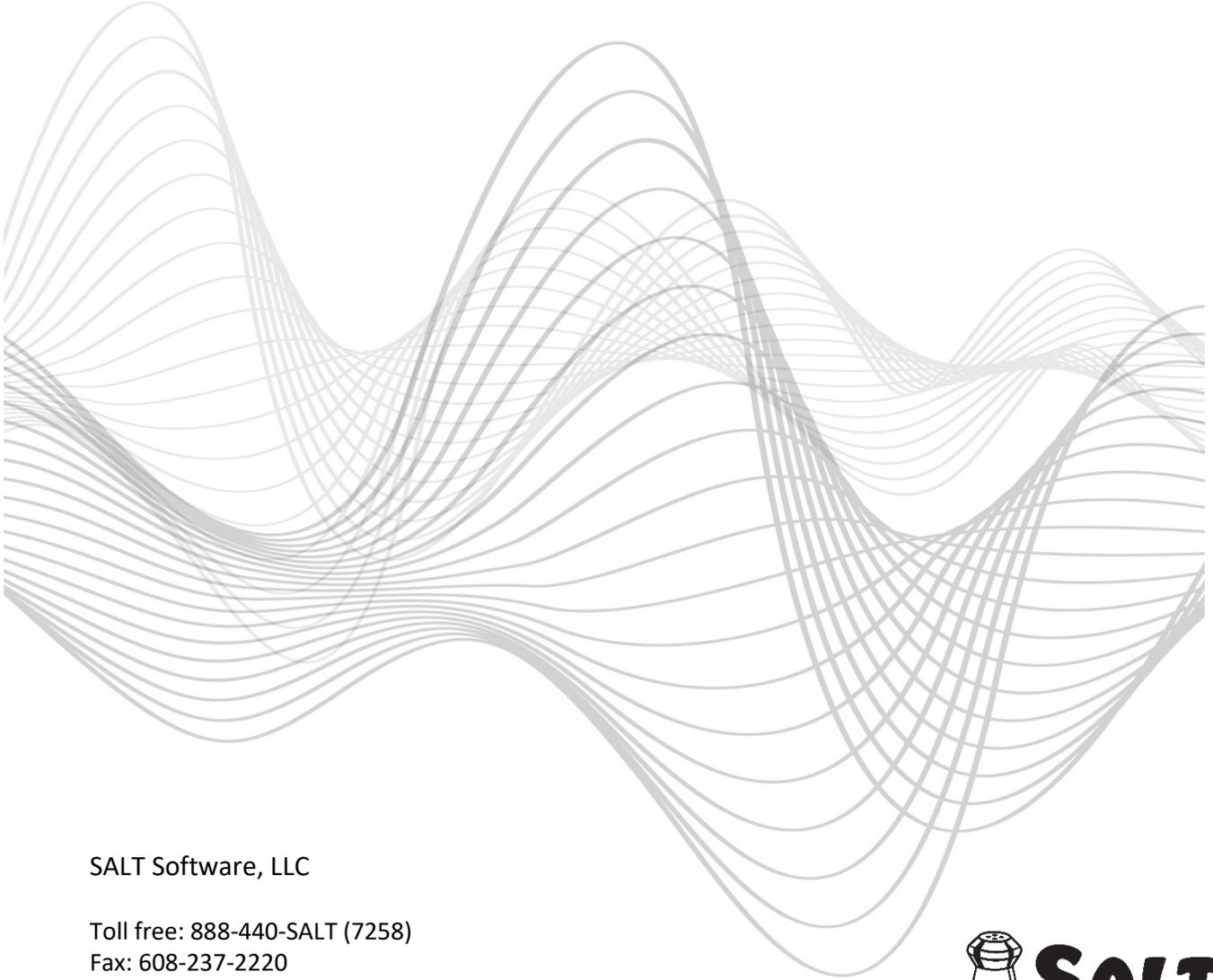# STEP-BY-STEP EXERCISE
Subordination Index

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Subordination Index (SI)

In this exercise you will apply the Subordination Index (SI) codes to the transcript "Laura APNF". Then, using the transcript "Laura APNF SI", you will compare the SI scores from this language sample to selected samples from the Narrative Story Retell reference database.

A. Start SALT with Laura's Transcript

1. The SALT program begins with the Getting Started window. In this exercise you will be opening one of the sample transcripts so click the **Open** button and you are presented with the Open dialogue box.

2. Unless you changed the default transcript folder, the *My SALT Data\Transcripts* folder located within your *Documents* folder is displayed. Open the **Samples** folder and then the **Lesson Samples** folder.

3. Select the transcript file **Laura APNF** (*not Laura APNF SI*) from the "Lesson Samples" folder and then click the **Open** button. You should have Laura's transcript displayed on the screen. Look at the bottom right side of the transcript window. The analysis set should be "C&I Verbal Utts" and the transcript cut should be "Entire Transcript".

    Laura is 9 years old and is in the 3ʳᵈ grade. She is retelling the story *A Porcupine Named Fluffy* by Helen Lester (1986). This sample was elicited following SALT's protocol to collect samples for the Narrative Story Retell reference database. Use the cursor keys or the scroll bars to look through the transcript. How complex are Laura's utterances? Does she use coordinators and subordinators?

B. Assign Subordination Index (SI) Codes

1. Introduction to SI

    Subordination Index is a measure of syntactic complexity that produces a ratio of the total number of clauses (main and subordinate clauses) to the number of C-units. A clause, whether it is main or subordinate, is a statement containing both a subject and a predicate. Grammatically, a subject is a noun phrase and a predicate is a verb phrase. Main clauses can stand by themselves. Subordinate clauses depend on the main clause to make sense. They are embedded within an utterance as noun, adjective, or adverbial clauses.

    The SI analysis counts clauses. Language samples are coded by placing an SI code at the end of each qualifying utterance. The SI codes include [SI-0], [SI-1], [SI-2], … which means subordination index – 0 clauses, 1 clause, 2 clauses, and so on.

2. View the SI Scoring Guide on the SALT web site

    *   Select **Help menu → Online Resources → Scoring Guides**. The web page containing the scoring guides should open in your browser.

    *   Select **SI Scoring Guide**. Look through the guide, studying the rules.

3. Insert the appropriate SI code at the end of each qualifying utterance. Utterances that are complete, intelligible, and verbal qualify for, and are coded with, an SI score. Elliptical responses to questions, tags such as "the end", and utterances coded as errors using the [EU] code are excluded from scoring as well.

- Select **Edit menu → Insert SI Codes**.

- Laura's first qualifying utterance is highlighted and you are prompted to select the appropriate SI code. This utterance contains one clause so **type the number 1** to select the [SI-1] code. The [SI-1] code is inserted at the end of this utterance and the next qualifying utterance is highlighted.

- This utterance also contains one clause and should be assigned the [SI-1] code. Type the number **1**.

- Continue to code Laura's utterances until you get to her sixth utterance which reads:

    C And Fluffy notice/ed he was/n't that Fluffy.

    This utterance contains two clauses and should be assigned the [SI-2] code. Type the number **2** to select [SI-2].

- *Select the wrong code by mistake*. The next child utterance reads:

    C One time he back/ed into a door.

    Although this utterance only contains one clause, type the number **2** to select [SI-2]. To correct your mistake, click in the transcript window and **delete the code**. *You may also click in the transcript window and make changes if you noticed a transcription mistake you wanted to correct.*

- Notice that the "Insert Code" button in the code list dialogue box now reads "Continue from cursor". Make sure your cursor is on or before where you left off and press **Continue from cursor** to continue coding. The same utterance is highlighted.

- Type the number **1** to select [SI-1].

- In the code list, notice the button **X=Exclude**. Incomplete, unintelligible, and/or nonverbal utterances are automatically excluded from SI coding. Other utterances may or may not be excluded, depending on the SI code settings, e.g., utterances coded as [EU] and 2nd-speaker utterances. If you encounter other utterances, such as an elliptical response to a question or tags which should also be excluded, type **X** or click this button. The code [SI-X] is inserted to indicate this utterance is excluded.

- Press the **Help** button in the code list dialogue box and read about the X=Exclude button and the [SI-X] code. Click **X** in the upper right-hand corner to close the help window.

- In the code list, notice the **S=Skip** button. You might use the skip command if you're not sure which code to select. The utterance is skipped (not coded) and the next qualifying utterance is highlighted. When you have finished coding the rest of the transcript, select "Edit menu → Insert SI Codes" again and the skipped utterances are highlighted.

- Click **SI Settings** to view several settings that affect the SI coding.

    The speaker setting and the first two check boxes specify the utterances which are included for SI coding. By default, only the 1st speaker utterances are included. The first check box specifies whether or not utterances coded as [EU] are included. If this box is checked, utterances coded as [EU] are automatically excluded. The second check box, if checked, only includes those utterances within the current transcript cut. The last checkbox indicates whether or not excluded utterances

are coded as [SI-X]. *Select the Help option for details on these settings.*

- Select **OK** to close the dialogue box and return to the coding dialogue box.

- Continue to code the rest of Laura's language sample. Don't worry about the accuracy of your coding at this time. You will improve with practice and familiarity.

- If you run out of time or just need a break, you can click the "Cancel" button to close the dialogue box. To continue coding, just select "Edit menu → Insert SI Codes" again. All previously coded or excluded utterances are skipped and coding resumes.

- When you have reached the end of your sample, you are informed that **SI coding is completed**. Press **OK** to close the dialogue boxes.

C. Switch to the Coded Transcript

The sample transcript file "Laura APNF SI" has been provided for your convenience. This is the same as the "Laura APNF" transcript you have been working with except the SI codes have been inserted. You should close the transcript you have been coding without saving the changes and continue with this coded version of the transcript.

1. Close your transcript without saving the changes.

   - Click the **X** in the right-hand corner of the transcript window tab to close it.

   - When prompted to save the transcript, select **No**.

2. Open the "Laura APNF SI.slt" transcript.

   - Click the open icon [icon] or select **File menu → Open…**.

   - Select the transcript file "Laura APNF SI" and then click the **Open** button (or double click "Laura APNF SI")

   - The "Laura APNF SI" transcript is displayed on your screen. Scroll though the transcript and notice that all the SI codes have been inserted.

D. Analyze the SI Codes

1. SI Codes analysis

   - Select **Analyze menu → Subordination Index** from the Syntax/Morphology section of the menu. The SI codes are listed along with a count of the number of times each code occurred. Counts are given for both speakers, even if only one speaker is coded.

   - The SI Composite Score at the end of the report is the average number of clauses per utterance.

2. Compare SI Codes to Samples from the Narrative Story Retell database.

   The Subordination Index (SI) coding was applied to all of the transcripts in the Narrative Story Retell database. *All the transcripts in the Play, Conversation, Narrative SSS, Expository, Persuasion, TNL1&2,*

Bilingual Spanish/English Story Retell, and Monolingual Spanish Story Retell reference databases were coded for SI.

- Select **Database menu → Select Database Samples and Settings**. You are presented with the "Select Database Samples" dialogue box.

- STEP 1: Select database

  - The Narrative Story Retell database is pre-selected based on the +Context and +Subgroup lines in Laura's transcript. If any other database is selected, click the **Select Built-in Database** button and select this database.

  - Click the **Database Snapshot** button for a description of the <u>Narrative Story Retell</u> database followed by a summary of the database records. Notice, at the end of the description, that there are four different stories used to elicit samples. There are 53 samples for the APNF story with age range 7;11 to 9;11.

  - Press **OK** to close the database snapshot.

  - Notice the transcript information at the bottom of the dialogue box:

    Laura APNF SI (Child), NAR (APNF): CA = 9;0, Grade 3, Female, 259 NTW, 47 C&I Verbal Utts, Time: 4:33

    The transcript filename is "Laura APNF SI. The target speaker label, taken from the $ speaker line at the beginning of the transcript, is "Child". This is a narrative language sample based on the story *A Porcupine Named Fluffy* (APNF). Laura is female, aged 9 years and 0 months, and is in the 3rd grade. The sample contains 261 NTW (number total words) and 47 C&I Verbal Utterances. The transcript duration is 4 minutes and 33 seconds.

- STEP 2: Select age, grade, and/or gender criteria

  - Look at the criteria selections. The **Age match** is set at plus or minus 6 months. Laura's age is 9;0. The database participants must be in the age range of 8;6 to 9;6 to be included.

  - Click **Find Matched Samples** and notice that 41 samples matched age criteria.

- STEP 3: Select method used to equate samples by length

  - Since the number of SI codes are affected by the number of qualifying utterances, select **Same number of analysis-set utterances (C&I Verbal Utts)**.

  - Make sure that the Target Speaker is set to **1st speaker** so that the comparison is based on the same number of 1st speaker analysis-set utterances.

  - Click **Find Equated Samples** and you are presented with a list of matching comparison sets to select from.

  - The list contains a series of samples – utterances selections. Since a "rule of thumb" is to make sure you have at least 20 participants, select the second option: **24 samples – 44 utterances** and click **OK**.

- Press **OK** to close the selection dialogue box.

- Select **Database menu** → **Subordination Index** from the Syntax/Morphology section of the menu.

- You are presented with a dialogue box to choose which utterances to use for the comparison.
    - Entire transcript: generate this report, comparing Laura's entire sample with the entire sample of all 41 age-matched samples.
        - Advantage: uses all 41 age-matched samples.
        - Disadvantage: the samples will not all contain the same number of utterances and the SI measures may be significantly affected by the length of the sample.
    - Equated by length: generate this report, comparing the first 44 C&I verbal utterances in Laura's sample with the first 44 C&I verbal utterances in each of the 24 samples which contain at least 44 C&I verbal utterances.
        - Advantage: all measures are calculated on the same number of utterances which "levels the playing field".
        - Disadvantage: only uses 24 of the 41 age-matched samples and includes only the first 44 of Laura's 47 C&I verbal utterances.

    Notice that "Equated by length" is "recommended". This is because the individual SI scores are affected by the number of utterances included in the counts.

- Select **Equated by length** and click **OK**.

- Look at the distribution of Laura's subordination index codes compared to her age-matched peers. Laura's transcript and the 24 database transcripts were cut at 44 utterances, making the comparison valid.

E. Web-based SI Training

1. Select **Help menu** → **Web Training** to open your default web browser, e.g., Microsoft Internet Explorer, Chrome, Firefox, and go to the training section of the SALT web site www.saltsoftware.com.

2. Click the **Self-Paced Online Courses** link. Work through course **1501: SI – Subordination Index** for practice.

3. Click **Training menu** and **YouTube Videos.** Scroll to **Playlist: Scoring SI, NSS, ESS, and PSS** and watch **Inserting Subordination Index scores**.

F. Close All Windows

- Select **Window menu** → **Close All**.