

Practice Sessions for Subjective Speech Quality Tests

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Motivation

Subjective testing requires careful design and execution. We must do a large amount of work before the first subject participates. This often includes pre-testing and test refinements to ensure that the test can indeed capture the required information. By the time the test is launched we have frozen the test design and all test procedures to ensure consistency. All that remains are multiple trials with multiple subjects aided by our test administrator and written instructions.

Every subject brings his or her own prior experiences, assumptions, strengths, and weaknesses to the test. The ability to include this diversity is one strength of subjective testing. But we cannot let this diversity derail the testing or jeopardize the capture of the required information.

Thus, we usually start a test with a practice session. The goals often include to:

- Verify that all equipment is working as expected and results are properly recorded
- Allow the subject to become familiar and comfortable with the test equipment and procedures
- Allow adjustments to be made if permitted (e.g., adjust volume to preferred listening level)

In some cases an additional goal is to expose the subject to some or all of the speech quality levels that are in the test.

Discussion

Depending on the details of the test, we typically include 5 to 15 trials in the practice session. A practice session is necessary, but we don't wish to use up too much of a subject's valuable time with practice. If the session is not going well we will interrupt it, resolve the issue, and then start the practice session again from the beginning.

During practice we periodically encounter subjects who need some coaching in order to effectively interact with a touch screen. We often find subjects use the practice session to adjust seating and screen positions to find the most comfortable and functional configuration. We always invite questions after the practice session. Procedural questions are addressed in full detail. Common questions involve the number of trials or the expected duration of the test. Practice makes the task at hand very concrete!

On the other hand, questions about the content or inner workings of the test or our expectations for subjects' responses are always deferred (e.g., "We can discuss that after the test is completed.") It is critical that we not influence any subject by providing information beyond the standard information that is provided to all subjects through written or scripted instructions.

Our practice sessions are not intended to "calibrate" a subject. Each subject's perceptions and opinions are valid as is, and there is no feedback path designed to influence those. However, practice sessions sometimes provide an opportunity for subjects to calibrate themselves, if they wish. Some subjects seem to conclude that the full quality scale presented should be used and thus may use the practice session to learn that range and associate it with the different points along the quality scale. If the practice session does not cover the full range of quality levels in the test, these "self-calibrating" subjects may become frustrated when encountering previously

unheard quality levels in sessions that follow the practice session. Thus we often seek to present the full speech quality range (but not necessarily every speech quality level) in the practice session

Conclusion

A practice session is important to prepare subjects to participate in subjective speech quality tests. In addition to verifying that the test equipment is working, the practice session serves to familiarize the subject with the environment and the mechanics of the test procedure. This helps to ensure that during the test itself subjects are focused on the quality assessment task and we are capturing the information we need to fulfill the purpose of the test.

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