

# Scaling Dialogic Peer Feedback via Learning Analytics and Scripts

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**Abstract:** Dialogic peer feedback is a challenge to design and implement when learning takes place at scale. For proper implementation of dialogic feedback among large learning cohorts, peers' interactions and learning activities need to be framed and systematized within a solid theoretical perspective. This paper presents a theoretical model of dialogic peer feedback, consisting of three interconnected phases. This model incorporates learning analytics and scripts to support individual and collaborative regulatory processes involved in each phase.

## Introduction

Peer review has been a common approach to scale feedback among large learning cohorts. However, the way it is practiced offers limited potential for learning. Students often receive peers' feedback after they move to a different task (Carless, 2006), and the feedback process lacks follow-up interactions, which are crucial to understanding the feedback (Stahl, Koschmann, & Suthers, 2006). In the last years, the dialogic view on feedback has been favoured (Yang & Carless, 2013). When conceptualized as a dialogic process, peer feedback is conceived as a collaborative learning activity during which students reflect on the feedback received, construct and negotiate meaning with peers, and reach joint conclusions (Filius et al., 2018). Although literature notes significant learning gains when dialogue is part of feedback process, dialogic peer feedback is a challenge to design and implement when learning takes place at scale. This paper presents a theoretical model of dialogic peer feedback. This model identifies regulatory processes that students should undertake (collectively and individually) and recognizes the affordances of learning analytics and scripts to support these processes and to create scalable feedback practices.

## Background

Dialogue can elevate the power of feedback (Carless, 2016). However, most feedback practices in the literature consider instructors' active engagement in dialogue, which is unlikely in large contexts. Initiating and continuing dialogue with every student and addressing their distinct learning needs is infeasible for instructors who teach large enrolment classes. One approach to mitigate this issue is to involve peers in dialogic feedback. Indeed, large learning settings of higher education offer desirable conditions for dialogic peer feedback. Large learning cohorts, who are considered a barrier to scaling (instructor-centred) dialogic feedback (Nicol & Macfarlane-Dick, 2006), indeed are the necessary source to leverage for initiating dialogic interactions.

For dialogic feedback to function effectively among large learning cohorts, peers' interactions and learning activities need to be framed and systematized within a solid theoretical perspective. The literature is limited primarily to a very basic conceptualization of dialogic feedback as talking with peers to understand their feedback. To the best of our knowledge, there are no theoretical models that conceptualizes dialogic peer feedback in a way that can scale to large learning cohorts in today's higher education context. In the following section, we present a model of dialogic peer feedback to help formulate scalable feedback practices.

## A Model of Dialogic Peer Feedback

We present a model of dialogic peer feedback in Figure 1, targeting large scale online or blended learning environments. Three interconnected phases are suggested in the model. First phase involves negotiation and coordination of feedback provision, during which peers providing feedback work together to plan and coordinate their activities. The second phase refers literally to the dialogue component of the dialogic feedback, which has been the main focus of the literature. In this phase, based on their shared plan, peers provide feedback and engage in dialogue with the student to support the uptake of the feedback. The third phase refers to the translation of the feedback into task progress by the recipient student. In particular, the student engages in the task based on the plan derived from peer feedback and progress toward the learning goals set.

Each of these phases involves different levels of regulated learning. The first phase involves the peers' socially shared regulation of learning (SSRL) to negotiate the feedback activities (Hadwin, Järvelä, & Miller, 2011); the second phase involves co-regulation of learning (CoRL) as peers intend to guide students' regulation of learning (Hadwin, Oshige, Gress, & Winne, 2010); and, the last phase involves students' self-regulation of their learning (SRL) (Winne & Hadwin, 1998). Scripting support is integrated to guide students' SSRL (in the first phase) and CoRL (in the second phase) activities and to shape their interactions with each other. Learning

analytics support is integrated to assist students in monitoring and evaluating their individual and collective progress based on certain standards. Based on their evaluations, students can make adaptations in their task perceptions, goals, and strategies.

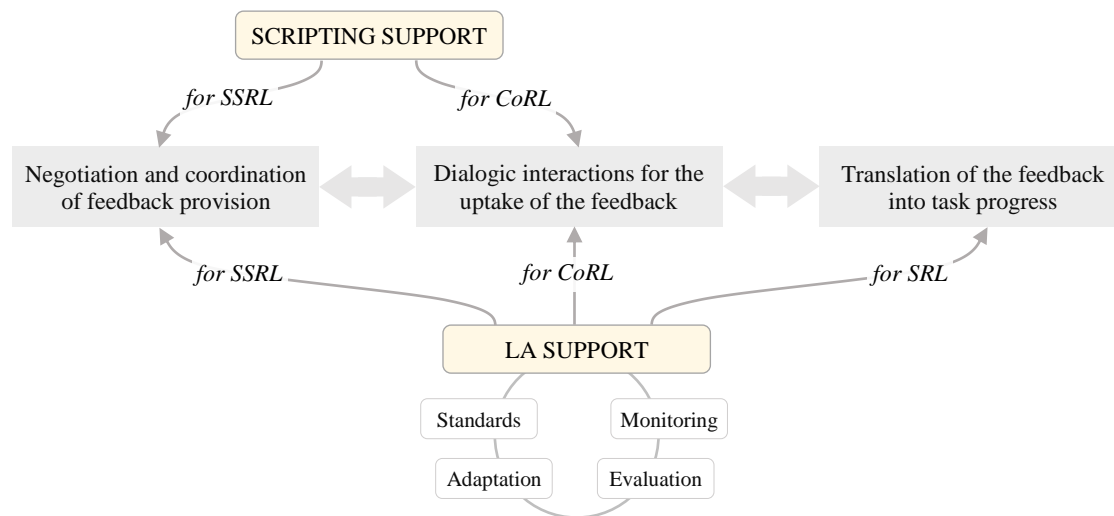


Figure 1. A model of dialogic peer feedback

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