| | Concepts/ Theory | Tools/Practices | How are these ideas/tools used in the Carpentries? |
|---|---|---|---|
| **How learning works** | novice → competent practioner → expert<br><br>mental model<br><br>blind spot<br><br>short + long term memory<br>cognitive load | formative assessment — mcQ<br><br>feedback — one up, one down<br>→ sticky notes<br><br>peer instruction<br><br>live coding    concept maps<br>going slow | • learners are usually novices — need mental model<br><br>• use code-along<br><br>• exercises throughout (formative assessment)<br><br>• collect feedback |
| **Learning environment** | motivation/demotivation<br><br>mindset<br><br>accessibility | "just"<br>code of conduct<br>error framing<br>lifelong learning<br>— accessibility | • draw attention to and use code of conduct<br><br>• use positive lang, no "just"!<br><br>• help frame errors as learning |
| **Learning to teach** | skill, not innate | feedback<br>lesson study<br>use ed research | • research-based instructor training<br>• feedback in workshops |