LANGUAGE DOCUMENTATION & CONSERVATION

Vol. 3, No. 2 (December2009), pp. 226-235
http://nflrc.hawaii.edu/ldc/
http://hdl.handle.net/10125/4441

Transana 2.30

from Wisconsin Center for Education Research

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1. OVERVIEW.[1] Transana is a computer program for transcribing and analyzing—in as much or as little detail as desired—large collections of video and audio data. These collections may contain hundreds and potentially thousands of hours of video and audio recordings. Once video/audio data have been transcribed, Transana allows the linguist to identify and access the analytically significant portions of these videos (known as clips), as well as to manage large video collections. Transana is different from other similar qualitative software programs in that it not only applies coding to clips but also displays coding across time. Additionally, Transana organizes video clips (from the same or from different video files) into meaningful categories and applies searchable analytic keywords to these video clips. Transana's capacity to organize video clips into meaningful categories can be used as a powerful mechanism for developing and expanding the theoretical understanding of what the videos show. Moreover, Transana 2.30 displays graphical and text-based reports about one's analytic coding and thus permits complex data mining and hypothesis testing across large video collections. Additionally, Transana exports its data to statistical packages (such as SPSS) or Microsoft Excel for further analysis. The unique feature of Transana software is that, unlike many other similar programs, it can share analytic mark-up with distant colleagues in order to facilitate collaborative analysis.

There are three versions of Transana available for use: the single-user version, the computer lab version, and the multi-user version. The *single-user version* is designed to allow individual users to do transcription and qualitative analysis of video and audio data on a single computer. The *computer lab version* is designed for computer labs where data (i.e., media files and Transana database) are not stored on the lab computer but rather on an accessible network volume or an external storage device (such as a USB hard drive). Finally, the *multi-user version* of Transana is designed to allow users to work collaboratively on the analysis of video and audio data. This version allows users to share the same data, while working on the analysis at the same time, and seeing each other's' changes automatically in real time. This collaboration is possible over a distance by using the internet. Whichever version of Transana you use, the same (or very similar) principles of operating this software apply.

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[1] Transana is being used to analyze data sets from SPINE Project (Student Performance in National Examinations; Major ESRC/DfID Research Grant RES-167-25-0263). See www.bristol.ac.uk/spine.

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E-ISSN 1934-5275

2. GETTING STARTED: DATA SOURCES. Since Transana is a program developed for transcribing and analyzing video and audio data, there is a wide range of video and audio formats that this program supports. These formats are: MPEG-1, MPEG-2, most AVI video, QuickTime MOV and MP4 formats (supported on both Windows and OS X), Windows Media Video, WMV, Windows Media Audio, WMA formats (supported on Windows only), as well as MP3 and WAV audio. If you have any of the above formats, you can upload them directly to Transana and start working with them. However, if you have video and/or audio files saved in a different format—I had videos in M2TS format, for example— you will need to encode these files in order to use them in Transana.

Once your media files are ready for use with Transana, you will need to load them into Transana's main interface. This is a very straightforward procedure, consisting of two stages. First you will need to create a *series* (which will hold a group of related source video files), and then you will need to create an *episode* (which is where you will specify the media file(s) you want to transcribe and analyze), as shown in figure 1.

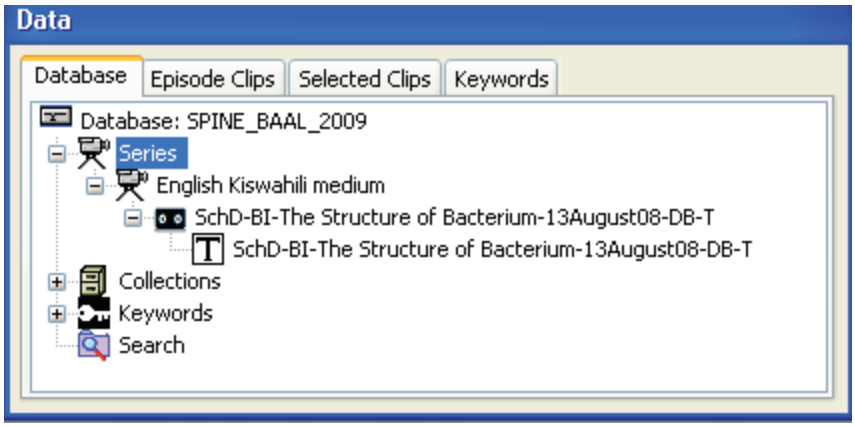

FIGURE 1: Transana's data window

3. TRANSCRIBING IN TRANSANA. Since Transana cannot automatically generate a transcript for you, you will have to do it manually, listening to the media file and inserting speech acts into the Transcript window. Transana is fantastic in facilitating this procedure, as it uses **control-key keyboard commands (such as Ctrl-S** (play/pause with auto-rewind), **Ctrl-D** (play/pause with no auto-rewind), **Ctrl-A** (rewind 10 seconds), and **Ctrl-F** (fast-forward 10 seconds) to position the video precisely, to name some**) in the Transcript window in order** to control video playback and position the video. Using the control-key keyboard will speed up your transcribing process significantly as compared to using the Video window controls (which Transana also allows for, in case you do not feel comfortable using the control-key keyboard commands).

Transana generates different types of transcripts. Basically, in Transana the term "transcript" is used to describe any written record that corresponds to the media file being ana-

lyzed. Therefore, your transcript may be in the form of field notes; it may be partial, where you transcribe only portions of the video as you need them; it may be in the form of an annotated summary of your video contents; it may be a full verbatim transcript, which represents the spoken words caught on your video; it may be a transcript that includes translations as transcripts; or it may be a transcript that presents the data that goes beyond the spoken word (for example, Jeffersonian Notation coding, or behavioral or gestural coding). An extract from a transcript presented in figure 2 shows examples of a full verbatim transcript with the data that goes beyond the spoken word (namely, it captures the teacher's non-verbal behavior; see line 5).

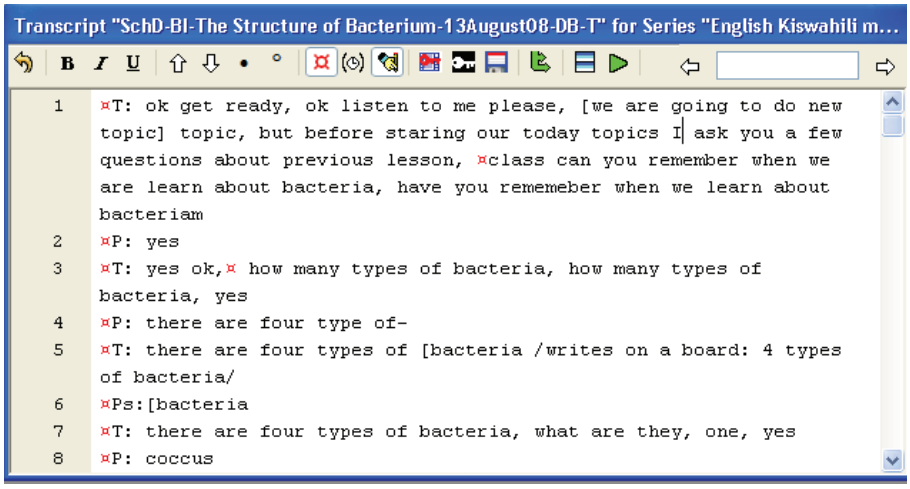

FIGURE 2: An example of a full verbatim transcript which also captures the data that goes beyond the spoken word

Figure 2 above also presents an example of how time code indexes can be applied to your data. These time codes (which appear as little red stars in the picture) can be entered as part of the process of creating your transcript(s). Time codes link particular positions in the transcript with the corresponding positions in the media file, effectively linking the video and the transcript. Using time codes may have several advantages for you: first, as the video plays, you will able to see where you are in the transcript text, as Transana highlights the transcript text corresponding to the part of the video being displayed; second, if you find an interesting passage in the transcript, you can instantly call up the video associated with that passage; third, the analytic act of placing time codes may help you to delineate boundaries in the video; in other words, it may help you to signal when a particular segment of video you want to study further begins and ends.

4. WORKING WITH VIDEO CLIPS . Once you have created a transcript from your media file, you can then identify short segments of longer video that are analytically interesting to

you and start creating virtual clips from these segments. When you have several analytically similar clips you can then gather them together in a collection (as shown in figure 3).

Creating clips is very simple. You will need to highlight the text between two time codes in a transcript, click on it to indicate that this selection should be made into a clip in a particular collection, and name the clip. In this approach, the clip itself may be thought of as evidence, with the collection in which it is placed describing where in the theoretical model that piece of evidence fits. Should your theory change, grow, or evolve, you can always copy or move your clips around. Moreover, in Transana, you can double-click a clip at any point to see the video it represents.

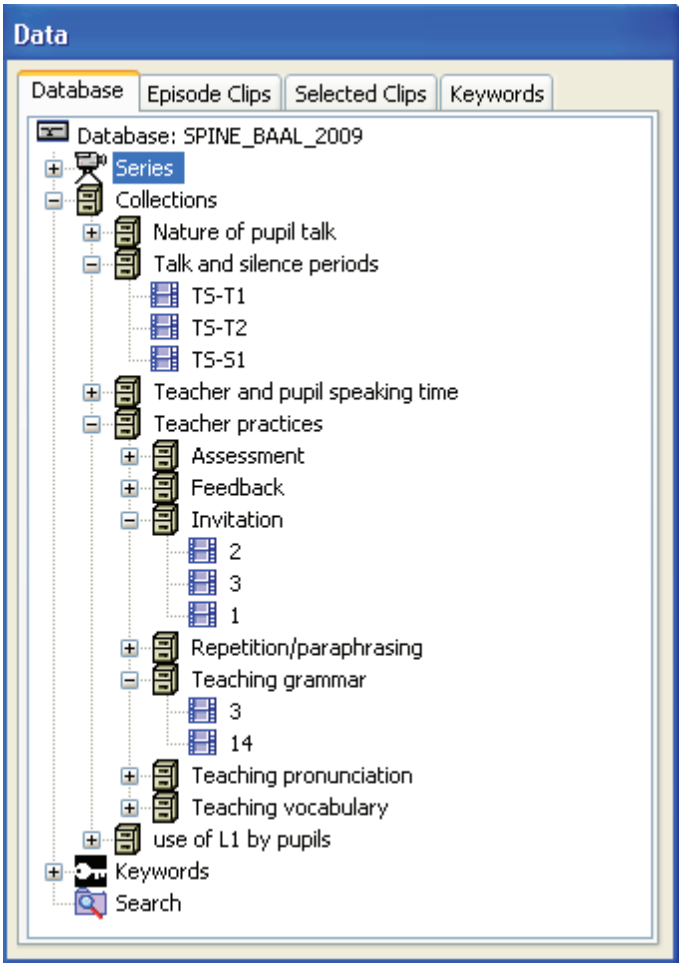

FIGURE 3: Creating clips and collections in Transana

A limitation of working with the clips in Transana, however, is that at any one time you can only highlight and move around one clip. Unfortunately, current versions of Transana do not allow simultaneous highlighting of several clips (maybe even from different collections) and moving them as a bunch into a new location (for example, a new collection).

5. WORKING WITH ANALYTIC MEMOS. If you wish to create descriptions of analytic content and process that document analytic decisions and changes in thinking through time, you may wish to use Transana's analytic memoing tool, known as notes. These nare plain text records that can be attached to series, episode, transcript, collection, and clip records, where you can record analytic reasoning and document changes in analytic understanding over time. For example, a note attached to a clip (see figure 5) might describe what you think a particular segment of video shows, or why that particular clip is important to the analysis, as shown in figure 4.

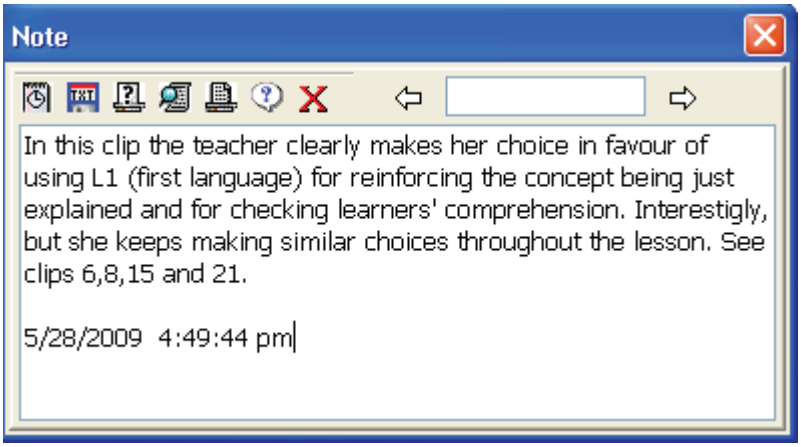

FIGURE 4: Example of a note to the data clip

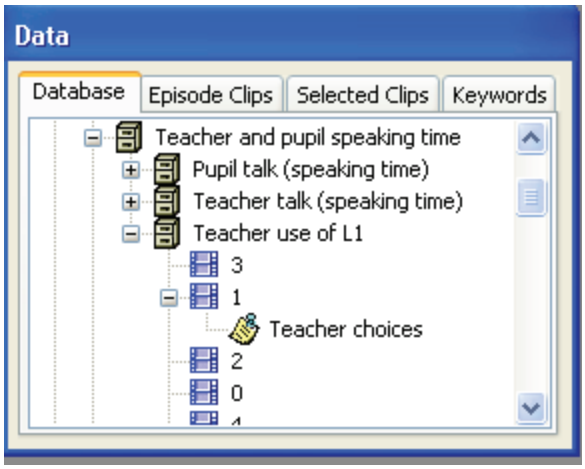

FIGURE 5: Visual representation of a note attached to a clip in the Data window

Transana also has the **notes browser tool**, which aims to allow exploring all analytic notes in one place. The notes browser may also facilitate exploration and thinking across analytic memos and across categories of notes, helping one to synthesize one's scattered individual thoughts into a coherent theoretical understanding.

6. WORKING WITH CODING SCHEMES. Simply creating clips and placing them in collections may, for some users, be a rather one-dimensional approach to qualitative data analysis, and therefore be quite unsatisfactory. Indeed, this approach may limit opportunities for investigation of the complexity of issues and relationships that can be inferred from a given media clip.

Transana allows for this fact and provides the facility and tools for analyzing qualitative data using another approach, namely through the use of *coding schemes*. This approach involves creating a coding scheme (known in Transana as a *keyword group*) and applying the codes (i.e., *keywords*) created within this coding scheme to portions of the source data (i.e., clips or episodes) This facility—to assign keywords to episodes and clips—was designed to help users describe the analytically interesting content of their videos.

In Transana, each keyword group may contain more than one keyword (see figure 6), and each clip may have multiple keywords associated with it, describing it along several dimensions (see figure 7).

Figure7 shows how I coded one and the same clip (shown in the timeline as 0:00:10:1) using five different codes, which appear in the picture as parallel lines of the same length in green, brown, purple (Language development: Repetition-paraphrasing), blue, and pink colors. In other words, during this one clip several events, which were of specific interest and importance to me, took place. Each of these events was coded using a separate code (keyword).

It is worth mentioning here that Transana also provides a very useful tool for explo-

ration of the coded data, which is known as Transana's search engine. Using this search engine, users may design sets of searches allowing them to ask very complex questions about their coded data and allowing them to explore subtle relationships between different aspects of the coding of their video data.

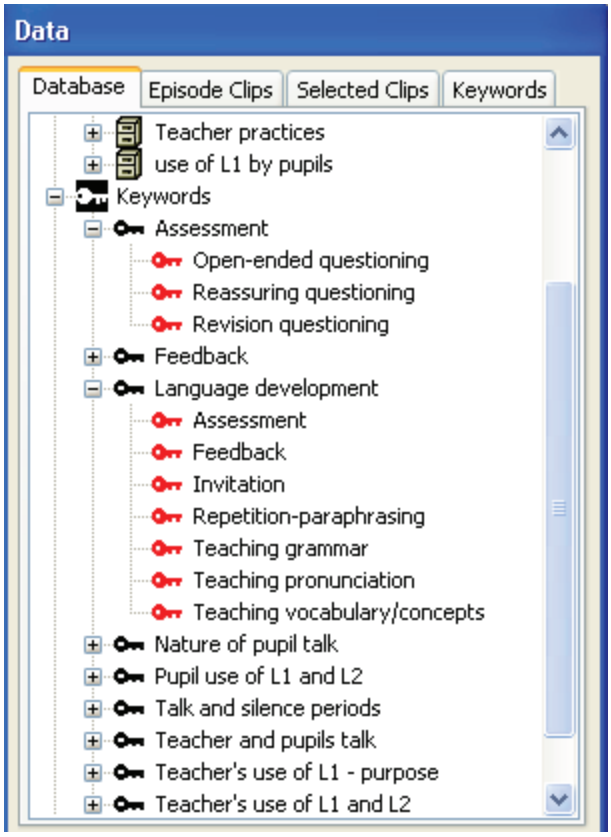

FIGURE 6: Example of keyword groups containing several keywords

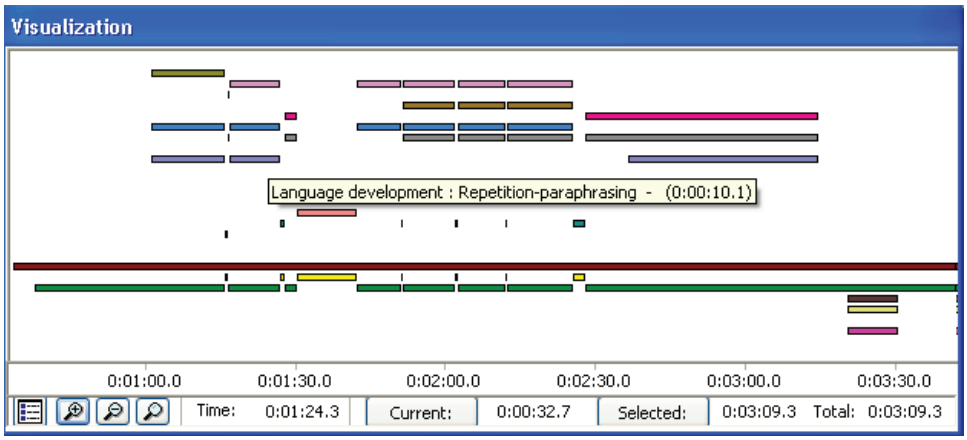

FIGURE 7: Example of the use of multiple keywords for a single clip

7. PRODUCING REPORTS. Finally, Transana provides a tool called a report generator, which allows users to see exactly how they have used their episodes, collections, clips, and keywords. It also allows users to select data elements, as well as clips and keywords, which should be included in the report, allowing users to craft text-based reports which meet their particular needs. Transana's text reports can be configured, edited, saved in Rich Text Format, or printed. Transana's maps and graphs reports can also be saved in JPG format. Examples of Transana's reports can be downloaded from Transana's official website at http://www.transana.org/about/Tour/Keywords1.htm

However, even though Transana can generate a number of reports—collection and episode reports, graphical reports (based on time line), keyword maps (which examine and interpret keyword placement over time), series keyword sequence maps—all of which are doubtless very useful for specific purposes, and some of which I have repeatedly used, in my opinion there is still ample space for their improvement. For example, a procedure for generating graphical, or time line, reports does not seem to account for the fact that some clips may be coded more than once, and therefore the proportions and timing produced as part of the report become misrepresentative and invalid. Additionally, some of the reports that I wanted to generate in Transana were not possible, as Transana's report generator did not allow me to program it to produce the outcome that I wanted, due to its limited number of toolbars and options. I often had to export to a spreadsheet program in order to produce the reports and graphs that I wanted.

8. CONCLUSION. Even though the most recent version of Transana has its limitations (I am sure these will eventually be overcome as the program develops), I find this program very useful for and supportive in transcribing and analyzing video and audio data. It considerably facilitates the speed of data transcribing and it brings a lot of enjoyment and sat-

isfaction to one's work. It has a very user-friendly interface design, as well as a very clear, informative, and step-by-step instructive "help" toolbar for the beginner users. In the table below I summarize major strengths and limitations of Transana 2.30, and provide general information on it as a software product.

Primary function:	Transana's main goal is to facilitate the transcription and qualitative analysis of large-scale video and audio data.
Pros:	Transana allows transcribing and analyzing *large* collections of raw or unedited *video* and *audio* data (unlike other programs—such as Atlas/ti, Qualrus and HyperResearch—which are designed to work with small edited video clips). Transana also provides tools that can be used for many different types of qualitative analysis—for example a transcript-based analysis, such as Conversation Analysis. Additionally, Transana allows not only applying coding to the video and audio clips but also displaying the coding across time (unlike other similar software programs—for example, NVivo). Transana also allows exporting its data to statistical packages, such as SPSS, or Microsoft Excel for further analysis. Furthermore, Transana allows its users to work with their preferred hardware, including the Macintosh (most qualitative analysis packages are Windows-based). Finally, Transana is one of the few qualitative analytic tools available to date that facilitates multi-user collaboration over a distance. With the multi-user version of Transana, multiple users in different locations can connect to the same data set at the same time, and can observe each other's' changes in real time.
Cons:	Transana has a limited capacity for sharing data between itself and associated types of software such as NVivo or Nudist. Current versions of Transana do not have graphical displays of the developing analytic structures, and they do not support global transcript text searching and keyword proximity searching. Transana clips cannot be embedded in PowerPoint presentations the way raw data can be (both programs—PowerPoint and Transana—will need to run and be switched between in order to play a video clip as part of a presentation).
Platforms:	PC/Windows 2000 and higher, Macintosh OS X 10.3 and higher
Open Source:	Yes, licensed under the GNU-GPL (General Public License). Current source code is available from http://www.sourceforge.net/projects/transana. Source code documentation is available from http://www.transana.org/developers/sourcecode.htm
Proprietary:	The user can use Transana under the GNU-GPL license.

Available from:	WCER Transana (http://www.transana.org/download/index.htm)
Cost:	The single-user version of Transana costs $50; The computer lab version of Transana costs $500; The multi-user version of Transana costs $500.
Reviewed version:	Transana 2.30
Application size:	Single user version: 10.3MB (for Windows), 31.0 MB (for PowerPC Macs) and 59.9 MB (for Intel Macs). The Windows version of Transana requires that the QuickTime player is installed (20.9 MB).
Documentation:	http://www.transana.org/support/documentation.htm

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