices. AI is widely used in foreign language learning, both for teachers and students. This paper focuses on its application to students' listening study.

2. Material and Methods
In the research, an AI robot named as King of Listening Study is applied. The AI robot performs the following functions. Firstly, it gives intelligence guidance. Learning guidance is an important means to help learners improve their learning efficiency. Under the intelligent guidance, the robot decomposes the system of listening task to different knowledge unit, defines the semantic meaning through the key points, and summarizes the different knowledge units for learners to obtain the corresponding knowledge map, thus forming a personalized learning path. Secondly, it designs learning path. When a learner enters the system, the system will determine the amount of studying load. The robot applies the established domain knowledge judgment model to scan both the precursor and subsequent knowledge. The learners' mastery of the precursor knowledge is detected through interaction. If he fails to meet the requirements, he will be guided to the antecedent knowledge and continue to learn. Thirdly, learners can be helped to self-detect their weak links. For those who have not mastered the knowledge well, they can...
learn many times and compare with the previous learning achievements. The system can query the relevant content to strengthen the weak parts. Fourthly, the machine effectively controls the learning progress. Before learning, learners should make their own plan and list the course content in details. In case of failure to implement the plan, the system will remind them and check the plan regularly. After learning for a certain period of time, the system makes statistics on the learning status. The knowledge that have not been fully mastered will be listed, and the follow-up learning plan is reviewed to see whether it is necessary to adjust the future learning plan. In order to assess the effectiveness of the AI-aided learning, an interview was done with the learners.

3. Results & Discussion

It is found that learners appear to have more interest in listening practices after the application of the robot. The AI-aided method was more effective in promoting learners’ confidence. They were motivated to listen; they were more relaxed and active than before. Interaction with the machine and cooperative activities help strengthen students’ learning interest. The approach can not only stimulate students’ learning motivation but also improve their autonomous learning ability. In a traditional classroom, average students have to work hard at what they consider laborious and monotonous chores—vocabulary learning, translation, and endless written exercises. Their role in classroom is, for the greater part of the time, a passive one—they absorb and then reconstitute what they have absorbed to satisfy the teacher. AI mode provides more chances for creative learning and talent showing. Students often interacted with great energy and enthusiasm that was usually missing in traditional classrooms. The inclusion of authentic materials and activities in AI learning aroused students’ motivation in learning English because they could attach a “real” meaning to what they did instead of just fulfilling a task assigned by teachers. An increase in self-confidence and self-esteem in interactive AI learning led to increased student effort and a greater willingness to take risks or to continue attempting to make their views understood by others. In this way, the AI approach does stimulate students’ motivation and autonomous ability in listening study. Based on the interviews, the advantages of the approach can be made clear. However, some points needs discussing.

3.1. The Integration of Listening and Speaking

Among the four skills—listening, speaking, reading and writing, the students commonly reflect that listening and speaking are their vulnerable weakness, and speaking is even weaker. It seems that language teaching should start with the intent to improve students’ spoken proficiency. Listening and speaking influence each other. More than that, in fact, all dimensions in language learning are closely linked to each other. To practice listening in isolation is undesirable. Dickerson (1994) noted, “Language skills are essentially interrelated and mutually reinforced. Fragmenting them into manageable items runs counter to the parallel and interactive nature of language and language knowledge. Besides, the learning and use of any one skill can trigger cognitive and communicative associations with others”. When we talk to somebody, we also have to speak as well as to listen in order to communicate effectively. The activities to link the two language skills should be designed in the language learning. For instance, by doing “pair work” and “discussion” through multimedia, students have chances to interact with each other and learn to express their ideas in their own words. Through “team work”, students are made to work together and take responsibility. Besides, online oral presentation, dialogues, story telling, role plays, even games are also good activities in creating better conditions for autonomous listening. In a word, if used properly, all these activities can improve participants’ speaking proficiency as well as listening proficiency.

3.2. Visual Support

In the listening process, visual support, in the form of pictures, graphs, diagrams, maps, etc, is vitally important to non-English majors, especially in the elementary stage. Visuals can help listeners by supplying cultural information and by enabling them to predict more accurately—a picture of the speakers is really “worth a thousand words”. Visuals can also provide support during listening by
reinforcing the aural message, or as a part of a listening task by focusing the listener’s attention on the important parts of the message and training them to listen for specific purposes. Full and accurate transcripts are another important source of support for non–English majors. Part of our aim in teaching listening comprehension must be to persuade listeners not to panic if they can’t understand every single word of what they hear, but rather to pay attention to the overall message. Many adult listeners are reluctant to go along with this unless they know that at some point in the proceedings they will “understand” every word spoken. For this reason, a transcript is valuable, as it allows listeners to go back after the initial listening and task completion so that they can check to make sure they can hear and understand everything. Indeed, if one is thinking in terms of listening comprehension, then giving the listeners opportunity of listening while following transcript should be seen as an indispensable part of the process whereby the relationship between the written language and spoken language, with all its inevitable phonological simplifications can be perceived and gradually assimilated (Brown, G, 1977).

[3] Brown pointed out that he was certainly not suggesting that listeners should use a transcript before they have made an effort to understand without one. But he did believe that listening with a transcript was an underrated learning activity and was certainly an important resource for remedial work.

3.3. Pedagogical Implications
Fostering students’ ability to study effectively with the help of an AI system is identical with the general purpose of the education reform in China. Students are the objects of teaching, as well as the main body of autonomous learning. Therefore, apart from adopting an excellent learning approach for students’ self-learning, the following points should also be paid attention. To begin with, it’s essential to increase students’ spontaneity through various methods. The freshmen are usually strongly teacher-dependent, so it needs a long time to change their learning dependence into learning independence. The university should be aware of students’ needs at all times, be sensitive enough to their requirements, and give students the rights to adjust their study goals, contents, and strategies according to their own needs. Secondly, it is necessary to guide students to learn collaboratively. The collaboration and communication between students plays an important role in the ultimate formation of meaning, which can push the learners’ learning process. So in the course of students’ listening studying, discussions and arguments about the learning materials are to be encouraged. [4] The process makes each member share his opinions with the whole group and also offers an opportunity to reflect others’ ideas and then construct fresh and deep understanding.

4. Conclusions
As a new mode, AI-aided listening study blended with speaking activity has subverted the traditional concept of teacher-centered listening teaching, and has become a direction of modern English teaching reform under the internet environment. The AI application promotes the development of listening teaching towards personalized, accurate and intelligent direction.

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