TBI Bank is a feasible assessment protocol to evaluate the cognitive communication skills of people with severe TBI during the subacute stage of recovery

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What is TBI Bank?

PAR: I was it was my girl+friend's birthday.
History of TBI Bank

› Originated from desire to capture real life interactions in systematic manner.

› Started in the area of child language with the CHILDES (Child Language Data Exchange System) Project

› Expanded to include study of adult language including in the area of Traumatic Brain Injury (TBI)

› Needed to determine a standard international protocol for capturing communication after TBI

› Expert consensus + Evidence =

› The first internationally ratified and evidence-based communication protocol for use with TBI population.
Discourse requires integrated cognitive, linguistic and social skills

Discourse analysis = Gold standard (Coelho 2007; Togher 2001)

Challenges:
- Time consuming
- Many choices for analysis

TBI Bank can help:
- Transcribe faster and more accurately
- Run multiple analyses with a click
The goal of TalkBank is to foster fundamental research in the study of human and animal communication. It will construct sample databases within each of the subfields studying communication. It will use these databases to advance the development of standards and tools for creating, sharing, searching, and commenting upon primary materials via networked computers.

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TalkBank is an interdisciplinary research project funded from 1999 to 2004 by a grant from the National Science Foundation (BCS-996009, KDI, SBE) to Carnegie Mellon University and the University of Pennsylvania, as well as NSF ITR Grant 0524883 to CMU and Stanford for classroom video databases. Current support comes from the NSF SCOTUS grant, the NSF FSLC grant, and NIH Grants to CMU for CHILDES, PhonBank, and AphasiaBank.

TalkBank is coordinated by Brian MacWhinney (CMU).

This page has been accessed 581294 times since November 7, 2003.

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This page provides materials for collecting data from TBI subjects for the TBIBank Project.

**Database**
- Browsable Database
- Transcript Database
- Media Database

**Protocol**
- Protocol List
- Protocol Instructions
- Full Protocol
- Troubleshooting

**Protocol Results**
- Coding Sheet for Investigator Administration
- Coding Sheet for Self Administration
- Coding Sheet to Supplement Self Administration
- Excel Spreadsheet for Data
- Excel Spreadsheet for Data (blank)
- Test Results Spreadsheet
- Test Results Spreadsheet (blank)
Monologic Discourse Tasks

› I. Free Speech Samples (Brain Injury Story & Important Event)

› II. Picture Descriptions (Broken Window; Refused Umbrella & Cat Rescue)

› III. Story Narrative (Cinderella)

› IV. Procedural Discourse (Peanut Butter & Jelly Sandwich or similar)
Example: Important event

Thinking back, can you tell me a story about something important that happened to you in your life? It could be happy or sad or from any time -- from when you were a kid or more recently.”

If no response in approximately 10 seconds, prompt:

"For instance, you could tell me about a trip you took or something about your family or your work -- anything."
Supplementary Tests

› Aphasia Bank Repetition Test (2007)
› Verb Naming Test (from the Northwestern Assessment of Verbs and Sentences-Revised, Field Test Version)
› Western Aphasia Battery-Revised (2007) -- AQ only
› Optional - Verbal Fluency (F, A, S).
› Repeatable Battery for the Assessment of Neuropsychological Status (1998)
1. Is it feasible to conduct the TBI Bank protocol with TBI participants during the sub acute phases of recovery (i.e. at 3 months and 6 months post injury)?

2. What types of computerised language tools are available on the TBI Bank website to evaluate monologic discourse samples?
Method

› Longitudinal communication recovery study

› N=48 participants with severe TBI were assessed using the TBI Bank protocol at 3 months

› N=53 participants were assessed at 6 months
Compliance with protocol completion

At 3 months
› 45/48 completed the full protocol
› 3/48 partially completed the protocol

At 6 months
› 51/53 participants completed the full protocol
› 2/53 partially completed the protocol
Participants were **less likely** to complete:

- The Aphasia Bank Repetition Test
- Describing an important event

All participants completed:

- Cinderella Story
- Recovery narrative
- Procedural discourse task (making a Cheese and Vegemite sandwich)
@G: brain injury
*INV: um to start with can you tell me ah what you remember about when you had your brain injury?
*PAR: when I had the brain injury?
*INV: mhm.
*PAR: and when or how I got it?
*PAR: ah.
*INV: um either.
*PAR: either okay.
*PAR: as a diabetic.
*PAR: um the day I actually got hit by the car I don't remember a thing for about the first six months.
*PAR: so it's got closer towards the end of the &s oh six weeks.
*PAR: it's probably closer to sixth week.
*PAR: the start of the sixth week when the brain started functioning.
*PAR: and everything just started coming to.
*PAR: I [/] I remember like my daughter being there.
Analyses

MLT for Speaker: *PAR

MLT (xxx, yyy and www are EXCLUDED from the word count)

Number of utterances = 233, turns = 27, words = 1497
  Ratio of words over turns = 55.444
  Ratio of utterances over turns = 8.630
  Ratio of words over utterances = 6.425

473 Total number of different item types used
1521 Total number of items (tokens)
0.311 Type/Token ratio
Conclusions

TBI Bank

› Diagnostic tool
› Feasible for use with participants in the subacute stages of recovery
› Objective discourse measures from computerised analysis
› Aims to reduce participant burden in long term
› Shared international database to foster collaborative research activity
› Interested parties can contribute discourse to the repository
› Tool for students and researchers to study spoken discourse
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Acknowledgements:
- Speech Pathology Australia for reliability funding
- National Health and Medical Research Council for project grant funding
- Professor Brian MacWhinney & Carnegie Mellon University for technical support and funding