Boosting Engagement in Online Collaborative Learning via Interpersonal Feedback

by Beth Porter
Founder/CEO, Riff Analytics & Esme Learning Solutions
Adjunct Professor, IT, Questrom School of Business
Online and virtual courses often fail to engage

- Online and virtual courses often lack social collaborative spaces to engage learners
- Group work suffers from poor meeting etiquette when learners are on mute with no video
- New modalities are needed to connect learners and foster healthy online interactions
Why is online collaboration so hard?

- Close physical proximity
- Profuse amounts of eye contact
- Physical touch (handshakes, fist bumps, hugs)
- Lots of short, energetic exchanges (no long speeches)
- High levels of mixing; everyone talks to everyone
- Humor, laughter
- Small, attentive courtesies (thank-yous, opening doors, etc.)
- Few interruptions • Lots of questions • Intensive, active listening
Interpersonal dynamics are hard to measure

Most of us have an **intuitive understanding** of when people have a good or poor rapport or when a team is effective or ineffective.

BUT! these patterns are **hard to observe and measure**:

- All the time
- When you’re actively participating
- At scale!
Dynamic, real-time feedback

Our research (at MIT and under our NSF SBIR grant*) shows that real-time intervention during conversations:

- **Changes behaviors** over time (especially dominant/passive people)

- Has a **positive effect on social presence** and feelings of belonging

- Effects speaking time and interactivity level **without being distracting**

* "A Platform for AI-Enabled Real-Time Feedback to Promote Digital Collaboration"
Individual and team insights

Team-oriented data

These views show how balanced conversations are — who is dominant and who is passive?

They also reveal which pairwise interactions are the strongest and weakest — who influences you the most and who are you most influenced by?
Increasing self and situational awareness

You can ask questions like:

- Are my one-on-one and team interactions successful?
- What are my individual tendencies and biases when it comes to interactions?
- What can I do to improve my dynamics with others?
- **What are my strengths, weaknesses and responsibilities when it comes to interactions?**
Direct measurement of the number, rate, and spread of text chats — a network view of the learning community — allows learners to observe and reflect on their connectedness.
Real-time interaction feedback *reveals human signals* that may be otherwise hard to detect.

Automation and AI allows these signals to be collected *passively, consistently, and at scale*.

*Data provided directly to participants* prevents them from being “weaponized”
Our study showed that learners who used the Riff Platform for live interactions (video chat) were:

- More likely to persist in the course
- More likely to perform better on individual and group assessments *

* “Assessing the Effectiveness of Using Live Interactions and Feedback to Increase Engagement in Online Learning”
Driving engagement in online courses

The platform was designed to foster virtual engagement — and has been shown to increase each dimension of the golden triangle of course success.

It provides new tools for course developers and instructors to offering online experiences more likely to capture and keep learner interest.
Advancing the state of the art

Additional sensing (Emotion, Gesture and Sentiment) reveals non-verbal patterns, such as “affinities” — a measure of how well people relate to and interact with one another through their expressions and words.

Here we see shared emotional states...
Thank you!

Beth Porter
beth@riffanalytics.ai
beth@esmelearning.com
ebporter@bu.edu
+1 617 340 9993