

Researching Feedback: Mixed-Methods Research

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Mixed-methods research are sometimes used to explore feedback effectiveness, though not nearly as much as quantitative methods. Mixed methods help expand the array of topics and perspectives explored. Generalizability continues to be a weakness of mixed-methods research.

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The Known Usefulness of Feedback

Since the earlier days of Second Language Acquisition (SLA) research, “there [has been] consensus that feedback can play an important role in helping second language learners ‘to confirm, disconfirm, and possibly modify the hypothetical, transitional rules of their developing grammars’ (Chaudron, 1988, p.134)” (Henshaw, 2011, p.85). Theoretical perspectives used to study feedback include skill acquisition theory as well as cognitive-interactionist and sociocultural orientations; they all propose that feedback is useful and necessary for second language (L2) development (Ellis, 2008; Lyster, 2015; Bitchener & Ferris, 2012). The empirical evidence amounted to date suggests that feedback indeed supports SLA, particularly compared to language learning from which feedback is absent (Brown, 2021; Henshaw, 2011; Lyster, 2015; Nassaji, 2015, 2016).

Mixed-Methods Research

Mixed-methods research (MMR) seems particularly appropriate for the exploration of feedback, given the multitude of variables that need to be understood and the constant evolution of contexts in which feedback can occur. Mixed methods are credited with the merit that they

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reveal insights we would not otherwise get from single-method, either quantitative (QUAN) or qualitative (QUAL), studies. It is from the blend of quantitative and qualitative methods that we glean insights not only about the quantitative preponderance of a phenomenon but also about the deeper motivations, perceptions, and particularities associated with that phenomenon and the population in which it is studied. MMR as a “third methodological movement” (Tashakkori & Teddie, 2003, p.4) “aims to bridge the poles of positivism and constructivism (Johnson & Onwuegbuzie, 2004; Hanson et al., 2005),” and “ultimately provides a more comprehensive understanding of the object of study” (Riazi & Candlin, 2014, p.136-138).

MMR is widely used in applied linguistics/language teaching and learning studies. Hashemi (2012) found that 205 (about 75%) of 273 articles published between 1995 and 2008 in seven prominent international peer-reviewed journals in applied linguistics used both quantitative and qualitative methods. Riazi and Candlin (2014) themselves reviewed 40 applied linguistics papers published in 30 journals between 2002-2011. They found that 18 (45%) of these identified themselves as MMR papers, while 22 (55%) of them identified as quantitative and qualitative papers. The authors concluded that researchers themselves need to continue to be educated about what MMR is, to not only identify it as such but also abide by its principles of integration.

Philosophically, MMR is grounded in three paradigms and has five purposes (Riazi & Candlin, 2014), as follows:

- critical realism, which contends that it is possible to systematically explain phenomena using both methods from the natural sciences and social constructivist assumptions;
- critical theory or transformative learning, whose goal is to promote greater social justice and change;

and

- pragmatism, which rejects the either-or choice between QUAN and QUAL, or positivist and constructivist paradigms, and searches for practical methods and answers that work to clarify research questions in context.

The purposes of MMR are:

- triangulation, or intentionally using more than one method to corroborate between methods, eliminate bias, and ensure validity;
- complementarity, or expanding the explanatory power of a study by using different methods to examine different levels of a phenomenon;
- development, or using results from one phase of a study to develop the next phase, sequentially;
- initiation, or concurrently or sequentially implementing a new phase of a study to uncover contradiction and recast questions or results;
- expansion, or extending the scope of inquiry by using different methods.

Mixed-Methods Research on Feedback

The current synthesis is based on an overview of research articles published in major TESOL and applied linguistics journals. I selected them based on being identified as such in several prominent syntheses, meta-analyses (Brown, 2021; Nassaji, 2016), and the bibliographic analysis by Crosthwaite et al. (2021). The following were included: *Studies in Second Language Acquisition*, *Language Learning*, the *Journal of Second Language Writing*, *TESOL Quarterly*, *Assessing Writing*, *System*, the *Computer Assisted Language Instruction Consortium (CALICO)* journal, *Computer Assisted Language Learning (CALL)*, and the *Journal of Response to Writing (JRW)*. Due to the incredible amount of research on feedback, the period covered here ranges

from 2012 to October 2022. For *JRW*, the review began in 2015, when the journal was founded. While not of similar impact as the other journals in the list, *JRW* was included on account of its exclusive focus on feedback and response. The key words used in the search for this synthesis were "feedback" and "response." Non-research pieces and those that only tangentially addressed an aspect of feedback were excluded. In the section below, I present the results of the analysis regarding the frequency of MMR feedback research articles in journals, topics, contexts, methods, and prominent findings.

Frequency of MMR Feedback Research in Journals

As shown in Table 1, most of the research on feedback in the last 10 years can be found in the journals *System*, *CALICO*, *CALL* – journals with a technology focus – followed by the *JRW* and *JSLW*. Most (46%) of the research is quantitative. Only 23% of the research on feedback consisted of MMR studies. However, some journals published a higher percentage of MMR articles. For example, 4 (57%) of the feedback articles in TQ were MMR studies although overall the journal published few articles on the topic. *JSLW* published 14 (41%) MMR feedback studies, and *CALL* 16 (36%). On the other hand, *Language Learning* published only quantitative research on feedback, while *JRW* published 29 (73%) qualitative articles and *Assessing Writing* contained 8 (50%). All in all, 59 MMR articles were included in this synthesis.

Table 1

Feedback Research Articles in Major Journals

Journal	RAs on Feedback	MMR	QUAN	QUAL
JRW	40	6 (15%)	4 (10%)	29 (73%)
TQ	7	4 (57%)	1 (14%)	2 (29%)

JSLW	34	14 (41%)	12 (35%)	8 (24%)
Assessing Writing	16	8 (50%)	4 (25%)	4 (25%)
Language Learning	11	0	11 (100%)	0
CALICO	49	6 (12%)	26 (53%)	17 (35%)
System	60	14 (23%)	38 (63%)	8 (13%)
CALL	45	16 (36%)	24 (53%)	6 (13%)
Total	262	68 (26%)	120 (46%)	74 (28%)

Topics Investigated with MMR

In the past 10 years, there has been a strong turn towards studying the use of feedback in technology-supported environments. This is consistent with the increased use of technology in the classroom and outside of it. Thus 36 (53%) of all 68 articles surveyed for this synthesis fell in the broad category of CALL. More than half of those – 19 or 28% – investigated the use of feedback through synchronous or asynchronous computer mediated communication (CMC), including in online courses (9 or 13%) or via chats (including China's WeChat) and wikis but also email in telecollaborations. Most of the CALL-related research occurred in instructional contexts, and only one investigated Mobile Assisted Language Learning (MALL). Notably, technology-oriented journals included many non-research articles on new tools being developed and piloted to provide automated, intelligent feedback; because these were primarily descriptive, they were not included in this synthesis, but the observed presence of such articles reinforces the high interest in the role technology can play in assisting learning/teaching. A prominent topic

that is likely to continue generating interest is Automated Written Evaluation (AWE): 14 (21%) MMR feedback-focused research articles studied the effectiveness of automated feedback, sometimes in comparison with teacher feedback.

After feedback in CALL, the second most prominent topic in MMR feedback research confirms continued interest in understanding peer feedback, sometimes by comparing it with teacher feedback: 22 (32%) articles investigated peer feedback in pairs or groups. Still, most MMR feedback research focused on teacher feedback; this remains, after all, at the center of the teaching and learning process.

CF was the object of 19 (28%) MMR feedback studies, while the rest were analyses of feedback in the broad sense, which includes both CF and response or comments/commentary. Nine (13%) articles studied WCF. Between AWE and CF, much feedback research remains focused on accuracy, including in MMR investigations.

As expected, MMR is used to investigate teacher and learner perception and beliefs about feedback (in 9, or 13% of, articles). Engagement with feedback was addressed in 9 (13%) MMR studies.

Occasionally, the MMR feedback studies of the past 10 years have focused on a skill other than writing. This synthesis identified 2 (3%) that focused on reading, 2 (3%) on speaking, and 2 (3%) on pronunciation. Two (3%) articles used MMR to study feedback alongside rubrics. Finally, although, MMR seems particularly appropriate for the study of various factors' effects on the use of feedback, only one article focused on individual factors and one on contextual factors. More MMR about these would be useful.

Contexts Investigated

Most MMR feedback studies were conducted in EFL contexts (40, or 59%); 18 (26%) of these occurred in China, while others were conducted in Korea, Taiwan, Iran, Turkey, and Japan. By far, most studies (56, or 82%) involved undergraduate students, mostly in English classes for non-English majors (in EFL) or English-language and first-year-writing programs. Only 2 (3%) studies focused on graduate students, and 4 (6%) on elementary and secondary levels. It is encouraging to see a rise in research conducted in EFL contexts, though a larger variety of these is still to be represented. The research might benefit from widening its scope beyond college/university level English language learning.

Methods Used

Most of the reviewed MMR studies included fewer than 20 participants; rarely did they work with 100 or more participants. A smaller group of participants makes sense in MMR, as blending in qualitative methods to explore certain questions in depth means that more research time is spent on granular analysis. In terms of study length, most MMR feedback studies identify as longitudinal, typically covering the span of a regular academic semester (about 15 weeks).

The most frequently used qualitative method in MMR was the interview, which appeared in 44 (65%) of the studies. In a related vein, 11 (16%) studies used think-aloud protocols, stimulated recall, verbal report, reflective journal, narrative, and self-reporting, respectively. These methods were used to probe student behavior, beliefs, and perceptions, while the analysis of feedback was conducted primarily through quantitative methods. Only 10 (15%) studies used field notes and transcripts from classroom observations, and one used class documents to place the use of feedback in the broader context of classroom interaction.

From among quantitative methods of data collection and analysis, 28 (41%) articles used questionnaires and surveys to explore teachers' and students' perceptions about the feedback

received, modes of delivery, effectiveness, or beliefs and practices. Some of these questionnaires or surveys included open-ended questions which were then analyzed qualitatively. Ten (15%) studies quantitatively analyzed teacher or peer feedback itself, whereby feedback types and their uptake were calculated. Teacher feedback was more frequently analyzed this way than peer feedback (in 7 (10%) studies vs. 3 (4%), respectively). Six (8%) studies used a pre-/post-test design to assess the effectiveness of the feedback offered, and one took into account the scores obtained by students on writing assignments. Course or software analytics were used in conjunction with other methods in 3 (4%) studies. Finally, one study quantified feedback-related behavior by using eye-tracking techniques.

Findings from MMR Feedback Studies

Feedback and Computer Mediated Communication

Studies find that synchronous and asynchronous CMC complement and mutually reinforce one another (Ene & Upton, 2018; Pham, 2021; Yang, 2017). Dao et al. (2021) found that synchronous CMC is more effective when coupled with video technologies, but immediate text-based chatrooms and messaging were found to be similarly effective in writing tasks (Shintani, 2015). Asynchronous forms of CMC, on the other hand, allow learners to engage in their own time, allowing learners to freely engage with feedback without the anxiety and potential embarrassment of being corrected in public (Xu & Peng, 2017), and creating spaces for reflection in between tasks (Kitade, 2013). Platform affordances, accessibility (Lyu & Lai, 2022), and familiarity – with smartphones, for example – facilitate learners' engagement with feedback (Ko, 2019; Xu & Peng, 2017).

Automated Written Evaluation

When integrated into course practice, AWE was found to enhance learners' ability to notice errors (Cotos, 2011; Wilken, 2017) and improve the overall quality of their written production (Cotos, 2011; J. Li et al., 2015; Z. Li et al., 2017), though not nearly as much as a combination of teacher feedback and AWE did (Chen & Cui, 2022; Tian & Zhou, 2020). The efficacy of AWE seems to depend on teacher beliefs about AWE (Jiang et al., 2020; J. Li et al., 2015; Tian & Zhou, 2020) as well as learner belief regarding feedback quality (Ranalli, 2021; Zhang, 2020). The literature suggests that AWE is better at assisting students with lower order concerns by enhancing noticing and improving short-term awareness (Z. Li et al., 2017), but becomes less effective without teacher feedback.

Peer Feedback

Regarding peer feedback, learners go through an initial period reluctance (Liu et al., 2021; Yu & Lee, 2016), due to factors that may be cultural, social, or connected to their and their peers' proficiency level (Allen & Katayama, 2016; L. Lee, 2010; Z. Wu, 2019). Perception can change over time (Ghahari & Sedaghat, 2018). If teachers, whose own formation ought to include training on the topic (Anson & Anson, 2017), make efforts to boost their students confidence in their writing (Yu & Lee, 2016), create comfortable spaces for learners to interact (Liu et al., 2021), educate them about feedback (Fan & Xu, 2020), and allow for additional modes of interactions to occur (Dao et al., 2021), peer feedback comes more easily and constructively (Liu et al., 2021).

Written Corrective Feedback

While some WCF focus on lower-order concerns, accuracy, and explicit knowledge of the L2 (Shintani & Ellis, 2013), a number of studies find that learners orient themselves towards specific feedback on content and organization even when given feedback on everything (Ene &

Kosobucki, 2016; Ene & Upton, 2014; Kim & Bowels, 2019; Lee et al., 2021). Learner responses to WCF are mediated by their own educational and cultural preferences and experiences (Ferris et al., 2013; Y. Han, 2018; Kılıçkaya, 2019). Contextual constraints and prior training influence teacher use of WCF (Ene & Kosobucki, 2016; I. Lee et al., 2021), sometimes leading to mismatches between beliefs and practices (Mao & Crosthwaite, 2019). Studies have identified areas where WCF can be improved; for example, direct corrective feedback does little to improve a learners' explicit knowledge without metalinguistic explanation (Shintani & Ellis, 2013), and teachers ought to constantly consider whether their WCF is relevant, clear, and motivating before delivering it (Ferris et al., 2013).

Conclusion

The usefulness of MMR lies primarily in the facts that it widens the scope of feedback research, taking the research into new and diverse directions. It also makes it possible to explore a question in depth, not only from a quantitative perspective, but also from that of the beliefs and perceptions that influence the use and effectiveness of feedback. A notable new development is the attention to technology in MMR feedback research (CMC, AWE, MALL). However, a pervasive weakness of the body of research is that the findings of MMR feedback studies are difficult to generalize, primarily due to the wide variety of feedback-related aspects studied, methods used, contexts explored, theoretical frameworks, and relatively small cohorts utilized. A lingering issue in the feedback research in general is the weak alignment between research questions, design, and theoretical frameworks used (Brown, 2021). Even definitions and nomenclatures of feedback itself can differ widely, leading to potential misinterpretations (as also signaled by Li, 2018; Lyster & Saito, 2010; Mackey & Goo, 2007; Russell & Spada, 2006). It is important for the research to strive to uphold high standards of research rigor. Considering

the valuable insights gained, however, it is important that MMR on feedback continue to be conducted so as to provide directions in which larger-scale, generalizable studies can go further.

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