

The influence of peer feedback on students' academic writing: A meta-analysis (0106)

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Abstract

Academic writing tasks are an integral part of courses in the higher education context, and peer feedback is regularly implemented in relation to such writing tasks. Large groups of students, and increasingly available and practically useful digital tools, might very well contribute to a continuation (or even increase) of the application of peer feedback on academic writing tasks. Currently, however, an up-to-date overview of the effects of peer feedback on students' academic writing performance is missing. The current meta-analysis specifically focuses on the effects of peer feedback on higher education students' performance on academic writing tasks. By providing an overview of empirical findings, and by framing these in terms of key design variables for peer feedback processes, this meta-analysis aims to support higher education professionals with the implementation of peer feedback and identifies opportunities for future research.

Theoretical framework

Academic writing tasks often are an integral part of courses in the higher education context, and peer feedback is regularly implemented in relation to such writing tasks. Moreover, it seems plausible to expect a stable or increasing frequency with which peer feedback is implemented. Not only because higher education courses often include large groups of students, also because digital tools facilitating peer feedback processes are increasingly

available and user friendly. Several review studies have been published in the context of peer feedback or peer assessment, such as the extensive review by [Topping \(1998\)](#), the review and meta-analysis by [Falchikov and Goldfinch \(2000\)](#) comparing marks by students and teachers, the review by [van Gennip, Segers, and Tillema \(2009\)](#) on peer assessment adopting an interpersonal perspective, and the inventory of peer assessment diversity by [Gielen, Dochy, and Onghena \(2011\)](#). Among these reviews, however, only a subsection of the review by [Topping \(1998\)](#) specifically focuses on peer feedback/-assessment on academic writing tasks in the higher education context. Therefore, an up-to-date meta-analysis on peer feedback on writing in the higher education context seems warranted, for two reasons. First, the number of studies investigating this issue has increased in the two decades after Topping's (1998) review. Second, it seems plausible to expect that, as the number of studies increased, also the variety in research methodologies, higher education contexts (domains/disciplines), and investigated variables ([Gielen et al., 2011](#)) has increased. The authors believe that this increased number of studies and the potential of more variety between studies warrants the need to update our knowledge on the effects of peer feedback on writing in the higher education context. This meta-analysis provides an overview of the empirical findings in the higher education literature, and frames these findings in terms of key design variables for peer feedback processes ([Gielen et al., 2011](#)). In doing so, this study contributes to our knowledge on the effects of peer feedback on academic writing, identifies opportunities for future research, and aims to inform and support higher education professionals with respect to the implementation of peer feedback.

Research question: "What is the influence of peer feedback on higher education students' academic writing performance?"

Methods

Search terms and databases. Search terms were formulated and validated through two complementary, iterative steps. Experts were consulted to identify relevant publications and authors. Additionally, the search terms used by prior reviews on peer feedback or peer assessment, and reviews on (academic) writing were indexed. This resulted in several search terms for the independent variable *peer feedback* (e.g. “peer feedback”, “peer assessment”, “peer evaluation”) and for the dependent variable *academic writing* (e.g. “writing skills”, “writing proficiency”, “writing performance”). Since the inclusion of search terms for the *higher education* context resulted in undesirable exclusion of publications, these were not included in the search criteria and, titles and abstracts were manually scanned with respect to this contextual variable. Two digital databases were consulted: Web of Science and EBSCOhost (including Academic Search Premier, ERIC, PsychARTICLES, PsycINFO, and Psychology and Behavioral Sciences).

Inclusion criteria. Publications were included from 1998 onwards, following up on the often-cited review by [Topping \(1998\)](#). Peer reviewed articles, dissertations, books and book chapters all were considered for inclusion. Further, publications were eligible for inclusion when peer feedback was discussed from a formative perspective, or served a formative function, *in relation to* academic writing, in the higher education context. Focusing on empirical articles, this, amongst others, means that a) participants had the opportunity to use the feedback to improve their writing, and b) effects of peer feedback on writing were quantitatively measured and attributable to the peer feedback process.

Coding scheme. In order to allow for a more in-depth analysis of the effects of peer feedback on academic writing, the included publications were coded in terms of the clustered variables proposed by [Gielen et al. \(2011\)](#). Among others, these concern the decisions concerning the use of peer feedback (Cluster 1: e.g., summative of formative

function?), the composition of feedback groups (Cluster 4: e.g., how students are matched), and the management of the feedback procedure (Cluster 5: e.g., to what extent students are trained or guided).

Search results and initial selection. The combination of search terms resulted in 1083 initial hits. A first selection based on titles and abstracts resulted in 287 unique, potentially relevant publications. This selection consisted of 251 peer reviewed articles, 17 dissertations, 10 books or book chapters, and 9 research reports.

Inclusion and coding. The selection and coding of publications is done in two separate steps and by two judges (authors one and two). In step one, inclusion is decided upon based on the above mentioned inclusion criteria, including whether quantitative measures of writing were reported, whether there was a pretest *and* posttest to measure writing improvements, and whether these outcomes could be attributed to peer feedback. Based on a random subset (20%) of the initially selected publications, agreement on inclusion is determined between the two judges. Publications for which any of the two judges remains indecisive or uncertain are decided upon after team-based consultation. In step two, the included publications are coded in terms of the clustered variables proposed by [Gielen et al. \(2011\)](#). Agreement between the two judges is based on a second random subset of 20%, with uncertainties again being concluded through team-based consultation.

Expected results and topics for discussion.

Based on the review by [Topping \(1998\)](#), it is expected that peer feedback generally has a positive impact on students' academic writing performance. Moreover, the adopted theoretical framework ([clustered variables proposed by Gielen et al., 2011](#)) allows for specific comparisons of particular groups/studies. For example, regarding differences in the extent to which students were trained or guided with respect to the peer feedback procedure, we

expect that student preparation and guidance have a positive impact on students' writing performance ([e.g., Sluismans, Brand-Gruwel, van Merriënboer, & Martens, 2004](#)). The authors would like to discuss the theoretical perspective chosen to frame the results and the interpretation of the results.

Referenties

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