Training course for instructors of technical listening training

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1. Introduction

Technical listening training (TLT) is a systematic training program designed to improve auditory sensitivity [1,2]. TLT was developed at the Department of Acoustic Design, Kyushu Institute of Design (now part of Kyushu University) and has been included as part of its curriculum for many years.

Recently, companies in certain acoustics industries have expressed interest in introducing TLT to enhance their employees’ auditory sensitivity. Additionally, universities in various fields plan to start using TLT as part of acoustics or music courses. However, the teaching staff at these companies and universities do not have enough knowledge and experience to deliver this type of curriculum.

The authors of a recent project assisted an acoustics corporation to deliver a TLT curriculum [3], and recognized opportunities to deliver and improve TLT programs in various fields. To correctly establish a TLT curriculum and to run it effectively, well-trained instructors are necessary. The instructors should have ability to plan and manage a TLT program. To address this need, the authors developed a training course for TLT instructors as an open lecture at Kyushu University.

Initially, in 2010, the course duration was 1 day and ran from 10:00 to 17:00. However, since 2011, the course has been delivered over 2 days as requested by the participants. The authors of this project have been responsible for the delivery of the course. To date, in 2015, the total number of course participants is 36. Many of the participants planned to start incorporating TLT into their organizations. Some of the participants already use TLT and are looking to refine their curriculum. This article presents a summary of the training course for TLT instructors and the observed results.

2. Experience of TLT

Although the course participants are interested in TLT, the majority did not have a detailed understanding of the process and had never participated in any other TLT course. To integrate TLT into an organization, each participant should experience TLT and understand the purpose and goal of the TLT process. The course begins with an introduction that provides context and general background information of TLT.

After TLT has been introduced, the participants of the course experience Kyushu University-style TLT (described in detail in [1] and [2]). Through the experience of TLT, participants realized the importance of obtaining systematic auditory memory on the relationship between the perception of sound and the acoustic properties of sounds; developing this recognition is the primary goal of TLT.

3. Management of TLT

TLT instructors must plan and manage the complete curriculum. The course provides guidance on the management methods that allow instructors to create and deliver a valuable TLT syllabus. As part of the course, to provide examples of TLT curriculums, standard examples of a basic TLT program and an advanced program are provided.

The basic TLT program is designed to develop auditory sensitivity to fundamental acoustic properties, such as frequency, sound pressure level, and spectrum. It begins with discrimination tasks of these fundamental acoustic properties. Then, the identification tasks of these properties commence. Training tasks shift from discriminating between different sounds to correlating the auditory difference with the physical properties. The course provides an appropriate sequence of progressive training tasks. The basic TLT program can be included as part of the onboarding process presented to new employees in acoustical industries. It can also serve as a basic university acoustics course.

The advanced TLT program includes more practical training, such as the identification tasks of balancing vocals and accompanying sounds, the reverberation time of music, and the enhanced frequency of colored machinery noise. The advanced TLT program can be employed as a corporate training for acoustic engineers or sound designers. It is also an effective university course for students majoring in acoustics or music.

In addition to TLT tasks, brief lectures are given on acoustic properties that relate to the training. The pre-training lectures present the most suitable opportunity to describe the purpose of TLT training. The instructor training course explains the most effective way to deliver these lectures.

All TLT course instructors must understand the aims of each training task. Furthermore, they need the ability to create the training sounds. The instructor training course provides this practical knowledge.

To deliver a TLT program, a minimum system includes a sound player, amplifier, and loudspeakers or headphones. Responses can be collected from participants using paper sheets. A customized TLT delivery system is an effective tool to deliver TLT efficiently. In the course, the Kyushu University
TLT system is introduced as an example. The system includes a host computer, PDA (Personal Digital Assistant) terminals, and sound-reproducing equipment (described in detail in [4]). The host computer controls the presentation of training sounds, collects the responses, and provides feedback via the PDA terminals.

A web-based TLT system is also introduced. This system is provided as GNU General Public Licensed software; it is a very sophisticated TLT delivery tool [5].

At the end of the course, there is an open discussion session on TLT. To address the questions and requests from the participants, the authors provide information and general guidance on TLT. In many cases, the participants introduce and discuss the present statuses of their projects. The authors and other participants provide practical suggestions to help overcome any challenges that exist in these individual projects.

This open discussion session is also an opportunity for participants to network and exchange information. Generally, the participants are at different stages and implementing different approaches of the TLT process; conversations between practitioners with different circumstances are a valuable knowledge sharing opportunity. The participant discussions also provide good information for the TLT instructors.

4. Results

Each year, a questionnaire that incorporates open-ended and close-ended questions is administered. In total, 36 answers were obtained on the six courses from 2010 to 2015. The results of the questionnaire are displayed in Table 1.

With respect to course satisfaction, all participants selected “perfectly satisfied” or “satisfied.” In the open-ended questions, the participants acknowledged the systematic understanding of TLT, the positive experience of Kyushu University style TLT, and the networking opportunities as course benefits.

With respect to course understanding, most participants selected “perfectly understood” or “understood.” Participants acknowledged the plain lecture and practical demonstration. However, two of them experienced slight difficulty because they did not have enough knowledge of basic acoustics.

With respect to course content, most participants selected “very informative” or “informative.” Participants acknowledged that the course was practical enough to apply to TLT curriculum in their organizations.

According to the questionnaire responses, the course is clearly set at an appropriate level and delivers value to each participant. Some course participants have since started their TLT curriculum [6,7]. In addition, a couple of recent participants have ideas of further application of TLT to wider fields, such as a part of social or business education. The training course for TLT instructors contributed to the promotion of TLT as a valuable acoustic training tool.

References


Table 1 Items and selected numbers for each category of the questionnaire on the course.

<table>
<thead>
<tr>
<th>Category</th>
<th>perfectly satisfied</th>
<th>satisfied</th>
<th>unsatisfied</th>
<th>perfectly unsatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of satisfaction on the course</td>
<td>20</td>
<td>16</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Understanding level of the course</td>
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<td>9</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Course content</td>
<td>26</td>
<td>9</td>
<td>0</td>
<td>0 (no response: 1)</td>
</tr>
</tbody>
</table>

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