

Best Empirical & Conceptual Work

Christopher Nemeth – great, thank you, other thoughts. Very good, thanks; let's move on then to our next, Best conceptual work. Dick would you like to proceed?

Dick Pew – sure, ah, I lump together the best conceptual work and the best empirical research. In this case one of the beauties of it is that they go together. Ah, this is the work of Bill Maris, ah, you've seen him around here ah, he, he has been working for many years on the occupational health of the lower back. His work is conceptually elegant. His empirical instrumentation and methodology for studying the lower back are extremely original and valuable and his practical conclusions are instructive and useful. He follows this process all the way through and I think one of the most effective ways. And I've given you a reference

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Christopher Nemeth – right, it's on the readings list

Dick Pew – I've given him a couple references to the work

Christopher Nemeth – thank you for that. And David Woods has this to share. Ah, regarding the best conceptual work. The basic ideas that everyone sort of knows, but are rarely if ever written down. Workload triage, which I picked up hanging around people like Dick and Tom twenty-five years ago. I wrote it down in our new book which should guarantee the concepts continue to languish in obscurity. Remember these are David Woods' words. Other thoughts about best conceptual work from members of the audience?...All righty, let's move on then to best empirical research and Dick already has a leg up on this one, would you like to mention anything more about Maris?

Dick Pew – no,

Christopher Nemeth – all righty. And Emilie has some thoughts

Emilie Roth – Sure, um, you know, like, like Peter there obviously is no one study that's the best empirical work, but I, I sort of wanted to give an example of a study, set of studies actually that were really useful to my work, and it happens that sort of way, so, so studies that manage to combine rigorous experimental methods and computational modeling in this particular case, but simultaneously are careful in mapping the phenomena of relevance to real world problems and those make it easy to generalize to real world problems, often times empirical studies are really well controlled but when you're done you hesitate, the mapping isn't sufficient so you hesitate to generalize to the world and that's the, the big deal. Um, so there was some wonderful work done by Mike Byrne and I don't actually, Bovair, I'm not sure what her first name is, Susan Bovair? but, but Mike Byrne and um, some follow-up studies, the original one was in cognitive science and what they looked at were post completion errors, so the kinds of errors that happen if you put a piece of paper in a copier and you make a copy ah, and then you take out the copy and you leave the original in, or you put your credit card in a machine to get money and you take your money and you leave the, the bank card in. Those are critical problems because they happen in important world situations for example I worry about a railroad, you turn a switch in order to move your train in a particular direction. You move your train and you go on and you forget to turn the switch back and the next train that comes through has an accident. Ah, so whose completion errors are really a big deal and Mike Byrne in a series of studies was not only able to recreate those types of errors in a novel situation, to model it in such a way as to show what aspects of um, mental processing and work load contribute to those errors, um, but also to show the conditions

under which they both arise and the conditions under which they can be mitigated and most importantly the things that will not work for example it doesn't help when people make post completion errors to warn them about them or penalize them when they make them, that doesn't change things, so when I have to explain to the FRA how they have to deal with post completion errors in switchture it really was useful to have that

Christopher Nemeth - FRA being the Federal Railroad Administration, right?

Emilie Roth – Yes

Christopher Nemeth – thank you. Other thoughts about the best empirical research you've ever experienced. Yes...

Audience Member - I'm actually, I'm Jim (inaud) – Seattle, I'm interested in hearing from students in the room, who are the future leaders, given your course work so far what do you think is the most, best empirical research (inaud)

Christopher Nemeth – any students like to respond to Jim's invitation?

Audience Member - or threat.

Christopher Nemeth – or is it all so good that it's hard to choose? Fair enough, okay, maybe that says something about the state of the art, I don't know.

(laughter)...