

# A New Double-Blind System Applied at College Student Interview

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**Abstract**—With the development of education technique, interview section is playing more and more important role in high education. In order to make the interview more fair-minded, and keep the emotion influence or any unjust factors away, this paper proposed a new double-blind system and its usage guidance. The system consists of room arrangement, hardware components, and software components. The operation guidance was divided into four steps to help the whole interview procedure go smoothly and fairly. The result of this paper kept the interviewee and the interviewer from recognizing each other by applying voice changer, camera and the like. It's simple, low cost and easy to operate, so it can be popularized to more areas than college interview. With the emergence of more and more advanced information devices and new technologies, the system and operation method will be refreshed shortly in the future.

**Keywords**—Interview; Double-blind; Voice changer; College student

## I. INTRODUCTION

As the modern education system begins to pay attention to the comprehensive ability of a college student, not the paper scores which could only evaluate a student about how well he learned the detailed technique, more and more educators put efforts on deriving a credible test system. The original ancient interview was set in a room with one table and two chairs, which set the interviewer and the interviewee apart, across the table face to face. It indeed played an essential role in evaluating an interviewee's comprehensive capability. A face to face mutual understanding is far better than a paper. With the fast improvement of digital technology, more and more devices and software could be applied to interview process. JianJie Dong, etc developed an on-call-tutor system to facilitate peer-help activities in 2019 [1]. In 2018, Sowmya Rasipuram and Dinesh Babu Jayagopi proposed a system which can automatically predict the communication skill of a person in two kinds of interview-based social interactions namely interface-based (without an interviewer) and traditional face-to-face interviews [2]. In 2016, Hogan Trevor, Hinrichs Uta and Hornecker Eva discussed the potential of the Elicitation Interview technique to be applied in the context of visualization [3]. Such works have also been done in recent years [4-8].

Most interview system described above made the interview process more regular, more efficient and more just. However, these operations are based on the fully trust in interviewers. That means all interviewers play a quit just role with no personal emotion, or corrupted actions. In fact, it is impossible. Corruption and personal affections exist everywhere. In this paper, we are meant to introduce a whole

new system which could eliminate all unfair factors as much as possible. Firstly, the double-blind system construction will be described from room arrangement to hardware and software components. Secondly, the procedure about how this system runs will be clarified step by step. At last, the advantages and disadvantages would be list and explained.

## II. COMPONENTS OF DOUBLE-BLIND SYSTEM

The double-blind system introduced in this paper can be firstly applied to college student interview. There is couple of cases where the system could be used, such as the independent exam for entering high school, elite selection for specific purpose, stage exam for studying abroad like in the Sino-German cooperation project, and the enterprise interview at the moment of graduating. The combination of the double-blind system can be explained in figure1. It mainly consists three regions which all contains some people, hardware and software.

### A. Room Arrangement

As depicted in figure1, the double-blind system has three regions. Every region in fact is separated by a couple of rooms, i.e. monitoring room, evaluating rooms for experts and respondents' rooms, as shown in Figure 2. The monitoring room is set to supervise the situation happened in the other two kinds of rooms. Evaluating rooms for experts and respondents' rooms are set in pairs. The experts in evaluating rooms don't know who is sitting in the respondents' room. On the other side, the interviewees who were answering the questions don't know who had given out the questions. They were possibly arranged in one building, or maybe in different cities, different countries. What they need to ensure the operation of the interview is just internet. Therefore, the experts could be selected randomly just before the starting point of the interview. If possible, all experts should be located at different places. Make it confidential so that no one knows who is exactly playing as an interviewer, or who is asking questions. Even the experts themselves don't know each other. This organization makes experts as unknow ones. As a result, all experts can do exactly what they think is just and right, without any pressure from relatives, friends, politicians, or some other outside powers. Moreover, there is another improvement achieved. Without recognition by others, all experts can no longer deliver bribery to anyone they want to please. It therefore can definitely shut down the door of scholar corruption. The 'room' here is just a metaphor. It may be specified as a cellar, a house, a personal computer, any place in a city or a country. The monitoring room could have one person sitting there for surveillance, on the basis that the

person should be just a randomly selected guarder who does have no connection with all experts, or interviewees.

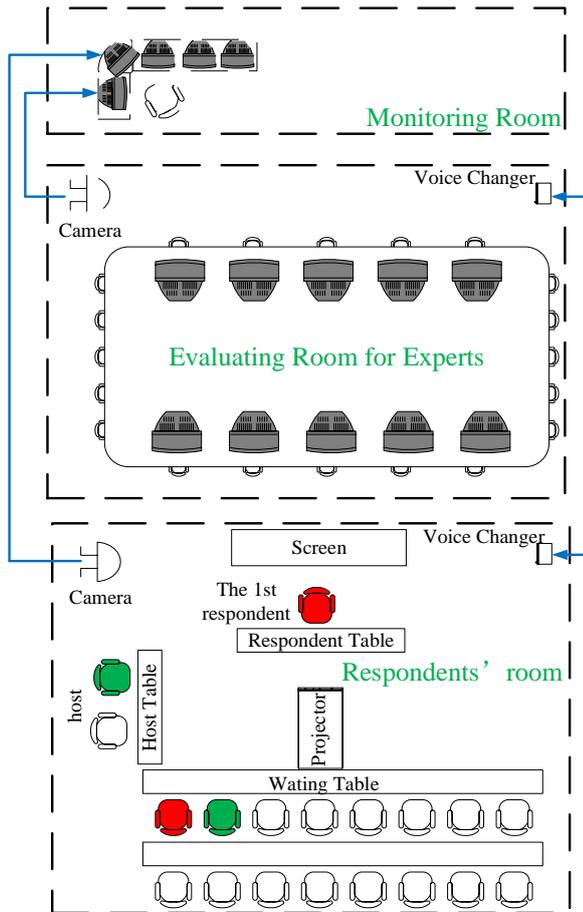


Fig. 1 Double-blind System

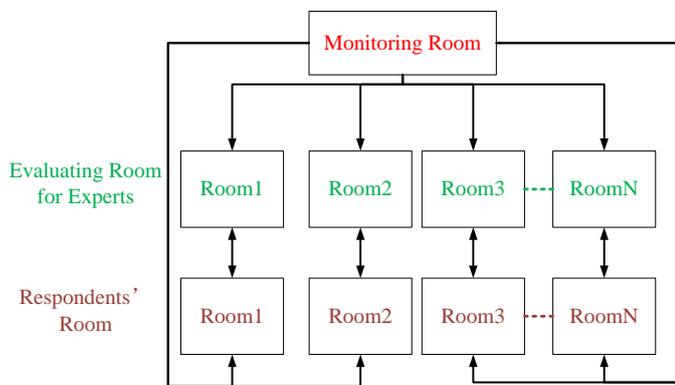


Fig. 2 Room Arrangement for Double-Blind Interview

### B. Hardware Components

The hardware in monitoring room is mainly composed of monitor terminals which were connected to all cameras hang on the top corner of each room.

In the evaluating room for experts, there are monitors, voice changers and lots of questioning terminals which can be operated by interviewers. Voice changer is an electric device. It can select voice from speakers, then makes analysis on its frequency spectrum. After that, special designed software would be involved to change its frequency spectrum to make it impossible for anyone to recognize who is the speaker, but remains the basic information the speaker wanted to express. It is an integral system. Fortunately, the software needed in this system can be downloaded from internet. With the help of improvement on artificial intelligence[9-11], the part of voice selection, understanding and re-express becomes more and more easily[12,13]. Therefore, the output of the voice changer could be in voice, or could be in words pressed on TV[14,15]. With regards to the camera, it can be professional ones hanging on the ceil and rotating round and round. Or, maybe it could just the one on someone's cell phone which has got enough precision, thanks to the improvement of sensors in recent years[16-18]. Experts are designed to sit around a desk on which are couple of computers, i.e. terminals.

Students or interviewees are arranged in the responders' room, in which there are three areas for the responder, waiting responders and host. Responder is the one being questioned, who sit back to the screen on which the question is displayed by the projector. Waiting responders are those haven't been questioned yet. They can see the question being imposed to the respondent. Besides, the host sitting between the responder and waiting respondents is responsible for organizing all the interview process. The hardware needed in this room contains voice changer, camera, projector and related accessories.

Besides, the hardware in each room can be replaced by advanced software which could be installed on cell phone, tablet, or personal computer. It could also be embedded in browsers.

### C. Software Components

Software included in this system are used for responders, experts, host to answer, question and organize the interview. It contains question selection module, score module, web connection module and database module. The question selection module was designed to select questions from database randomly, print all selected questions on a paper, and display corresponding answers on the screen. The score module was responsible for helping experts give score on their own terminal, according to the answer the responder gave. They can see whether the other experts have given out scores or not, but without detailed value. The connection among monitoring room, evaluating rooms for experts and responders' rooms is served by the web connection module. Actually, it links all servicers, terminals, voice changer, camera and mic-phone together. At last, all the questions and related answers are prepared before the interview, and stored in the database module. It also has the information about basic details of experts, responders and their scores.

### III. DOUBLE-BLIND INTERVIEW PROCEDURE

Based on the hardware and software equipment mentioned above, the interview can be run as follows.

At first, call the roll of all responders, take over all their phones, cameras, as well as other communication and photography tools, and guide them to pre-arranged responders' room. Meanwhile, randomly number all experts and show them the way to their corresponding room according to the assigned number.

All responders draw lots to decide the order they answer questions. Then all responders sit at the waiting area, except the first one who sits beside the responder's table as shown in **错误!未找到引用源。**. At the beginning, the first interviewee will choose his or her questions on the computer terminal with the help of the host who then prints them out. All questions come out of the database, and no one has a chance to get the same question with the others. After getting the questions, the first interviewee has 12 minutes to prepare. Once he or she starts to state answers, it is not allowed to look back to the screen, because the answers have been projected on the screen. In this case, other responders and the host can see the question and answer the first interviewee is being involved, which in return is some kind of surveillance to check the justice of the marks given by experts.

After the first interviewee answer all questions from database he or she chose, the experts will be allowed to give questions about his or her major randomly. According to the questions, the first interviews need to make oral answers one by one. Each has one minute to prepare. During this progress, the voice of the experts and responders all have been modified by the voice changer, so that no one can recognize who is on the other side making questions or answers.

At the end of these steps mentioned above, experts will give their scores for the interviewee on their own computer terminal. The host can see how many experts have given the score, but can see exactly the scores were given by whom. If some of the experts haven't made scores near the time limit, the host has responsibility to remind them through the computer terminal or voice changer. For now, all experts have given their scores which means the first interviewee has finished his or her part and will be guided to sit back to the waiting area.

As the first interviewee arrived his or her end point of 12 minutes' preparation, the second interviewee would be allowed to select and print the questions with the help of the host. While the first interviewee was answering questions, the second interviewee has 12 minutes to prepare. The sequence will until the last one. After all interviewees finished, the final score of each responder would be calculated out by the computer automatically. It was an average score after cutting out the highest and lowest ones.

Until now, the whole interview is completed. All interviewees should have their marks immediately at the end point. The whole operation process should be recorded and saved. If someone of the interviewee have any doubt about his or her score, they have right to check the answers corresponding to the questions they were asked. Except for that, they have the right to invite Judicial department to make any investment of the whole process.

### IV. ADVANTAGES AND DISADVANTAGES

The interview system proposed in this paper has successfully set the interviewers and interviewees apart. During the whole process, other interviewees can sit and see around, which definitely put an end to cheating. Besides, the result of every interviewee can be calculated out by the computer immediately on site. The whole system is simple, reliable and easy to operate. However, the system itself requires many rooms and space. How to make it portable or modular is the direction of the research on this system.

### V. CONCLUSION

The paper proposed a new double-blind system for students interviewing in college. It successfully made the interviewees don't know which expert is asking question, and made the experts don't know which interviewee is answering. That fundamentally puts an end to any emotion influence on the judgement.

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