

Methods for capturing ‘self-repair’ in computer-based L2 interactions

What this research was about and why it is important

This study compared the effectiveness of screen captures (recordings of all typing activity) and printed chat logs (records of all posted messages) for identifying learners’ self-repairs (i.e., self-corrections) during computer-based, written, collaborative tasks to learn second language (L2) German. The results showed that screen captures revealed many self-repairs undetectable by the chat log method, suggesting that researchers should consider abandoning chat logs (in favour of screen captures) for investigating computer-based interactions in general.

What the researchers did

- **Participants** – 46 American (first language English) learners of L2 German, from novice-to-high proficiency (by the [ACTFL exam](#)), who were undergraduates at a US university. Learners met for six 1-hour sessions, once every two weeks in a computer lab. For each session, learners were randomly allocated into pairs, each pair with one **learner A** and one **learner B**, who sat in different parts of the room (i.e., could not see one another’s screens).
- **Materials – Four video-based tasks: Learner A** watched a 2-minute video clip (with headphones) taken from the course book DVD and connected to the assigned course content for that week. **Learner B** studied eight randomly arranged stills from the video. Pairs collaborated (in German) via the chat function in Blackboard to describe their materials and tried to agree on the correct order of **learner B**’s images. **Two additional tasks:** Learners A and B each described three out-of-sequence pictures to one another to form a logical story.
- **Self-repair detection methods** – (1) **Camtasia screen capture** recorded all typing/screen activity (e.g., ‘~~ist~~ hat auch’ where ‘ist’ is typed but deleted before posting); (2) **Blackboard printed transcript chat log** saved all posted messages.
- **Data analysis** – Involved ‘overt’ self-repairs (appearing in both chat logs and screen capture transcripts) and ‘covert’ repairs (detectable in screen capture transcripts only). German noun capitalization repairs were counted as data, but spelling repairs were not. In order to allow for comparison, only data from eight learners, who made self-repairs in both chat logs *and* screen capture transcripts, were analysed
- **Types of self-repair** – (1) **Error:** *lexical* = wrong word replaced with correct word; *morphological* = wrong part of word corrected; *syntactic* = grammatical construction corrected; (2) **Appropriateness:** *lexical* = word replaced by better (e.g., more precise) one; *syntactic* = learner chooses more appropriate grammatical construction; *insertion* = learner repeats words and adds more in; (3) **Different** = learner interrupts message with a new topic; (4) **Rest** = all other types.

What the researchers found

- Camtasia screen capture showed more self-repairs than Blackboard chat logs (6% vs less than 1% of words typed).
- There were many ‘covert’ repairs (i.e., those detected by Camtasia, but not chat log).
- Grammatical repairs tended to be more common than lexical repairs (see above).
- Errors were more commonly repaired than appropriateness issues (see above).

Things to consider

- This study demonstrated why screen captures are preferable to chat logs for studying computer-based interactions.
- The researcher acknowledged several possible limitations, which further studies might address: (1) the eventual data analysed came from only eight learners, so may not be generalisable; (2) the fact that learners knew who their partner was may have affected their repair behaviour; (3) tasks were not identical from session to session, and so may have encouraged different types (and amounts) of repairs.
- Future research might also explore how self-repairs are affected by how ‘communicative’ the classroom is, the first language of learners, and features of the computer-based medium itself (e.g., being able to scroll back through the chat).
- **In your context:** To what extent do you use computers as a tool for teaching/learning? What methods do you use to understand learners’ self-repairs? How might you use screen capture software such as Camtasia to help better understand learners’ self-repairs?