

## **Listening Inventory For Education (LIFE)**

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The Listening Inventory For Education (LIFE) is an inventory of questions developed by Karen L. Anderson and Joseph J. Smaldino in 1998 to assess children listening in the school setting. LIFE is not a standardized test but an inventory. It can be used for students six-years-old and older who have limited speech or limited expressive language skills (Anderson & Smaldino, 2002). LIFE consists of 3 inventories: Student Appraisal of Listening Difficulty, Teacher Appraisal of Listening Difficulty, and Teacher Opinion and Observation List. The Student Appraisal of Listening Difficulty Inventory consists of 15 listening conditions and is completed by the individual student on a 5-point scale. The Teacher Appraisal of Listening Difficulty Inventory consists of 16 items to be completed by the teacher on a 5 point scale. We were unable to acquire information pertaining to the Teacher Opinion and Observation List.

LIFE was designed to quantify individual children's hearing experience in the school setting. One goal of LIFE is to allow student the opportunity to complete "a self-report measurement tool to identify classroom situations that present a listening challenge for an individual student" (Anderson & Smaldino, 1999, p. 74) using the Student Appraisal of Listening Difficulty Inventory. The stimulus items are accessible to students at varying levels of language development because they are presented in both text and picture format (Anderson & Smaldino, 1999). The stimulus items are not organized in a hierarchical order; rather, they are selected to encompass a wide range of realistic listening conditions in the school. Additionally, the Teacher Appraisal of Listening Difficulty provides "a teacher-report measurement tool to document the effects of interventions taken to improve the listening environment of a particular student", as well as "a valid and reliable measurement tool that could be used in a pre-test and post-test format to document the effectiveness of interventions used to improve the classroom listening

environment” (Anderson & Smaldino, 1999, p.74). The Teacher Opinion and Observation List and the two inventories mentioned above could be used to inform teachers, administrators, and students, of the listening challenges affecting the student, as well as to encourage students to self-advocate for better listening environments (Anderson & Smaldino, 1999).

LIFE is not associated to a curriculum nor does it have an integrated curriculum. The 15 stimulus items on the Student Appraisal of Listening Difficulty Inventory present listening scenarios and asks the student to reflect on his/her ability to listen in school. Also included with this inventory is a list of suggestions to improve listening conditions for each of the 15 scenarios. On the other hand, the 16 items on the Teacher Appraisal of Listening Difficulty inventory are designed to help teacher think about and describe the students’ listening behaviours in the classroom. The teacher completes the inventory on a 5-point scale. Each response is assigned a score. The highest score is 35 and the lowest score is -35. This can also be used as a post-assessment of the effectiveness of intervention introduced to support the student’s listening in the classroom. For example, item 3 “Overall attention span has improved (less fidgety and/or less distracted)” asks the teacher to assess the amount of time the student is able to attend to the speaker. This score can then be compared to the score after amplification in order to measure the efficacy of the amplification. A list of suggestions for accommodating students with hearing loss is also included to support teachers.

The components of the test are easy to administer, requiring both student and teacher to complete a simple and straightforward inventory. The stimulus items on the Student Appraisal of Listening Difficulty Inventory could be administered to a variety of students with a range of abilities because it is picture-based. However, younger students may find it challenging to complete it, as it requires them to understand the scale and select the most appropriate one. Therefore, the TOD may need to pre-teach the scale and read the stimulus items out loud for

the student. In this situation, one must use caution so as to not influence the student's answers in any way.

This tool can be very useful to classroom teachers because it provides information about students' listening abilities in the classroom setting, as well as suggestions for accommodating students with hearing loss. The information can be used by the TOD as a springboard to discuss self-advocacy techniques with the student, as well as informing the classroom teachers and parents about the child's listening needs. The results from the Teacher Appraisal of Listening Difficulty Inventory could also be used as a post-assessment tool to determine the benefits of the technology being used in the classroom and to support the student with a hearing loss. Results from the student inventory list can also be shared with other teachers so that intervention can be consistently applied across all the classroom settings. Furthermore, general education teachers could use this tool to assess other students who they feel are struggling in their learning, as this may provide insight into possible reasons for various exceptionalities. This may even lead to a referral and diagnosis of an undetected hearing loss, as illustrated in a case study from the article by Anderson and Smaldino (1998).

An SLP may also benefit from the information garnered from the LIFE as it may enhance their awareness of the students' listening needs. Not all SLP's are trained in auditory skills development, so if they are provided with information about the receptive abilities of the child, then they would know whether certain articulation errors may be due to the child not being able to hear those sounds, or whether or not the listening environment of the therapy setting is optimal for that particular child. As well, if personal or FM technology were being introduced, the SLP would be made aware of the changes and how the child's needs may have changed. They could also provide insight as to whether or not it is enhancing the child's performance in the individual therapy setting, which could then correspond into the classroom setting.

Furthermore, although LIFE is designed to be a measurement tool for assessing a student's listening abilities in the school setting, the results from the inventories can also be adapted to a home setting. Situations when the student is experiencing the most difficulty in listening can be used to inform parents of similar situations at home. For example, stimulus item 8, "Teacher talking while moving" describes a scenario when the teacher is giving instructions or directions while moving, which affects the direction of the voice, reverberation, and distance to the listener. All these factors can affect the student's ability to listen and hear. If the student finds this scenario very difficult to listen in, parents can use this information and learn to be more cognizant of their movement when speaking to their child at home. Additionally, the list of suggestions included with the Teacher Appraisal of Listening Difficulty to improve the listening environment can be adapted to support students at home. For example, the suggestion, "Sometimes absorptive material, such as Styrofoam or a thick bath towel placed under an aquarium heater or animal cage will absorb some noise" can be used at home to reduce background noise emitted from a pet's cage or simply using common material such as Styrofoam to absorb noise. Results from the LIFE can be shared with parents by providing them with a summary of the listening situations the students find most challenging or a list of helpful suggestions for adaptations that can be made in the home. It is important not to overwhelm the parents with test scores or appear to criticize the parents, but to approach the parents with suggestions to create a better listening environment for their child.

Finally, the information obtained from LIFE can be used to augment the audiological rehabilitation program for a student by providing information that can be used to determine the intervention needs of the student, as well as how well the amplification technology is benefiting the student. LIFE can be used to monitor progress and determine the effectiveness of whatever technology is being introduced.

In 2011, a LIFE-R (revised) was introduced. Changes include six pre and post multiple choice questions in the Student Appraisal of Listening Difficulty Inventory to prepare the students to respond to the listening situations. The original Teacher Appraisal of Listening Difficulty inventory is only used as a post-assessment. The LIFE-R Teacher Appraisal of Listening Difficulty inventory has been re-designed so that it can be used for pre- or post assessment and ongoing assessments. The number of items on this inventory has been reduced to 16 to 15. The revised version allows a maximum score of 75 and a minimum score of 15. In LIFE-R, the Teacher Checklist: Self-Advocacy and Instructional Access inventory replaces the Teacher Opinion and Observation List. The purpose of this list is to help teachers develop IEP self-advocacy goals for the student. Another new addition to LIFE-R is the Starting School LIFE (Listening Inventory for Education) which focuses on assessing student need entering school or transitioning between schools by requesting both the school-based team and parents to complete a list of questions.

## References

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