

The Whiteboard Presentation

A format that makes understanding visible: explain, draw, defend

BENJAMIN EMMENEGGER

Lecturer, Lucerne University of Applied Sciences and Arts – Computer Science

I. WHAT IT IS

THE WHITEBOARD PRESENTATION is an oral presentation without slides. The presenter develops their methodology or process live on the board, with a single pen, and then defends the drawing in a question round. The aim is simple: we want to see that someone understands what it is about. Not that someone can prepare something pretty.

II. THE RULES

1. No slides, no images, no prepared graphics.
2. A cheat sheet with at most five keywords. Nothing to read out.
3. Everything visual is created live: processes, schemas, simple graphs, orders of magnitude and quantities.
4. The board holds abbreviations, numbers and arrows, no words written out. The picture only makes sense together with the spoken word; anyone who was not present will hardly understand it afterwards.
5. Time is short and fixed, typically ten minutes.
6. Questions follow. They are part of the format.

III. ORIGINS

The format is not new. In American faculty searches, especially in the life sciences, the *chalk talk* is standard: candidates sketch their future research programme on the board without slides and are questioned throughout. Snapp (2019) describes it as a sales pitch, a teaching demonstration and a barrage of questions at once, and as arguably the most important part of the faculty interview. In the software industry, the *whiteboard interview* is a common selection tool (Behroozi et al., 2020). The oral examination itself is an established, multidimensional form of assessment in higher education (Joughin, 1998).

IV. WHY IT WORKS

Real time instead of product. A submitted artefact says little about who understood it. Someone who draws live and responds to follow-up questions shows their own understanding directly. Oral and authentic formats are therefore considered less susceptible to cheating, provided they are well designed (Nallaya et al., 2024; Sotiriadou et al., 2020).

Drawing is thinking. Anyone who draws a structure themselves has to make relationships explicit: what follows from what, what depends on what, how large is what? As a

learning strategy, learner-generated drawing is well studied; its effect, however, depends on the task and the guidance (Fiorella and Mayer, 2016; cf. Ainsworth et al., 2011).

Structure becomes testable. Gaps show immediately: an arrow pointing nowhere, a step without justification, a number without reference.

Not knowing may become visible. “My method does not show that” is a good answer in the question round.

V. STATE OF THE EVIDENCE

Established: the validity, reliability and protection against cheating of oral assessments depend on whether they are well designed, scaffolded and implemented. This is shown by a systematic review of 17 studies (Nallaya et al., 2024). Learner-generated drawing is well studied as a learning strategy (Fiorella and Mayer, 2016).

Not established: drawing as an assessed performance, i.e. whether a board drawing validly represents understanding. Studies on the combination of live drawing and oral defence are likewise lacking. The effect is plausible, but remains an assumption.

VI. LIMITATIONS

Drawing skill is not understanding: what is assessed is whether the drawing carries the argument, not whether it is pretty. The format creates pressure. In a study of software engineering job interviews, candidates performed considerably worse at the whiteboard under observation than in a private setting (Behroozi et al., 2020); whether this transfers to assessment is open. Reasonable adjustments are therefore needed, for instance for motor impairments or test anxiety, as well as two assessors with a shared, pre-calibrated rubric. The format is also synchronous and staff-intensive.

VII. WHAT A BOARD DRAWING CAN LOOK LIKE

The three sketches show typical basic forms: a process, a quantity, and an actor and time schema. They are deliberately sparse. Only the explanation turns “4 Crit, n=5” or “-25 %” into a statement.

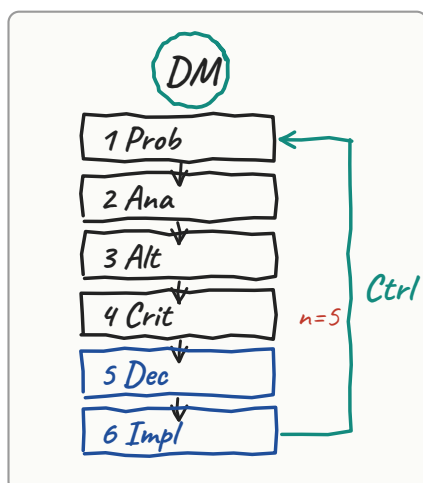


Fig. 1. Process: numbered steps, feedback as a loop.

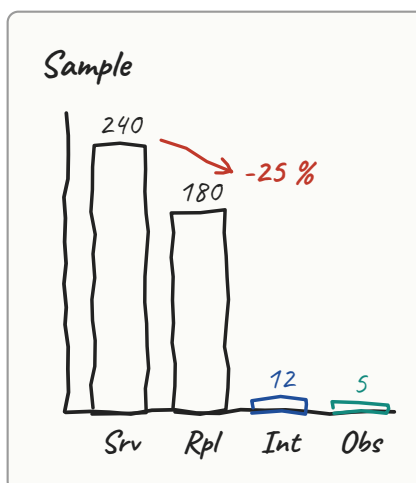


Fig. 2. Quantities: orders of magnitude as bars, change as a number.

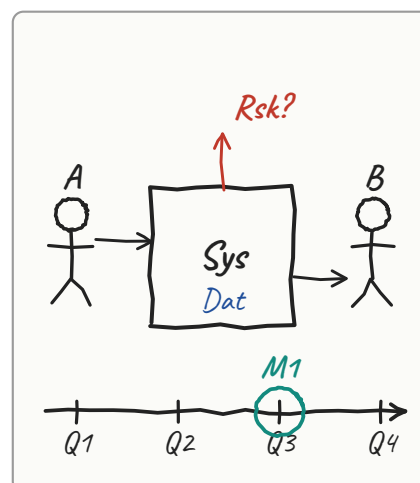


Fig. 3. Actors, system and timeline with milestone.

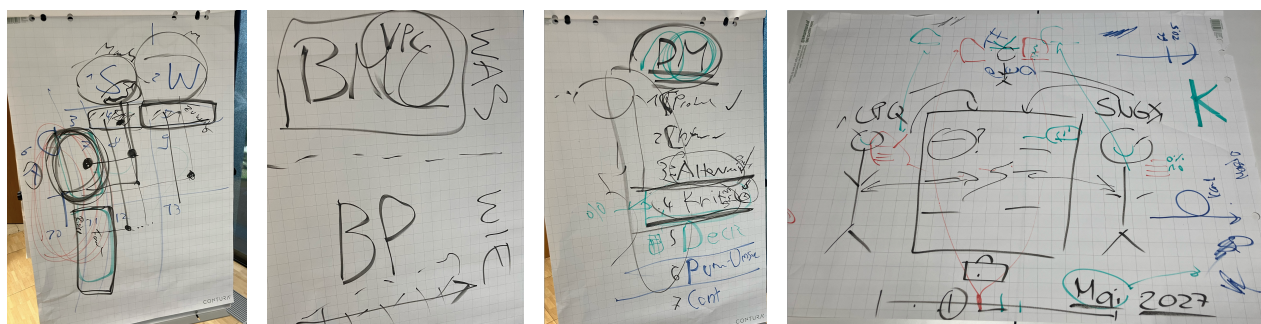


Fig. 4. The author's own board drawings from class (CONS). Abbreviations, numbers, circles, arrows and colours carry the structure; without the talk they remain largely unintelligible. That is exactly the point.

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