Research Article

A Bibliometrics Analysis on Teacher’s Feedback Research Based on CiteSpace through Data Visualization

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Received 25 February 2022; Revised 19 March 2022; Accepted 21 March 2022; Published 12 April 2022

Academic Editor: Ahmed Farouk

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Teacher feedback has played a pivotal role in students’ foreign language learning. This article aims to gain a more comprehensive insight into the current situation and development trend of teacher feedback in core leading Chinese Academic Journal within the last decade using both CiteSpace and narrative analysis. Results show that (1) research on teacher feedback has undergone a dynamic increase in the past 10 years, with 2013 the summit; (2) research subjects have become more diversified rather than focusing only on undergraduates learning English; written and oral feedback are still two major research classifications; (3) empirical studies still dominates the field while theory exploration still employs nonempirical research. Future research should emphasize more on sustained development of authors and explore this field using more cross-discipline theories and taking multiple theoretical perspectives.

1. Preface

Feedback has been an important part in teaching and learning, be it from teachers or learner’s peers. Research on feedback has always been a hot topic. Since a more well-developed notion of student feedback literacy came up in Carless’ article in 2018 [1], how well students understand the feedback and what factors will influence students’ perception of feedback has been “under scrutiny as never before” [2]. On the contrary, less attention has been paid to the feedback giver—teachers. Carless has proposed the interplay between teacher-student feedback literacy [3]. Han discussed the influences of teacher feedback on peer feedback [4]. More articles emphasized students’ feedback literacy, using teacher feedback as one of the variables. Only a handful of research focuses on teachers and their perception of feedback, such as Boud et al. [2, 5].

Teacher feedback refers to teachers giving targeted recommendations or suggestions based on the understanding of students’ current learning so that different aspects of their learning can be improved. Although it is not the leading research topic in recent years, with the rise of research on student feedback literacy, similar attention should be given back to teacher feedback practice so as to further deepen feedback research. Therefore, it is necessary to review previous research to know what aspects have been researched more thoroughly before and what new directions can be sought in the future.

For years, Chinese researchers are trying to follow and develop international research trends. However, due to the language barrier, most research articles are published in Chinese journals. With a large number of articles providing potential research subject and data, there is a need to review important articles on this topic in Chinese and hopefully shed some light on new research directions. In view of the above, this article intends to provide a review of teacher feedback study published in Chinese core journals, summarizing the developing process and results while discussing existing problems and future prospects.

2. Theory Basis of Teacher Feedback

Teacher feedback can be divided into instant oral feedback in class and written feedback focusing on writing, each with a different theoretical basis: Typical Communication Pattern in ESL Classroom Discourse (I-R-F), Process Approach, and Output Hypothesis.
2.1. Typical Communication Pattern in ESL Classroom Discourse. Classroom discourse is the language used by both teachers and students based on their own characters and needs in classrooms. The typical pattern in this discourse is I-R-F: teacher’s questions (initiation), students’ answers (response), and teachers’ feedback (feedback) [6]. In this discourse pattern, the teacher dominates the process, controlling what to ask and what to answer; students are participants and passively engaged in the classroom activity. In this discourse pattern, teacher feedback has two characteristics: both evaluation and discourse. Its evaluative aspects focus on language quality, expecting students to pay attention to linguistic form to trigger self-correction. Its discourse aspect separates from linguistic form, focusing on the contents, which can better promote teaching contents, enrich student’s knowledge bank, and represent a natural communication in the classroom.

2.2. Process Approach. Traditional writing class often employs a product approach, eyeing the completed text. Whereas students are limited by their own linguistic ability, they cannot achieve the final text in one go so they need an external push, teacher feedback being one of the most important approaches. Writing is a dynamic process, so focusing only on the result will lead to ignoring the process [7]. During the writing process, brainstorming, planning, multiple drafting, and revising are all indispensable. Teachers can be involved in each of the steps in different forms, communicating with students about their language, contents, or strategy. Based on students’ individual characters, making sure students hold the responsibility of writing will help them improve writing quality and become better writers.

2.3. Output Hypothesis. Swain had proposed the Output Hypothesis: learners’ output can promote them using the language more fluently and accurately [8]. However, a fundamental prerequisite of this hypothesis is to consciously pay attention to the linguistic form. Confined by their own language level and cognitive ability, students cannot realize their errors by themselves. External feedback from teachers will timely provide their use to the utmost, helping students focus on errors, test their own linguistic hypothesis, and enhance their language capacity.

3. Research Method

More and more empirical studies provide research data; therefore, meta-analysis has become a rising research method for overview articles [9], and the development of technology has offered more data analyzing methods. Zhang and Lin have used CiteSpace as a tool for quantitative analysis of research articles and provided a model for using such software for bibliometrics analysis [10]. Thus, this article employs the same tool for analyzing a different research area.

Nevertheless, nonempirical studies still account for part of all research, such as theory exploration, model building, and research overview. Since a narrative overview can cover more extensive research and explore each article at a deeper level, this article also employs a narrative method.

The data used in this article come from a Chinese research database -- China National Knowledge Infrastructure (CNKI). “Teacher feedback,” “Teaching feedback” and “classroom feedback” are used as keywords, and all selected articles must meet the following requirements:

1. Journals should be core journals or CSSCI (expanded included), based on the day when the article was published.
2. Articles should include discussions on teacher feedback, and those only mentioning the topic are excluded.
3. Articles should be research-based, excluding book reviews.
4. Articles should be published between January 2011 and December 2020.

In total, 57 articles were finally chosen and coded to ease discussion, including author, publishing time, source, research topic, research subjects, and research methods.

4. Results

4.1. Publishing Time. It can be seen from Figure 1, the numbers between 2011 and 2013 are comparatively higher than the following years, with 2013 being the highest year: 19 articles were published within this year in core journals. From 2014 to 2020, the number fluctuated but remained at the low end with a total number of 20 articles, less than half of all articles selected. The rise and fall of article numbers demonstrate that this field has attracted less and less attention. New research angles or questions should be explored, or more cross-discipline research should be conducted.

4.2. Frequency of Authors. In CiteSpace author mapping, the bigger the names, the more articles this author published. The authors are also mapped based on whether they collaborated with other authors or worked independently. It can be seen from Figure 2, within the 57 articles; only Shulin YU has written three articles represented by the biggest font. All the other authors only published one article in this domain. Most authors write on their own, with only a few choosing to collaborate. This suggests that authors may not have sufficient follow-up studies and cannot provide focused research in this area. It is beneficial to have a large number of researchers on this topic, but it is against further development of this field to have very few authors persisting in this field. More collaborations are expected.

4.3. Publishing Sources. In total, 57 articles come from 34 journals, 10 of which have published two or more articles on teacher feedback. Details are presented in Figure 3.

Foreign Language World and Journal of PLA University of Foreign Language published the most articles on teacher
feedback, whereas Foreign Language Teaching and Foreign Language Education come third and fourth. This figure indicates the research on teacher feedback is mainly conducted in the foreign language teaching field. Although foreign language journals make up the majority of publishers in this field, journals from other fields also published relevant articles, such as Journal of Mathematics Education, Studies in Ideological Education, and Studies in Early Childhood Education, which shows a wide range of research topics and subjects.

4.4. Research Subjects. Divided based on their education level, most of the subjects are undergraduates, with 43 articles focusing on them. Other subjects include postgraduates (1 article), secondary education (3 articles), and preelementary and elementary education (4 articles). Most researchers are from higher education institutions, which means that undergraduates are convenient research subjects. However, students are engaged in feedback activities since they started being educated. Their experience of feedback and the environment where they receive feedback will exert an impact on how they view future feedback from teachers; therefore, it is important to further expand the range of research subjects to compare if students behave differently in different stages and possibly guide them better receive feedback.

Categorized by students’ majors, research on teacher feedback in the last decade has been focused on languages: 29 articles on undergraduate English major and 18 articles on non-English major undergraduates. These articles provide a reasonably comprehensive understanding of students’ reception of teacher feedback with different educational backgrounds. Three articles discussed relevant questions in Teaching Chinese as a Foreign Language (TCFL), and five more articles focused on how efficient teacher feedback is in mathematics, Chinese, physical education, and ideological and political lessons, showing that other majors have been paying attention to teacher feedback other than English language teaching field.

4.5. Research Keywords and Timeline View. CiteSpace provides a mapping function of the keywords of selected articles (see Figure 4) with a timeline view (see Figure 5). In the key words mapping, each node represents a keyword, and its size shows how frequently the words are used. Links between nodes represent their cooccurrence. The tighter they are clustered, the hotter the topic is [11]. As seen in Figure 4, “teacher feedback” is most frequently used as it is the research field. Other than “teacher feedback,” “teacher discourse,” “English writing,” and “Interpretation teaching” are some of the more frequent keywords.

In Figure 5, CiteSpace provides a timeline view of all the selected articles. The articles are divided into four clusters with a timeline showing when it became a hot topic. Teacher oral feedback has been a focused topic in the first half of the last decade. Interest in written feedback on English writing also started at around the same time but lasted longer than oral feedback. Interpretation teaching only enjoyed a very brief focus in 2011 and 2012. Although it is hard to tell from the figure which aspect of teacher feedback won researcher’s attention in the last five years, it can also be argued that the research interests are more varied and do not cluster together, which is a good indication that the field has been widened.

4.6. Research Questions. Teacher feedback research can be divided into the following five categories: overview, efficacy studies, comparative studies, theory/model building studies,
and cross-discipline studies. The numbers of each category and main questions are illustrated in Table 1.

Almost half of the articles chosen are concerned with efficacy studies, followed by comparative studies with 21%. Cross-discipline studies account for 12% of all studies, and theory/model building and overviews take up 9% and 4%, respectively. This indicates that efficacy and comparative studies have always been the research focus in recent years, while less attention is paid to theory exploration and cross-discipline studies still have plenty of room for development.

### 4.7. Overview Studies

Over the decade, there have been few systematic overview studies on teacher feedback. Wang and Li put their emphasis on three modes of feedback using the latest technology and discussed the convenience and challenge brought by a revolution in the feedback model [12]. Zhai started from constructivism teaching and introduced the relevant theory, the conception of conversational teaching overseas, quoting several studies to prove its significance in the classroom for inquiry learning [13]. Wang et al. reviewed domestic and international studies on oral feedback given by teachers in classrooms [9, 14]. The former article used meta-analysis to review related empirical studies, pointing out that Chinese studies in this area could be deepened and widened in their choice of research subjects and research method in intervention studies. The latter article looked back on international studies on the research topic, methods, and trends, suggesting that Chinese researchers can focus on interactions among different factors and broaden the research scope. Among the four review articles, three articles were published before 2015, and the latest article is from 5 years ago. More research has been done since then, so there is a need for a more updated review.

### 4.8. Efficacy Studies

Efficacy studies mainly refer to the efficiency and effect brought by teacher feedback in classroom activities or homework, including oral and written feedback. Different feedback approaches are discussed in their impact on students’ language ability and contents, and some research also commented on feedback skills and strategies.

In total, 14 articles investigated oral feedback, mainly on observation in the classroom about how teachers give real-time feedback or correct students’ response. Lin extracted 9 Middle school English video classes. After transcription and coding, Lin discovered that teacher’s feedback dominates classroom conversation, focusing more on linguistic form rather than contents [15]. Teng observed how college English teachers used feedback language in the classroom and transcribed what she observed--teachers had a preference for using positive feedback, and therefore she advised teachers to use different styles of feedback according to students’ performance. Some articles made a parallel comparison between different teachers [16]. Lv discussed how male teachers and female teachers differ in their choice of feedback. Female teachers prefer to give more positive feedback and wait longer for students’ responses, while male teachers tend to use more negative feedback and referential questions [17]. Wang compared how teachers give feedback in traditional classrooms and teaching competition showcases. She found that in competition showcases, teachers focus more on displaying their own teaching ability than what the students learn. Ending the turn-taking quickly means that the teacher cannot achieve meaningful communication with students, which is adverse to student’s improvement [18].

Among the 14 articles, several articles are concerned about students in primary and secondary education or classes other than English. Dong thought teachers should use more positive feedback in teaching deaf children, giving them more confidence [19]. Li et al. study the relationship between teacher’s questions and feedback, recommending teachers raise their question quality and pay more attention to students’ way of thinking rather than their correctness [20]. Liu and He explored the question and answer in ideology and politics classes in college [21]. Li and Li reflected on how teachers use feedback in Chinese classes in primary schools [22]. Students in primary and secondary education often have less or more formatted homework, which is not easy for teachers to give in-depth feedback. Classroom teaching is still the main approach for students to acquire knowledge, and teaching efficiency is teacher’s main concern. Therefore, research in these periods concentrates on classroom oral feedback, and conclusions often revolve around suggestions for teacher feedback practice and strategy.

Written teacher feedback is mainly focused on L2 writing text, and the efficacy study is about the improvement of students’ language ability and richness in contents. Yang used a qualitative case study, discovering that a certain teacher concentrated highly on students’ linguistic errors and little on text organization and contents. Even so, students still report being greatly helped in L2 writing ability and positively impacted on writing attitudes [23]. Wang and Liu studied whether teacher’s written feedback can influence how students’ texts meet assessment criteria. The study proves if students take feedback seriously and revise their text accordingly, their writings will greatly improve in language accuracy and organization [24]. Li did thorough research on teacher’s feedback script, thinking corrective feedback should be used mainly for linguistic errors, and other feedback can be used to improve writing ideas and other aspects. Students’ individual differences should also be taken into consideration so that more effective feedback can
be provided [25]. Niu and Zhang came to a similar conclusion [26]. Yu examined how teachers use Chinese as a medium for giving written feedback, providing a theoretical view on the interrelationship between teacher feedback and code-switching [27].

4.9. Comparative Studies. In total, 30% of all articles selected are concerned with comparative studies. In this area, researchers mainly compare the efficacy of teacher feedback with peer feedback or automated feedback, including how they impact L2 writing differently and how good is students’ acceptance.

Many of the comparative studies focus on students’ attitudes towards teacher feedback in comparison with other feedback modes. Ge et al. reported data on feedback acceptance [28–32]. All the above studies indicate students highly respect and accept teacher feedback, normally higher than peer and automated feedback. This can be attributed to the Chinese tradition of honoring the teacher and respecting his teaching, showing that students have full confidence in their teachers. Ge compared students’ attitudes towards accepting written and face-to-face teacher feedback. She believed that the face-to-face mode is better than the written one, using face theory to explore the difference in students’ acceptance in more detail [28]. Wang et al. thought different cognition styles will impact how well students accept different modes of feedback. Indirect feedback leads to a greater improvement in students’ writing, and field-independent students are more prone to improve with teacher feedback [32].

In this research field, some researchers also compare the efficacy of different modes of feedback on L2 writing. Wang and Liu used a control and experimental group to find teacher feedback group has a significant improvement in language quality in their final L2 writing [24]. Sheng and Yu made a comparison between online automated feedback and teacher feedback and came to the conclusion that online automated feedback can further increase students’ writing interest and improve language quality [33]. However, the research does not provide a full picture of the data, it is unclear what the teacher feedback is and if it had any impact.

![Figure 5: Timeline view of articles published on teacher feedback from 2011 to 2020.](image)

### Table 1: Categories of research topics on teacher feedback from 2011 to 2020.

<table>
<thead>
<tr>
<th>Main research question</th>
<th>Numbers</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overviews</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Efficacy studies</td>
<td>26</td>
<td>46</td>
</tr>
<tr>
<td>Comparative studies</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>Theory/model building</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Cross-discipline studies</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
<td>100</td>
</tr>
</tbody>
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Scientific Programming
on student’s writing. Bai and Wang also compared automated feedback with teacher feedback but focused more on a different angle. The article concludes that teacher feedback can bring more progress in text contents and writing as a whole; automated feedback only concerns linguistic errors [34]. Thus, teacher feedback has an irreplaceable position in improving student’s writing logic and organization. Liu compared teacher feedback only and teacher feedback plus peer feedback, thinking the latter had a better result in raising writing motivation and cultivating self-study ability [31].

In comparative studies, Yan used a delayed test of the same writing passage to explore the difference between student-initiated notice and feedback-initiated notice [35]. He concluded that only when students and teachers have an overlap in the notice, can long-term and effective improvement be achieved.

There are very few comparative studies on oral feedback. The main reason could be oral feedback is an instantaneous action and that a real-time environment is hard to replicate; therefore, it is very difficult to conduct comparable studies. Still, there are researchers who try to start from a bigger category: Lv compared the difference between genders and Wang found the difference in oral feedback in different settings [17, 18].

4.10. Theory/Model Building Studies. Not many articles have explored the theory related to teacher feedback. Yang proposed an error-correction strategy model, including participant, error types, timing, mode, and results [36]. Although this model is targeted at Interpretation class, there are still lessons to be learned by L2 writing. Qiao proposed the interaction hypothesis and communication factor in an authentic context and built an interactive spoken English teaching model, with teacher feedback as one important section [37]. Yu based his discussion on activity theory and proposed the L2 writing feedback model. The article suggests that teachers should maximize the combined effort of teacher feedback and peer feedback so that students enjoy the most improvement [38]. Hu and Zhang built an English writing feedback model and brought technological element to traditional model [39]. Huang constructed a “feedback for learning” model for vocabulary based on L2 writing vocabulary studies [40]. Further studies could refer to this paper and build relevant model for other L2 writing aspects. From the above discussion, it can be seen that future research should dig deeper into the underlying theory to form a more profound understanding and build a solid theoretical foundation for present and future research.

4.11. Cross-Discipline Studies. With the rise of cross-disciplinarity research, teacher feedback is not only confined to teaching and learning tasks. Some articles use teacher feedback (mainly oral feedback) as a variant to discuss student differences in nonlinguistic aspects. Guo and Shi used the structural equation model to compare course evaluation by undergraduates, trying to find a correlation between students’ learning process and their academic achievement [41]. They discovered that teacher feedback has the biggest impact on the learning attitudes of students from humanity majors. Yao et al. analyzed whether the praise and criticism from teachers will influence students’ self-expectation on academic achievement [42]. They discovered what the teacher expects from giving feedback does not always provide a positive stimulus. Tang and Luo studied when and how teachers give oral feedback in the classroom and analyzed its effect on students’ confidence [43]. However, the article is more of a voice of experience rather than scientific research. Chen started with teacher feedback on “students initiated question,” analyzed the value behind such phenomenon, and hoped “students initiated question” not only solves their confusion but also cultivates a correct learning attitude [44]. Wang and Liu found both low and high frequency of teacher feedback will affect students’ goal orientation ability. Only with medium frequency of feedback, can students achieve a balance between pressure and motivation so as to obtain their goals [45]. Li and Liu used critical thinking theory to classify and analyze five dissertations of English major undergraduates [46]. Though each feedback has a different focus, they still exert a positive influence on student’s critical thinking overall.

4.12. Research Methods. Scientific research methods can lead to reliable research results. In total, 57 selected studies can be divided into empirical studies and nonempirical studies. Former studies include using observation, questionnaires, interview transcription, and text study and often employ quantitative, qualitative, or a combination of the two methods. The latter studies include experience sharing, theory building, and overviews.

It is obvious from Figure 6 that empirical studies have always been the dominant research methods, which are employed by three-quarters of all studies. Nonempirical studies are more often seen in the early years, from 2011 to 2013. Analysis of objective data gives empirical studies the advantage of providing more scientific results. However, some research questions can only be answered by nonempirical methods, such as narrative overviews, theory or model building, and discussion. A combination of two research methods can complement each other to give a more comprehensive understanding of this field.

Different empirical studies use video/audio transcription, text study, questionnaires, and personal interviews. Teacher oral feedback often employs video/audio transcription because it is easier to study an instantaneous action at a later time. Text studies are widely used by L2 writing studies. Questionnaires and interviews have been the most commonly used approach. The former is often used for students’ attitude research and interviews are mainly for case studies or small samples.

5. Retrospect and Prospect

Through a thorough review of studies on teacher feedback published in Chinese core journals from 2011 to 2020, it can be seen that research in this field has witnessed rapid
development, with breakthroughs in both quantities and qualities. However, there are still some deficiencies and room for further investigation.

5.1. Studies on Efficacy Improvement. Existing research mainly focuses on how teacher feedback can affect students or a parallel of feedback modes in the same context. There are very few longitudinal researches in this field. Yan conducted the only research that discussed how one teacher used different modes of feedback in different situations [35]. Most oral feedback research provides suggestions on practice and strategy, but there are no follow-up studies exploring if these changes will lead to an increased efficacy or acceptance.

5.2. Teacher as Research Subject. Research paid much more attention to the practice of teacher feedback but ignored teachers as conscious participants who will be affected by their own identity and experience. Only Dong provided a relevant discussion. At the same time, establishing evaluation criteria is also an important factor in raising efficacy. There are reasonably well-developed theories and research groups on student feedback literacy [47], but few are about teacher feedback literacy. Carless and Winstone have provided a rudimentary model, which can be applied to Chinese educational settings after further research [3].

5.3. Diversification Studies. With the development of online technology, automated writing feedback is becoming more and more enriched. There are articles comparing automated online feedback and traditional teacher feedback, such as Cai et al. [29, 48]. Wang also introduced international online feedback research in the form of reviews [12]. The two feedback modes are not contradictory but rather complementary. Exploring how teachers can use AI or online platforms to increase feedback efficacy is also an area future research can tap into.

6. Conclusion

This article provides a bibliometrics analysis of teacher feedback published in Chinese core journal from 2011 to 2020, summarizing current research status and deficiency to discover new research interests with the help of CiteSpace. In the last decade, studies on teacher feedback display the following characteristics: (1) 2011 to 2013 is the ascent stage with most articles published in these years, and since 2014, research interest cooled down and fluctuated at the low end; (2) research questions are divided into oral and written feedback, and efficacy studies are dominant in both fields; (3) most research is done in higher education institutions and related to English, while a small number of studies are in primary and secondary education or non-English areas; (4) majority of studies are empirical and a few are nonempirical studies.

Several possible future research can also be found: (1) researchers should be encouraged to persist in this domain to conduct more profound research so as to promote further development; (2) improvement on feedback efficacy, teacher as research subject, and different modes of feedback giving can all be a new engine for research; (3) cross-discipline studies can be a new force to drive in-depth development in this field.

Data Availability

No data were used to support this study.

Disclosure

The author received no financial support for the research, authorship, and/or publication of this article.

Conflicts of Interest

The author declares that there are no conflicts of interest regarding the publication of this article.

References


