

# Collaborative Learning in Geographically Distributed and In-person Groups

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# WWW Learning

# Wild Wild West Learning

# Learner as *Bricoleur*\*

\* Lévi-Strauss (1966)

Too optimistic

# Self-directed Autodidacts

# Guidance

Where?



# Student-to-Teacher Ratio

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# Collaborative Learning

# Group Projects

# Group Formation

*Laissez-faire*

# Interventionist



How should we form and guide groups?

# Geographically Distributed

# Computer-mediated Communication

In-person

# Face-to-Face Communication

# Better experience with FtF\*

\* Ocker & Yaverbaum (1999)

More expressive (richer) medium

Found no learning difference\*

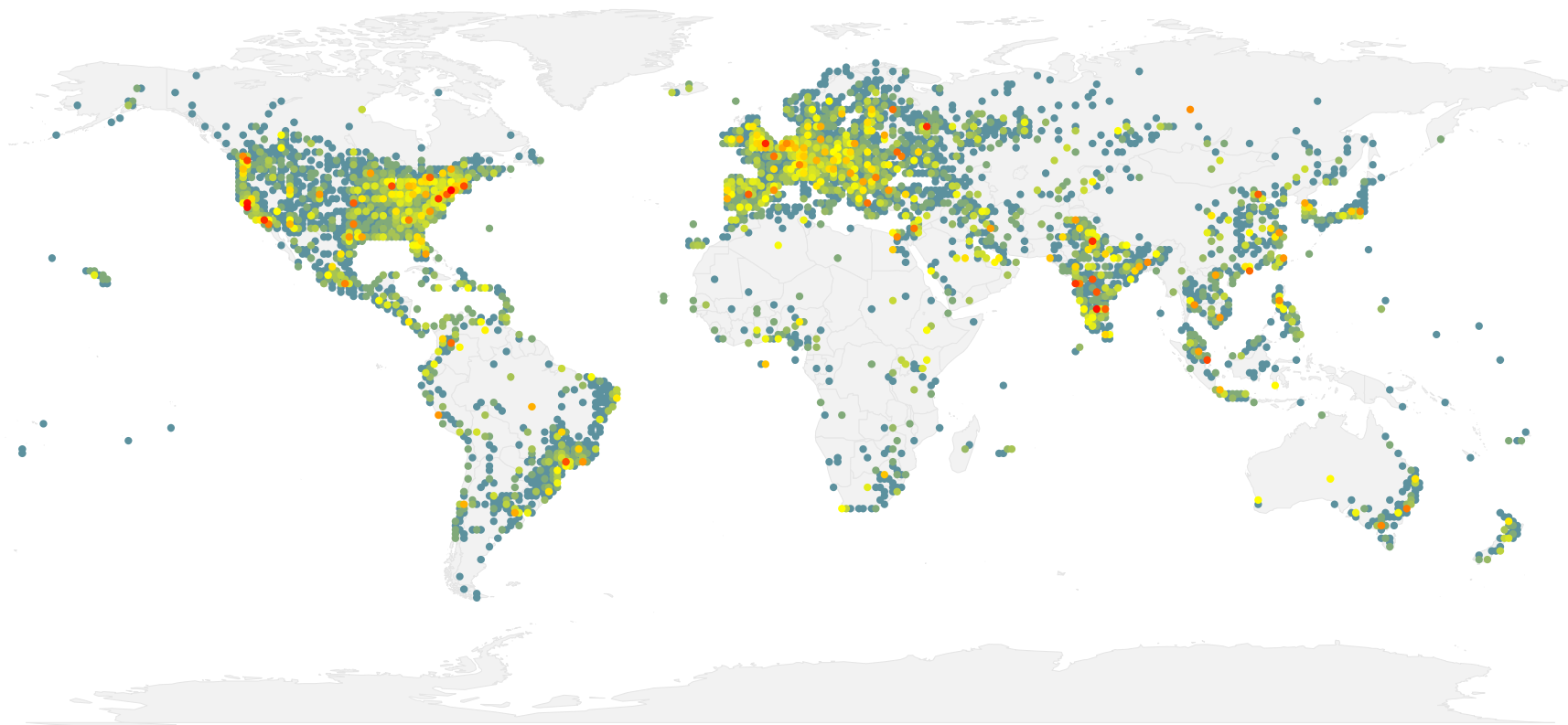
\* Ocker & Yaverbaum (1999), Francescato et al. (2006)



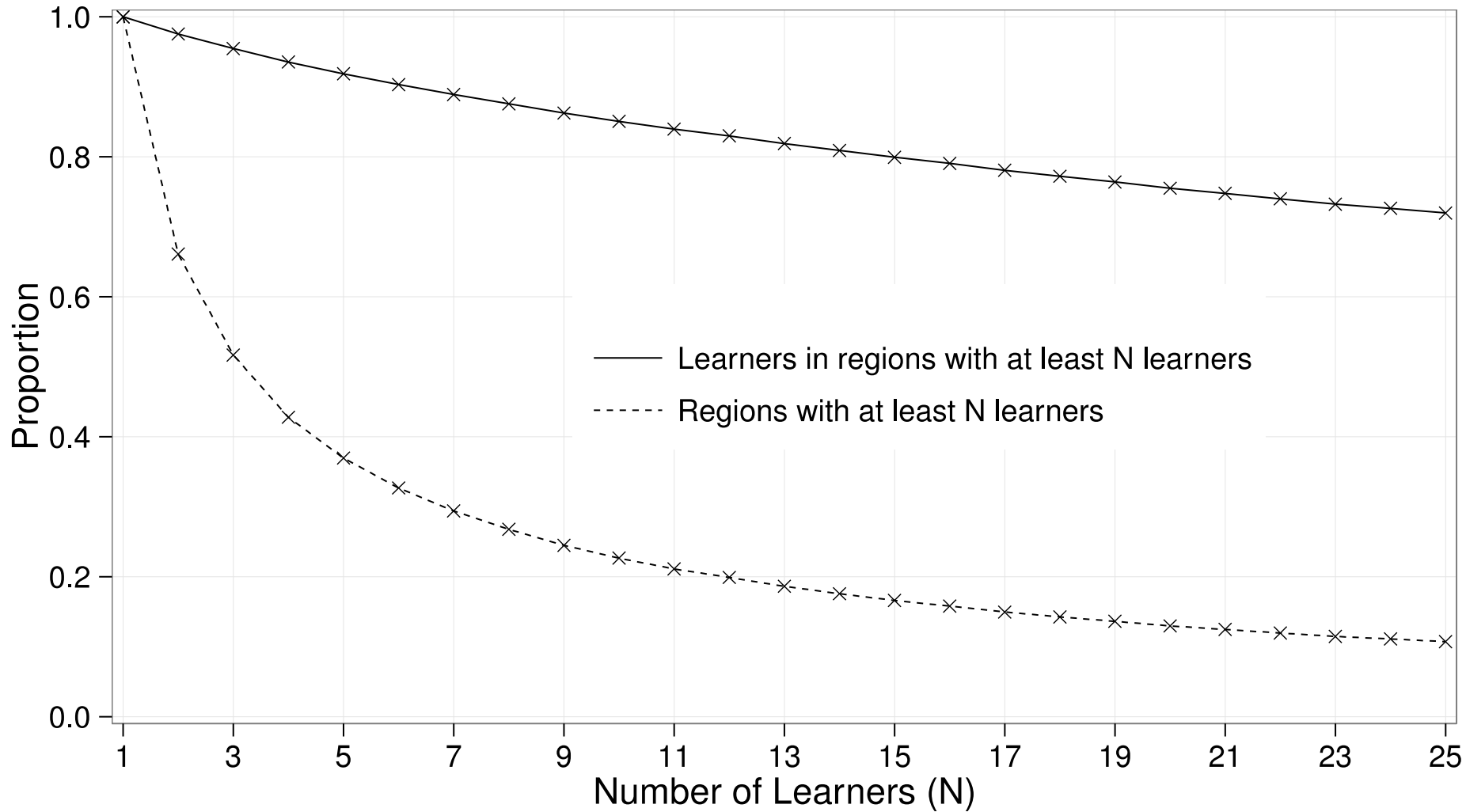
But wait ...

... is in-person collaboration possible?

# Data from 21 MOOCs



Enough fellow learners nearby?



In-person collaboration possible?

Yes, mostly



# Literature

Group's diversity of views

more important than

Individual excellence\*

Diversity in views

increases with

geographical distance

# Assign Distributed Groups?

# Major Cities

# Collective Intelligence\*

\* Woolley et al. (2010)



# Not Average or Maximum Individual Intelligence\*

\* Woolley et al. (2010)

# Proportion of Females

## Distribution of Conversational Turn-taking\*

\* Woolley et al. (2010)



Gender can be assigned

Conversational dynamics only influenced  
indirectly

# Written Guidelines on turn-taking

# Chess Clocks

# Process indicators matter\*

\* Barron (2003)

Listening to proposals is predictive of  
collaboration success\*

\* Barron (2003)



But not individual's prior achievement\*

\* Barron (2003)

# Guide collaboration to encourage rich interactions\*

\* Dillenbourg et al. (2002)

E.g. note-taking templates



Guidance depends on collaboration medium

FtF more expressive than CMC

# Augmented CMC

# Mutual Awareness\*

\* Goldman et al. (2007)

# Guidance on technological tools

# Research Directions

# Randomized Controlled Experiments

# Causal effects



# Independent Variables

# Group Formation

# Group Guidance

# Perceived Assignment (framing effect)

# Dependent Variables

# Performance

(grades and perceived learning)

# Collaboration Quality\*

\* Meier et al. (2007)

# Members' Experience



Collaborated in-person?

# Perceived Group Diversity (mediator)

A potential design:

# 1. Small group in-person

## 2. Continue collaboration distributed

Empower learners to become *bricoleurs*

# Thank you

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