

Topic 3: Research Methods and Techniques for Investigating the
Translator's Cognitive Processes

1) Think-aloud protocols¹

In think-aloud protocols the subject verbalizes all his thoughts while working on a task.

- aim: make cognitive hidden activities in the brain accessible for research
- by verbalizing your thoughts the subjects becomes a co-observer
- subject can only verbalize the conscious decisions he makes – abilities that are highly developed happen subconsciously and cannot be verbalized
- Ericsson (1984) developed conditions to receive reliable data from TAPs: data must be accessible to subjects, data must be provided closely to occurrence, researcher must interfere as little as possible, subjects must be trained in participating in TAPs

Criticism:

- validity and reliability is highly criticized in the 1980s
- subjects filter their verbalization, become more aware of the steps to a solution and might come to a different conclusion
- overt processes can be verbalized such as newly learned translation techniques – the more the person applies them the more they are applied subconsciously
- findings can never be complete or show all mental processes of a person

- Börsch (1986): only directly observable and quantifiable facts can be objects of empirical investigation – BUT: TAP are the only way to access what happens in the human brain

2) Eye-tracking

Eye tracking is the process of recording the point of gaze of a person and the moving from one point to another and the apparatus for such recordings is called eye tracker.

History:

- 1879 Louis Emile Javal: people do not read smoothly across a page pause on some words, moving quickly through others.
- Edmund Huey: device used to record eye movement in reading. Readers had to wear lenses with a small opening and a pointer attached. Observe where a reader was looking while reading and study which words were paused on.
- Charles H. Judd: eye movement camera recording motions of eyes on film.
- Guy Thomas Buswell: eye movement in reading within different ages and levels of schooling. Important: education & literacy.
- 1931 Earl, James and Carl Taylor: Ophthalmograph and Metronoscope device recording movement of eyes while reading + tools that trained people read more effectively.
- Reading NOT just a smooth motion
- Reader scans several words, pauses for comprehension, rescans them. Referred to as hops (scan) and fixations (pause).
- Ophthalmograph = measures hops and fixations. Efficient readers have a steady rhythm.

HS: Looking inside the translator's black box – past, present and future

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- Metronoscope = establish a steady rhythm (1-3, next...), speed up, steady flow of words.²

Eye Tracker as Device:

- Beginnings: built into helmets
- Computer monitor
- Discreet, built-in infra-red light diodes reflecting light off the eyes, enabling software to calculate the x and y co-ordinates
- Dilation (widening) or constriction (narrowing) of pupil measured in pupil diameter
- Specialized spectacles, also built-in light diodes recording
- Participant can be mobile à marketing research in commercial environments.
- Computer monitor for translation process research: Tobii monitor.

Marketing and Design:

- 1980s: measure effectiveness of ads in magazines
- What part of page was seen, which elements read, how much time spent on each part
- Eye-tracking research: better understanding of how eyes and minds cooperate in digesting literature, problems, images.
- 80s & 90s difference between print and screen design

- 1990: viewing of professional football games; what is typically being missed. Film user's eye, computer tracking eye on screen, marking it.
- Late 90s: advertising and marketing agencies measure and study reactions to information on www.

- Up to then assumed that web design should fashion off of print/newspaper design.³

3) Keystroke logging

- -special software to record all keys pressed on the keyboard as well as mouse movements and pauses⁴⁵
 - most common tools Inputlog & Translog (which was developed in 1999)⁵⁶
 - 1980s embassies and Secret Services like FBI used tools to decode/unlock codes from criminals/spies⁴⁷⁸
- -after 1990 : recording and observing the writing process of journalists and novelists⁹¹⁰
- -after 1999: first used for translation process research⁵⁶
 - tools are free to use for academic community⁵
- -programs produces log file which includes all characters, punctuation symbols, navigational characters (up, down arrows, etc.), pauses as well as revision indicators such as deletion/insertion, cut and paste operations, and so on.⁵
- -often used in combination with Eye Tracking⁵

Case studies

- Highlight certain elements that are specific to only particular cases or show signs of being completely unique.
- It is necessary to establish boundaries for the unit of analysis (case underlies a key aspect such as a real-life phenomenon, event or process that is being researched)
- a unit can even represent a larger population
- most case studies belong to the qualitative research methods (generates new hypothesis instead of testing them)

4) Longitudinal studies (Längsschnittstudien)

- Involves repeated observations of the same variables of a specific group of people over time, often many years and even decades^{5,1}
- Also called: observational study
- Not popular in the 80s – research through longitudinal studies started at a later date
- First steps in longitudinal studies done by PACTE Group in 2000 in Barcelona, later on more and more longitudinal studies carried out¹¹
- Expensive! You need lots of time and money¹¹
- longitudinal studies add the extra dimension of time (in contrast to momentary studies)
- Today: longitudinal studies are being carried out at different universities (multi-center studies) – gives deeper insight into the advantages of different curricula.
- Today: longitudinal studies are desideratum in research on translation processes, because it is believed that longitudinal studies can give a deeper understanding of translation didactics.¹¹
- Longitudinal studies can help us understand the development of a translator's competence over time
- Future prospect: longitudinal studies will still be used (multi-center studies) to identify the development of a translator's competence over time (ten years to become an expert) and the advantages of different curricula¹

Momentary studies (Querschnittsstudien / punktuelle Studien)

- Also called: short-term studies or cross-sectional study
- Involves momentary observation of a cross-section through society or many different groups of society over a short period of time¹¹
- Not popular in the 80s

- Göpferich uses momentary studies in her research, momentary studies have been more common in scientific research than longitudinal studies¹¹
- Examples: questionnaire, interviews

1 Kiraly, Donald C.: Pathways to Translation. Pedagogy and Process. Kent: Kent State University Press, 1995.

2 <http://www.uxbooth.com/articles/a-brief-history-of-eye-tracking/>

3 Saldanha, Gabriela; O'Brien, Sharon: Research Methodologies in Translation Studies. London: Routledge, 2014.

4 <http://www.spywareloop.com/news/keystroke-logging>

5 Saldanha, Gabriela. O'Brien, Sharon (2014): Research Methodologies in Translation Studies. New York: Routledge.

6 <http://www.inputlog.net/publications.html>

7 http://www.theregister.co.uk/2000/12/06/mafia_trial_to_test_fbi/

8 <http://keyghost.com/>

9 Mariëlle Leijten (2000): Keystroke Logging in Writing Research. Using Inputlog to Analyze and Visualize Writing Processes. Antwerp, Belgium.

10 Yagi, Sane M. Al-Salman, Saleh (2000): Using tracking software for writing instruction

<https://repozytorium.amu.edu.pl/bitstream/10593/2136/3/SSLLT%201%282%29%20209225%20Yagi.Al-Salman.pdf>

11 Göpferich, Susanne: Translationsprozessforschung. Stand, Methoden, Perspektive. Tübingen: Gunter Narr Verlag, 2008.