Macrothink Institute™

International Journal of Learning and Development
ISSN 2164-4063
2025, Vol. 15, No. 4

Feedback and Receptivity to Criticism: A Literature Review of the Dynamics between Teachers and Learners in Primary Education

Angelos Charalampous (Corresponding author)

Department of Primary Education, University of the Aegean

Dimokratias 1, Rhodes 85132, Greece

Tel: 30-69-781-38491 E-mail: pred21004@rhodes.aegean.gr

Maria Darra

Department of Primary Education, University of the Aegean

Dimokratias 1, Rhodes 85132, Greece

Tel: 30-693-242-5804 E-mail: darra@aegean.gr

Received: November 5, 2025 Accepted: December 20, 2025 Published: December 30, 2025

doi:10.5296/ijld.v15i4.23288 URL: https://doi.org/10.5296/ijld.v15i4.23288

Abstract

Feedback is an essential tool in education that helps students recognize their knowledge gaps and enhance their performance, ultimately helping them achieve their learning objectives. For feedback to be effective, it should be provided promptly, clearly communicated, and include specific suggestions for improvement. Its effectiveness relies not only on the teacher but also on various factors, including the feedback's characteristics, the individual traits of the students, the teacher-student relationship, and external influences that affect how feedback is received and utilized. This systematic review, based on an analysis of 28 studies from the past decade following the PRISMA 2020 method, examines the role of feedback in primary education, particularly focusing on factors that influence students' acceptance of teachers' criticism. The findings indicate that the effectiveness of feedback significantly depends on its type, delivery method, timing, educational approach, and context. Students respond best to feedback that is clear, positive, and tailored to encourage improvement. Additionally, external factors - primarily technology and, to a lesser extent, family dynamics and classroom environment - played a role in how feedback was accepted. Furthermore, there has been

limited research on the crucial impact of individual student characteristics and a teacher-student relationship built on trust and respect in shaping how receptive students are to criticism. Lastly, the study found that self-assessment and peer collaboration significantly promote positive attitudes and engagement in learning.

Keywords: Feedback, Receptivity, Effectiveness, Primary Education, Self-assessment

1. Introduction

Feedback is a crucial component of the educational process, serving as a bridge between students' current performance and their desired learning goals. Research by Black and Wiliam (1998) shows that feedback enhances learning by providing guidance for correcting errors and developing skills, making it one of the most effective educational interventions. This highlights its significance for both cognitive and emotional development in students, as noted by Hattie (2009). In primary education, feedback is particularly important due to students' early cognitive and emotional growth. Their receptiveness to teachers' critiques plays a key role in the effectiveness of feedback. According to self-regulation theory, students who possess self-regulation skills are more likely to view criticism as a tool for improvement (Zimmerman, 2000). Additionally, self-efficacy theory suggests that students who believe in their abilities are more open to receiving feedback (Bandura, 1997). Self-assessment is closely related to feedback, as it encourages students to actively engage in their learning process. Through self-assessment, students can identify their strengths and weaknesses, set goals, and develop self-regulation skills, which increases their receptiveness to criticism (Andrade & Valtcheva, 2009; Nicol & Macfarlane-Dick, 2006).

Previous research has shed light on various aspects of feedback and student receptivity. The importance of formative feedback has been emphasized, indicating that constructive criticism is most effective when students are actively involved in the process (Black & Wiliam, 1998). Additionally, a four-level model has been proposed, which includes tasks, process, self-regulation, and self. This model demonstrates that focusing on the learning process enhances student outcomes (Hattie & Timperley, 2007). However, most studies have concentrated on older students, particularly those in higher education, as evidenced by analyses of student autonomy (Nicol & Macfarlane-Dick, 2006). Despite the extensive existing literature, there is still a significant research gap regarding how primary school students receive teacher criticism. This gap exists in relation to various factors, including the nature of the feedback, the individual characteristics of the students, the interpersonal relationships between teachers and students, and external influences such as cultural, social, and technological factors. This study aims to address this gap by investigating how students accept teacher criticism and utilize feedback, with a particular focus on their developmental stage. Additionally, the study explores the role of self-assessment, which helps students enhance self-regulation and receptiveness to criticism, enabling them to use feedback more constructively.

2. Feedback and Receptivity to Criticism: A Theoretical Approach

Feedback is a crucial component of the educational process, acting as a tool to enhance

learning and support student development. The effectiveness of feedback is significantly influenced by how open students are to receiving teacher criticism. This is particularly true in primary education, where students are at an early stage of cognitive and emotional growth. In this context, understanding and effectively using feedback is essential. Feedback can be defined as information provided to students about their performance, aimed at improving their learning and behavior (Hyland, 2006). It is one of the most powerful means of fostering learning and is recognized as one of the top educational interventions (Hattie, 2009). Feedback theory suggests that students require guidance to bridge the gap between their current performance and their targeted goals (Black & Wiliam, 1998). Feedback can be categorized in several ways based on its content, purpose, and delivery method. In terms of content, feedback can be positive, which rewards correct performance, or corrective, which points out errors and suggests improvements. Regarding its purpose, there is formative feedback, aimed at enhancing the learning process, and debriefing, which assesses final performance (Brookhart, 2008). As for the delivery method, feedback can be oral, written, or non-verbal, such as through gestures. For feedback to be effective, it must be timely, clear, and provide actionable directions (Nicol & Macfarlane-Dick, 2006). In primary education, feedback is tailored to meet the needs of young students, who often struggle to process complex information (Hyland, 2006). Positive feedback is particularly beneficial at this age as it boosts students' motivation, whereas excessive corrective criticism can lead to discouragement (Brookhart, 2008). Formative feedback is especially suitable for primary education, as it emphasizes the learning process rather than merely focusing on the outcome.

The effectiveness of feedback is closely related to how receptive students are to criticism. Students who see feedback as a chance to improve tend to make progress, while those who perceive it as a personal attack may reject it (Carless, 2015). Receptivity to criticism is defined as an individual's ability and willingness to accept and apply feedback (Fong et al., 2016). Zimmerman's (2000) theory of self-regulation suggests that students with strong self-regulation skills are more likely to view criticism as a tool for development. In contrast, Bandura's (1997) self-efficacy theory highlights that individuals who have confidence in their abilities are generally more open to receiving criticism. Students' receptivity to teacher criticism in primary education is influenced by multiple factors. Key characteristics of the feedback, such as whether it is constructive or negative, how it is delivered (friendly and clear), the educational approach (tailored to individual needs), timing (delivered at an appropriate moment), and context (whether in private or in a group setting) play a crucial role (Nicol & Macfarlane-Dick, 2006; Brookhart, 2008). Additionally, individual characteristics of students, such as their self-esteem, self-confidence, prior experiences with criticism, age, psychological development, and emotional maturity, significantly impact their perceptions (Fong et al., 2016). A strong interpersonal relationship between teacher and student, built on trust and mutual respect, also enhances receptivity to feedback (Carless, 2015). Finally, external factors, including the family's cultural and social values, the use of technology, and classroom dynamics, further shape students' responses to criticism (Nicol & Macfarlane-Dick, 2006; Hyland, 2006).

Self-assessment is closely linked to feedback, as it enhances students' engagement in the

learning process and their ability to process criticism. Through self-assessment, students evaluate their performance, identify their strengths and weaknesses, and set goals for improvement (Andrade & Valtcheva, 2009). This process helps develop self-regulation skills and fosters the perception of feedback as part of an ongoing learning journey, rather than as a final judgment (Nicol & Macfarlane-Dick, 2006). In primary education, various self-assessment tools are utilized, including a) Checklists, which assist students in tracking task completion, b) Rubrics, which provide criteria-based assessment, c) Electronic Portfolios for collecting and evaluating assignments, d) Reflective Journals that promote metacognitive awareness, and e) Self-Assessment Templates with guiding questions (Rolheiser, 1996; McMillan & Hearn, 2008). Research indicates that students' participation in self-assessment improves their ability to utilize feedback and increases awareness of their learning needs (Panadero et al., 2016). Additionally, it empowers them to feel more in control and to accept criticism more easily (Nicol & Macfarlane-Dick, 2006).

3. Previous Systematic Review Studies and Contribution of the Present Review

Feedback is vital in the learning process, as it supports students' cognitive development and self-regulation. Black and Wiliam (1998) emphasized the significance of formative assessment, noting that constructive feedback is most effective when students are actively engaged. Pekrun et al. (2005) connected feedback to the emotions associated with academic performance, highlighting its influence on skills beyond mere cognition. Dweck (2006) linked feedback to the development of a growth mindset, underscoring the importance of effort in learning. Additionally, Nicol and Macfarlane-Dick (2006) conducted an analysis of 42 studies and demonstrated that clear and timely feedback fosters student autonomy in higher education. This autonomy helps students set goals and track their progress. Hattie and Timperley (2007), in a meta-analysis of 12 studies, proposed a four-level model of feedback—task, process, self-regulation, and self—and showed that focusing on the process enhances learning outcomes. Furthermore, Shute (2008), in her review of 180 studies, stated that formative feedback is most effective when it is clear, timely, and avoids excessive criticism, providing practical guidelines for its implementation.

Bennett (2011) conducted a critical appraisal of formative assessment, analyzing its advantages and challenges through a theoretical overview. He concluded that formative assessment enhances learning; however, its implementation varies, suggesting a need for clearer approaches. Jonsson (2013), drawing on 103 studies, confirmed the importance of feedback in higher education, demonstrating that strategies and academic discourse influence its effectiveness. Mory (2013), in a comprehensive review, explored the role of feedback in educational technologies, emphasizing that technology can improve personalization and immediacy, thereby enhancing the learning experience. Evans (2013) analyzed 68 studies using qualitative methodology to examine student perceptions of feedback. He found that the effectiveness of feedback depends on understanding, communication, and expectations, and he suggested ways to improve these aspects. Liu and Brown (2015), referencing 44 sources, studied corrective feedback in second language writing, noting that methodological weaknesses limited the comparability of their results. Finally, Chen (2016) conducted a comparative analysis of 20 articles on peer feedback in English writing instruction,

highlighting both its benefits and challenges.

Winstone et al. (2017) focused on the active engagement of students with feedback. They proposed a taxonomy that includes understanding, application, and adaptation to individual needs, based on an analysis of 51 studies from higher education. Their conclusion was that participation enhances the usefulness of feedback. Similarly, Baliram and Youde (2018) confirmed the positive effect of feedback on academic performance through a meta-analysis of eight empirical studies. In another analysis of 14 studies, Smithers et al. (2018) found that non-cognitive skills in childhood were linked to better educational and psychosocial outcomes, although there was a small risk of bias in their findings. Additionally, Carless and Boud (2018) explored the development of students' feedback comprehension and literacy skills. Through both theoretical and qualitative analysis, they demonstrated that this process involves understanding, evaluation, and application, and they suggested interventions to improve these skills.

Laici and Pentucci (2019) emphasized the importance of feedback in university classrooms, particularly the role of active teaching methods and the establishment of a dialogical relationship between teachers and students. Additionally, Haughney et al. (2020) conducted a review of 70 empirical studies and demonstrated that the effectiveness of feedback relies on four key factors: positivity, clarity, timeliness, and student participation. A meta-analysis by Wisniewski et al. (2020), which included 435 studies, confirmed the significant impact of feedback on learning, especially when it focuses on the learning process and self-regulation. Moreover, Paterson et al. (2020), in their analysis of 36 studies, found that students prefer feedback that is clear, timely, and constructive, and directly related to their work. Finally, research by Lipnevich and Panadero (2021), based on 14 publications, highlighted the importance of personalization for the effectiveness of feedback.

A systematic review conducted by Yu and Yang (2021) analyzed 45 studies focusing on students' responses to written feedback from teachers in English as a foreign or second language. The findings indicated that students tend to respond better to detailed and specific feedback, although they often struggle to implement this feedback effectively. Similarly, Morris, Perry, and Wardle (2021) found in their review of 56 studies that formative feedback enhances learning when it is adequately integrated into teaching practices. Additionally, a meta-analysis by Koenka et al. (2021), which included 61 studies, highlighted that written feedback had a more significant positive impact on student motivation and performance compared to grades. At the same time, Jensen et al. (2021) emphasized, through a critical review of 17 studies, a growing trend among teachers toward student-centered feedback practices. Conversely, Hahn et al. (2021), in their analysis of 125 studies, identified both the advantages and disadvantages of automatic grading. While it can provide faster feedback and support a larger number of students, it may also discourage innovative responses. Furthermore, research by Li et al. (2021) underscored the importance of peer assessment in shaping students' learning strategies and academic attitudes. Panadero and Lipnevich (2022) analyzed 72 studies and suggested a categorization of feedback models, stressing the necessity to adapt these models to different learning environments. In line with this, a theoretical study by Lipnevich and Smith (2022) introduced a revised model of

student-feedback interaction, emphasizing the importance of active student participation in the learning process.

Frantz et al. (2022) conducted a systematic review of 11 studies to investigate the complex interactions between non-cognitive skills and various other factors. Meanwhile, Zynuddin et al. (2023) analyzed 65 studies and confirmed the link between school climate and the development of non-cognitive skills. Badrun (2024) emphasized the importance of self- and peer-assessment in enhancing student motivation, based on a review of 27 studies. Nieminen and Carless (2023) examined feedback literacy in higher education, highlighting the need for a clearer conceptual definition and additional research on the topic. Cordovani et al. (2023) found that medical students' acceptance of feedback depends significantly on the quality and delivery method of that feedback. Similarly, Esmaeeli et al. (2023) conducted an overview of 25 systematic reviews, underscoring the importance of feedback in learning and its various applications. Kerman et al. (2024) discovered that online peer feedback can enhance collaboration and learning, although challenges such as quality and participation levels remain. Likewise, Gao et al. (2024) analyzed critical factors affecting the effectiveness of digital feedback, including its structure, guidance, and quality. Finally, the meta-analysis by Cen and Zheng (2024), which examined 13 quantitative studies, concluded that feedback from multiple sources boosts students' motivation to write in a second language.

The literature indicates that feedback is a vital component of the learning process, as it enhances students' cognitive development, self-regulation, and emotional maturity, especially when it is clear and constructive. However, there is a notable lack of research on primary school students' receptiveness to teacher criticism. Factors such as their age and emotional state may significantly influence their responses, along with the self-assessment tools used to support them. Most studies focus on older students, which leaves a gap in understanding how young learners accept criticism and how it impacts their attitudes toward learning.

The purpose of this research is to investigate how primary school students respond to teacher criticism. It will examine factors such as the characteristics of the feedback, students' individual traits, the nature of student-teacher relationships, and external influences. The aim is to develop suggestions for optimizing pedagogical practices and enhancing students' learning experiences. Additionally, this research will explore how self-assessment can improve students' ability to use feedback, thereby promoting self-regulation and encouraging their active participation in learning.

4. Method

This systematic review investigates the impact of teacher feedback on primary school students' willingness to accept and respond to criticism. It focuses on the factors that influence how feedback is received and utilized. Specifically, the study analyzes the characteristics of the feedback itself, the individual traits of the students, the nature of the student-teacher relationship, and external factors that shape students' reactions to teacher criticism. The analysis is based on research published from 2015 to 2025, aiming to draw valuable conclusions, identify gaps in existing literature, and provide suggestions for future research. This literature review aims to address the following research questions:

a) To what extent do factors related to the characteristics of feedback—such as type, mode of delivery, educational approach, timing, and context—influence students' receptivity to teachers' criticism in primary education? b) To what extent do factors related to individual student characteristics—including self-esteem, self-confidence, previous experiences with criticism, age, psychological development, and emotional maturity—affect the acceptance and utilization of feedback in primary education? c) To what extent do factors related to the interpersonal teacher-student relationship, such as trust and mutual respect, shape students' attitudes towards teachers' feedback? d) To what extent do external factors—cultural, social, technological, and classroom dynamics—influence students' receptivity to teachers' feedback? e) To what extent are self-assessment procedures and tools employed in the studies reviewed, and what specific procedures or tools support primary school students in becoming receptive to teachers' criticism? f) To what extent did the use of self-assessment procedures and tools in some of the studies contribute more to helping primary school students become receptive to teachers' criticism compared to studies that did not use such tools?

In addition, the fields of study, the characteristics and sizes of the samples used, the type of data collected, and the research tools used are examined. The review methodology was based on the revised PRISMA 2020 statement by Page et al. (2021), which provides new guidelines for the stages of study identification, screening, eligibility assessment, and final selection. Figure 1 illustrates the process flow diagram and the number of studies included in each phase.

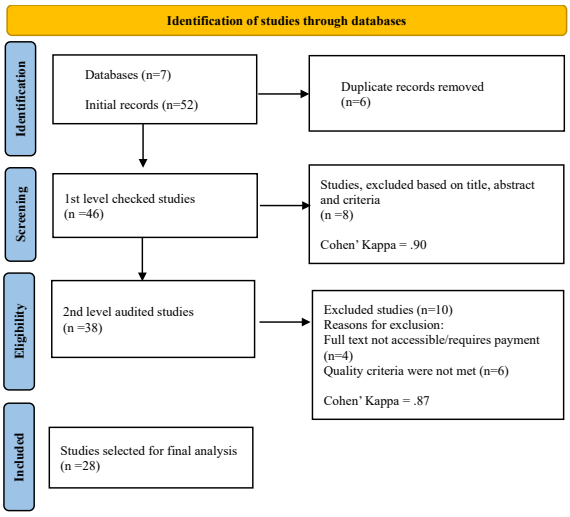

Figure 1. Flowchart of the literature review

The search for relevant literature utilized both Greek and English terms related to feedback and receptivity in educational contexts. The search with English terms includes: "Feedback" AND "receptivity" AND "students" AND "instructors" AND "primary education*". Subsequently, some combinations were made and some term substitutions were made: "Feedback" AND "receptivity" AND "learners" AND "teachers" AND "primary education*", "Feedback" AND "receptivity" AND "students" AND "teachers" AND "elementary school*", "Feedback" AND "acceptance of criticism" AND "learners" AND "instructors" AND

“ primary education “**, “Feedback” AND “acceptance of criticism” AND “students” AND “instructors*” AND “ primary education “**, “Feedback” AND “receptivity” AND “learners” AND “instructors*” AND “higher education*”, “Feedback” AND “receptivity” AND “students” AND “teachers” AND “ primary education “**, “Feedback” AND “acceptance of criticism” AND “learners” AND “teachers*” AND “ primary education “**. The search was conducted primarily using English terms, as most relevant literature is published in English. In addition, terms such as “self-assessment” AND “feedback” AND “primary education” were used to explore the relationship between self-assessment and feedback, as self-assessment enhances students' self-regulation and receptivity to criticism.

This review was conducted across seven bibliographic databases—Scopus, IEEE Xplore, SAGE Journals, ScienceDirect, SpringerLink, ResearchGate, and Google Scholar—to expand the search beyond previous systematic reviews in the field. Scopus and IEEE Xplore were chosen for their comprehensive coverage of a wide range of topics. Additionally, searches were performed on ScienceDirect and SpringerLink, which include materials from the social sciences and humanities, as well as on SAGE Journals and ResearchGate. Google Scholar was also utilized, despite its limited search capabilities. The searches in these databases yielded a total of 52 studies. Of these, six were identified as duplicates and were removed, resulting in 46 studies that proceeded to the first-level review. During this stage, the titles and abstracts of the studies were analyzed based on predefined selection criteria (see Table 1). To ensure the internal consistency of the review process, a small number of studies were re-evaluated, and Cohen’s kappa coefficient was calculated (see Figure 1). Following this process, eight studies were excluded.

Table 1. Inclusion/exclusion criteria for studies in the review

Inclusion criteria	Exclusion criteria
Studies written in English and Greek.	Studies written in a language other than English where translation is not possible.
Application in the field of education.	Not concern application in the field of education.
Reference to feedback and learners' receptivity to teacher criticism or their relationship with self-evaluation in primary education.	They do not refer to feedback and learners' receptivity to teacher criticism or their relationship to self-evaluation in primary education.
The abstract provides some information.	Reviews/theoretical studies
Publication year from 2015-2025	

A total of 38 studies were sent for the second level of review, during which the researchers analyzed each study's main text. Four studies were excluded because they required payment for access. The remaining 34 studies were evaluated for their quality based on the following criteria: a) Clarity of the framework: Is the framework for the effect of feedback on learners’ receptivity to teacher criticism in primary education clearly described? (This includes the

cognitive domain and the type of research.), b) Methodological design: Is the methodological design clearly detailed? (This refers to the type of data collected and the sample of participants.), c) Data collection methods: Are the methods and research tools for data collection clearly outlined? After the assessment, 28 studies that met all of the above criteria were selected for inclusion in the systematic review. Additionally, the internal consistency of the process was ensured through the calculation of Cohen's kappa coefficient (see Figure 1).

5. Results

The following tables present studies that examine the relationship between feedback and primary school students' receptivity to teacher criticism. The data collected includes information about the researchers, year of study, country, purpose, type of research, sample size, subject area, and key findings. This information is organized according to several factors: a) characteristics of the feedback, b) individual characteristics of the students, c) the teacher-student interpersonal relationship, and d) external factors. Additionally, the role of self-assessment is explored as a factor that enhances students' self-regulation and their ability to accept and constructively use feedback. Specifically, Table 2 illustrates the results regarding feedback and learners' receptivity to teacher criticism by focusing on factors related to the characteristics of the feedback, including the type and manner of delivery, the educational approach, and the timing and context in which feedback is provided.

Table 2. Results of the effect of feedback on learners' receptivity to teacher criticism in primary education based on factors related to feedback characteristics.

Researchers **Year** **Country**	**Purpose**	**Research Type** **Sample Size** **Subject**	**Results**
Outhwaite, Gulliford & Pitchford 2017 United Kingdom	Evaluation of formative feedback using a digital tool for skill development and reducing the achievement gap, focusing on receptivity.	Experimental 133 participants Primary Mathematics Self-assessment (Formative feedback using the Onecourse digital tool on a tablet)	Mathematical skills improved, particularly among low-achieving students. Immediate interactive feedback enhanced their engagement and receptiveness.
Brooks, Carroll, Gillies & 2019 Australia	Developing a feedback model that enhances student learning and receptivity.	Mixed (experimental, observations) 170 participants Primary Mathematics, Language Self-assessment (Feedback for Learning Matrix, voice recording)	Feedback that focused on process rather than performance increased students' receptivity and self-confidence.

Sewagegn & Dessie 2020 Ethiopia	Exploring the importance of feedback, emphasizing student perceptions and its effect on their learning experiences, particularly regarding their openness to criticism.	Mixed (quantitative, experimental) 474 participants Primary General learning Teacher feedback (improvement, negative), document review	Students valued clear, supportive, and improving feedback, showing greater receptivity to it than to negative or ambiguous feedback.
Smit, Dober, Hess, Bachmann & Birri 2023 Switzerland	This study explores the impact of formative feedback on the mathematical reasoning of elementary school students.	Experimental 1,261 participants Elementary Mathematics Self-assessment (formative feedback, rubric learning)	Formative feedback strengthened reasoning through self-efficacy. Students are more receptive when criticism is formative and supportive.
Laranjeira & Teixeira 2023 Portugal	The research aims to validate the Portuguese version of the Teacher Feedback Scale (TFS).	Quantitative (questionnaires) 628 participants Primary Educational Psychology Feedback Scale (positive, negative, ability)	The scale proved to be reliable, and children responded well to clear and positive feedback. Students are more receptive when criticism is both understandable and constructive.
Green 2023 United Kingdom	Investigating students' experiences and perceptions of formative feedback, focusing on its impact on their learning and attitudes towards the lesson.	Qualitative (interviews) 45 participants Primary Mathematics Use of formative feedback	Students found specific and timely formative feedback helpful. Positive feedback boosted motivation, while general or negative feedback did not. A strong teacher-student relationship and constructive criticism affected feedback acceptance.
Canbazoğlu Albayrak & Bukova 2024 Turkey	The research examines the development of mathematical modeling cognitive skills in a 4th grade student through detailed feedback.	Qualitative (interviews) 1 participant Primary Mathematics Extended feedback	The student developed skills in mathematical modelling and creative problem solving, utilising feedback to identify errors and improve.

Brooks, Burton, Van der Kleij, Ablaza, Carroll, Hattie & Salinas 2024 Australia	Examining how a teacher-training intervention based on student-centred feedback influences students' perceptions of its usefulness.	Mixed 1,197 participants Primary Language, writing Self-assessment (reflecting on their progress using success criteria, task models and improvement walls)	Students in the intervention schools positively evaluated the feedback strategies, highlighting the importance of a student-centered, constructive approach that increases their receptivity.
Rezvani & Yazdi 2024 Iran	Investigating how descriptive feedback influences students' learning motivation in relation to qualitative aspects of their experience.	Qualitative research 19 participants Primary General learning Self-assessment (descriptive feedback)	Descriptive feedback enhanced learning motivation and helped individuals understand and accept criticism as a tool for improvement.
Sylejmani & Ahmedi 2025 Kosovo	Examining the effects of teacher feedback and peer assessment on academic performance and social interactions.	Mixed (qualitative, experimental) 234 participants Primary General learning Self-assessment (combination of digital teacher feedback and peer assessment)	Peer assessment enhanced performance and collaboration. Responsiveness to criticism improved with constructive guidance and decreased with harsh feedback.

Table 3 displays the results of feedback and students' receptivity to teacher criticism, focusing on individual student characteristics such as self-esteem, self-confidence, past experiences with criticism, age, psychological development, and emotional maturity.

Table 3. Results of the impact of feedback on learners' receptiveness to teacher criticism in primary education, considering individual student characteristics.

Researchers Year Country	Purpose	Research Type Sample Size Subject	Results
Quintelier, Vanhoof & De Maeyer 2018 Belgium	Examining how teachers' cognitive and emotional responses affect their acceptance of feedback from school inspections, with a focus on perceptions and feelings.	Qualitative (interviews) 8 participants (teachers) Primary General learning Feedback from school inspections (descriptive, evaluative)	Cognitive and emotional responses affect how feedback is received. Positive responses promote acceptance, while negative ones decrease the willingness to improve.
Brooks, Carroll, Gillies & 2019 Australia	Developing a feedback model that enhances student learning and receptivity.	Mixed (experimental, observations) 170 participants Primary Mathematics, Language Self-assessment (Feedback for Learning Matrix, voice recording)	Feedback that focused on process rather than performance increased students' receptivity and self-confidence.
Downs, Caldarella, Larsen, Charlton, Wills, Kamps & Wehby 2019 USA	The impact of teacher praise and reprimands on the engagement and behavior of students with emotional-behavioral disorders is analyzed.	Mixed 239 participants (82 with emotional-behavioral disorders) Primary Educational Psychology Positive and negative feedback	Students with emotional-behavioral disorders are more sensitive to praise and reprimands and less receptive than their typical classmates.
Snell, Wasik & Hindman 2022 USA	The assessment of a home-school SMS vocabulary feedback intervention on toddlers' vocabulary development.	Experimental 346 participants Kindergarten Language, Vocabulary Self-assessment (SMS messages via Text to Talk)	The assessment of a home-school SMS vocabulary feedback intervention on toddlers' vocabulary development.

Puusepp, Linnavalli, Tammi, Huotilainen, Kujala, Laine, Kuusisto & Tirri 2023 Finland	Exploring how growth mindset affects the neural processing of positive and negative feedback in elementary school students.	Experimental (tasks, questions) 100 participants (50 girls, 45 boys, 5 others) Elementary Mathematics Self-assessment (positive and negative feedback, guiding questions)	Students with growth mindset process feedback are more effectively. A growth mindset leads to greater acceptance of criticism as a learning tool.
Zumbrunn, Ekholm, Broda & Koenka 2023 USA	Examining how students' attitudes towards feedback on their writing from both teachers and peers change over time.	Quantitative (questionnaire) 1,071 participants Primary Language, Writing Self-assessment (teacher and peer feedback)	Students become less receptive to feedback over time based on gender and socioeconomic status, particularly when the criticism lacks clarity or support.
Lee & Jho 2024 South Korea	Examining how feedback from artificial intelligence enhances students' ability to formulate statistics questions, while also considering their perception of AI and confidence in using it.	Mixed (experimental, interviews) 95 participants Primary General Learning Self-assessment AI-based FS	Artificial intelligence enhances question formulation among students with a positive attitude and high self-efficacy, boosting their receptivity to criticism when trust in the technology is high.

Table 4 presents the impact of teacher feedback on students' receptivity to criticism from teachers, based on factors related to the interpersonal relationship between teachers and students, such as trust and mutual respect.

Table 4. Results of how feedback influences students' acceptance of teacher criticism in primary education, considering factors related to the teacher-student interpersonal relationship.

Researchers Year Country	**Purpose**	**Research Type Sample Size Subject**	**Results**
Huizinga, Handelzalts, Nieveen & Voogt 2015 Netherlands	This study explores the impact of teacher collaboration within design teams on the quality of feedback provided to students.	Qualitative (case study) 125 participants Kindergarten General Learning Feedback in design groups	Collaborative teachers provided enhanced feedback, which resulted in greater student receptiveness and participation.
Eriksson, Boistrup & Thornberg 2020 Sweden	The study explores how students comprehend and interpret the formative feedback provided by their teachers.	Qualitative (interviews) 23 participants Primary General Learning Formative feedback	Students link feedback to their learning, which is influenced by classroom dynamics and the teacher-student relationship, favoring active interpretation of criticism.
Wong 2020 Singapore	Examining students' perceptions of self-assessment and feedback, aiming to explore their perspectives and experiences with these practices.	Mixed (quantitative, experimental) 160 participants Primary General learning Self-assessment (self-assessment rubrics)	Students view self-assessment as a tool for improvement and accept clear, constructive feedback. The dynamics of the classroom and relationships with teachers affect their receptiveness.
Green 2023 United Kingdom	Investigating students' experiences and perceptions of formative feedback, focusing on its impact on their learning and attitudes towards the lesson.	Qualitative (interviews) 45 participants Primary Mathematics Use of formative feedback	Students found specific and timely formative feedback helpful. Positive feedback boosted motivation, while general or negative feedback did not. A strong teacher-student relationship and constructive criticism affected feedback acceptance.
Schwab, Markus & Hassani	Exploring the relationship between teacher feedback and students' social	Quantitative 970 participants Primary Educational	Teacher feedback affects students' social acceptance, well-being, and emotions, with either a positive or

2024 Germany	acceptance, emotional well-being, and overall emotions to understand its psychosocial impact.	Psychology Teacher feedback on performance and behavior.	negative impact based on its nature (encouraging or critical).

Tables 5 and 6 illustrate how teacher feedback impacts students' receptiveness to criticism, considering various external factors that influence these dynamics. Specifically, Table 5 highlights the effects that are significantly shaped by cultural and social factors, such as family values and the expectations set by the social environment. In contrast, Table 6 focuses on the effects influenced by different external factors, including technology and classroom dynamics.

Table 5. The impact of feedback on students' acceptance of teacher criticism in primary education, influenced by cultural and social factors.

Researchers Year Country	**Purpose**	**Research Type Sample Size Subject**	**Results**
Hardman & Bell 2018 United Kingdom	Examining writing feedback practices related to the grammatical, syntactic, and orthographic goals of the National Curriculum, emphasizing grammatical metalanguage.	Qualitative 15 participants Primary Language (writing) Corrective and metalanguage feedback of teachers.	Students use grammatical terminology in feedback, but do not show clear improvement in their writing. They are open to feedback and criticism from teachers.
Mandouit 2018 Australia	Exploring how collaborative feedback from students and teachers can enhance teaching practices and increase teachers' receptiveness to criticism.	Mixed 28 participants Primary General learning Self-assessment (Continuous, collaborative feedback model)	Student feedback resulted in changes to teaching, with students being more open to personalized criticism.
Wong 2020 Singapore	Examining students' perceptions of self-assessment and feedback, aiming to explore their perspectives and	Mixed (quantitative, experimental) 160 participants Primary General learning	Students view self-assessment as a tool for improvement and accept clear, constructive feedback. The dynamics of the classroom and

	experiences with these practices.	Self-assessment (self-assessment rubrics)	relationships with teachers affect their receptiveness.
Gidari & Kakana 2021 Greece	Analyzing how teachers' professional development affects the quality of feedback and fosters a positive classroom environment.	Mixed (experimental, quantitative) 26 teachers (25 female, 1 male) and unspecified number of students Kindergarten General Pedagogy	Feedback from participating teachers enhanced students' social interactions and openness, especially through positive reinforcement.
Snell, Wasik & Hindman 2022 USA	The assessment of a home-school SMS vocabulary feedback intervention on toddlers' vocabulary development.	Experimental 346 participants Kindergarten Language, Vocabulary Self-assessment (SMS messages via Text to Talk)	The assessment of a home-school SMS vocabulary feedback intervention on toddlers' vocabulary development.
Zumbrunn, Ekholm, Broda & Koenka 2023 USA	It examines how students' attitudes towards feedback on their writing from both teachers and peers change over time.	Quantitative (questionnaire) 1,071 participants Primary Language, Writing Self-assessment (teacher and peer feedback)	Students become less receptive to feedback over time based on gender and socioeconomic status, particularly when the criticism lacks clarity or support.
Pederson 2024 Japan	Examining the interactions between teachers and students, focusing on the significance of feedback.	Qualitative (interviews) 16 participants Primary English as a foreign language Teachers' verbal and written feedback	Feedback improved students' communication and learning skills, while also encouraging them to accept corrections and make improvements.
Sylejmani & Ahmedi 2025 Kosovo	Examining the effects of teacher feedback and peer assessment on academic performance and social interactions.	Mixed (qualitative, experimental) 234 participants Primary General learning Self-assessment	Peer assessment enhanced performance and collaboration. Responsiveness to criticism improved with constructive guidance and

		(combination of digital teacher feedback and peer assessment)	decreased with harsh feedback.

Table 6. Results of the impact of feedback on learners' receptivity to teacher criticism in primary education, considering external factors such as technology and classroom dynamics.

Researchers Year Country	**Purpose**	**Research Type Sample Size Subject**	**Results**
Faber, Luyten & Visscher 2017 Netherlands	This study examines how the digital feedback tool Snappet affects student performance.	Experimental 1,808 participants Primary Mathematics Self-assessment (digital formative feedback via Snappet)	The group receiving digital feedback demonstrated enhanced performance, motivation, and receptiveness.
Kleisarchakis & Xezonaki 2020 Greece	Exploring teachers' perspectives on how digital applications enhance teaching effectiveness and provide feedback to students.	Mixed (quantitative, qualitative, case study) 50 teachers Language Primary Digital media (Educational mobile apps)	Teachers believe that digital applications improve feedback and increase student receptivity, leading to enhanced interaction and better understanding.
Villan & Santos 2023 Brazil	An assessment of ChatGPT as a co-advisor for student research projects, focusing on its role in Project-Based Learning and how it aids in overcoming resistance to new teaching methods.	Mixed (experimental, quantitative, qualitative) 353 participants Primary General Learning Self-assessment (ChatGPT as co-advisor in project-based learning)	The use of ChatGPT has increased student engagement, made feedback and guidance more accessible, reduced teacher resistance, and enhanced the quality of assignments.
Chilamá 2024 Ecuador	Exploring the use of assessment tools in online environments to provide feedback in	Mixed (quantitative, qualitative) 95 participants Primary	Digital tools enhanced feedback, making it quicker and more effective, while

	computer science education, with the goal of enhancing the learning experience.	Informatics Assessment tools in virtual environments for feedback (Liveworksheets, Quizizz, Educaplay)	interactivity improved acceptance of criticism.
Lee & Jho 2024 South Korea	Examining how feedback from artificial intelligence enhances students' ability to formulate statistics questions, while also considering their perception of AI and confidence in using it.	Mixed (experimental, interviews) 95 participants Primary General Learning Self-assessment AI-based FS	Artificial intelligence enhances question formulation among students with a positive attitude and high self-efficacy, boosting their receptivity to criticism when trust in the technology is high.

6. Discussion

Recent studies over the last decade have shown an increase in research activity, with 2024 recording the highest frequency of publications at seven studies (25%). This is followed by 2023 with six studies (21.3%), and 2020 with four studies (14.3%). In 2018, there were three studies (10.7%), while 2017 and 2019 each had two studies (7.1% each). The years 2015, 2021, 2022, and 2025 each included one study (3.6% each), further confirming the trend of rising research publications in recent years. In terms of the countries of origin, the United Kingdom, Australia, and the United States each contributed three studies (10.7% each). Greece and the Netherlands each had two studies (7.2% each). Additionally, 15 countries, including Belgium, Sweden, Ethiopia, Singapore, Finland, Brazil, Switzerland, Portugal, Ecuador, Germany, South Korea, Turkey, Japan, Iran, and Kosovo, each contributed one study (3.6% each). Geographically, Europe leads with 14 studies (50%), followed by Asia and the Americas with five studies each (17.8%). Oceania contributed three studies (10.7%), while Africa had one study (3.6%). This distribution reflects the international scope of the research conducted.

In terms of research types, mixed methods are the most common, comprising twelve studies (42.8%). This is followed by qualitative methods with eight studies (28.6%), experimental methods with five studies (17.9%), and quantitative methods with three studies (10.7%). This distribution reflects a variety of methodological approaches. Quantitative studies primarily utilize questionnaires and factor analysis to draw conclusions. Qualitative studies emphasize observations, interviews, and case studies, providing a deeper interpretation of the data. Mixed methods combine both quantitative and qualitative approaches, incorporating questionnaires, observations, interviews, and experimental applications. Lastly, experimental studies consist of control and intervention groups, and they also use questionnaires and diagnostic tests to explore causal relationships and assess outcomes.

In primary education research, primary schools are the focus, with 25 studies (89.3%) conducted in this setting, while kindergartens accounted for only three studies (10.7%). There is significant variation in the sample sizes of participants across these studies. The majority include between 101 and 500 participants (n=8, 27.6%), followed by studies with more than 500 participants (n=7, 24.1%). Smaller samples are also represented, with studies having 11 to 30 individuals (n=5, 17.2%), 51 to 100 participants (n=4, 13.8%), 31 to 50 participants (n=3, 10.3%), and, finally, 1 to 10 individuals (n=2, 6.9%). This distribution illustrates the varying scales of research approaches utilized. In terms of study types, quantitative research involves participant samples ranging from 160 to 1,071 individuals; qualitative studies include between 1 and 50 participants; mixed-method studies have samples ranging from 26 to 1,206 participants; and experimental studies involve 100 to 1,808 individuals.

In the field of study, General Learning stands out with nine studies, comprising 32.1% of the total. This is followed by Mathematics, which has six studies (21.4%), Language with five studies (17.9%), Educational Psychology with three studies (10.7%), and General Pedagogy with two studies (7.1%). Additionally, two studies (7.2%) combine subjects: one covers Language and Mathematics, while the other addresses Informatics and English as a Foreign Language, showcasing the thematic diversity of the research. The integration of digital media is evident in seven out of the 28 surveys (25%). Among these, mobile devices with applications were utilized in three studies (10.7% of the total, representing 42.9% of those incorporating digital media). Artificial intelligence applications were featured in two studies (7.1% of the total, accounting for 28.6% of digital usage), and virtual environments and online platforms were present in one study each (3.6% of the total, contributing to 14.3% of digital applications). This highlights a limited yet focused integration of technology within the research. Finally, only two studies (7.1%) provide information on the proportions of men and women in their samples.

Ten studies were identified that examined the impact of various feedback characteristics, including the type of feedback, the way it is provided, the instructional approach, the timing, and the context of the feedback. The findings indicate that students respond more positively and effectively to feedback that is praiseworthy, instructive, clear, and positively framed. In contrast, vague, general, or primarily error-focused feedback tends to be less effective (Sewagegn & Dessie, 2020; Laranjeira & Teixeira, 2023; Green, 2023). Descriptive feedback, delivered in a detailed and structured manner, not only boosts students' motivation and understanding of the material but also helps them accept criticism as a valuable tool for improving their performance (Rezvani & Yazdi, 2024). Furthermore, a student-centered and constructive approach to feedback—one that focuses on the individual needs and capabilities of each student—significantly enhances their receptivity to criticism. On the other hand, harsh or unsupportive criticism, which fails to consider emotional and cognitive aspects, greatly diminishes receptivity (Brooks et al., 2024; Sylejmani & Ahmedi, 2025). Focusing on formative feedback, which aims for continuous improvement and guidance, is much more effective than purely evaluative feedback, which simply assesses performance. Formative feedback not only improves specific skills, such as mathematical abilities, but also enhances students' engagement and sense of self-efficacy (Outhwaite et al., 2017; Brooks et al., 2019;

Smit et al., 2023; Canbazoğlu Albayrak & Bukova, 2024). Additionally, the timing of feedback plays a critical role in its effectiveness; timely and appropriately delivered feedback boosts both students' motivation and their receptivity to criticism (Green, 2023). These results reinforce the theories and conclusions of earlier important studies (Hattie & Timperley, 2007; Kluger & DeNisi, 1996; Black & Wiliam, 1998; Brookhart, 2008; Shute, 2008). They confirm that targeted, transparent, and timely feedback—grounded in formative principles and tailored to students' individual needs—is crucial for enhancing the learning process, intrinsic motivation, and self-regulation. Despite extensive documentation on the types and methods of providing feedback, further investigation is still required regarding the timing and broader context of feedback delivery. Specifically, additional studies are needed to explore the optimal frequency of feedback, the most conducive environment for its provision, and the impact of varying timeframes on students' acceptance and utilization of criticism.

This literature review highlights that there are few studies examining factors related to individual student characteristics—such as self-esteem, self-confidence, previous experiences with criticism, age, psychological development, and emotional maturity—that significantly influence their receptiveness to feedback. Research indicates that self-confidence, psychological development, and a growth mindset enhance students' ability to accept criticism as a valuable means of learning and improvement (Quintelier et al., 2018; Brooks et al., 2019). Moreover, students with high self-efficacy tend to respond better to feedback, particularly when it is supplemented by technological tools (Lee & Jho, 2024). Age and emotional maturity also impact responsiveness; for example, toddlers often prefer playful and indirect feedback, while students with emotional disorders may be more sensitive and less receptive to criticism (Downs et al., 2019; Snell et al., 2022). Receptivity to feedback decreases when criticism is unclear or poorly tailored, and factors such as gender and socioeconomic status can also play a role in this dynamic (Zumbrunn et al., 2023). These findings align with previous significant studies (Black & Wiliam, 1998; Dweck, 2006; Hattie & Timperley, 2007; Shute, 2008) that emphasize the effectiveness of feedback when it considers individual differences, reinforces a growth mindset, and promotes metacognitive awareness. However, further research is needed to explore the influence of age, psychological maturity, and special educational needs on long-term receptiveness to feedback, as this area remains under-studied.

Several studies emphasize the importance of the interpersonal relationship between teachers and students, which is a key factor in how feedback is accepted in educational settings. Findings indicate that collaboration among teachers, through sharing experiences and strategies, enhances the quality of feedback. This, in turn, increases student participation and openness to criticism (Huizinga et al., 2015). Additionally, a positive relationship based on mutual respect and open communication facilitates the acceptance of criticism, while the dynamics of the classroom influence how students perceive it (Eriksson et al., 2020; Wong, 2020; Green, 2023). Furthermore, the nature of the feedback—whether it is encouraging or critical—affects students' social acceptance and psychological well-being, shaping their willingness to learn (Schwab et al., 2024). These findings align with earlier theoretical perspectives (Black & Wiliam, 1998; Hattie & Timperley, 2007; Shute, 2008), demonstrating

that the quality of feedback is influenced not only by its content and delivery but also by the context in which it is given, particularly the interpersonal relationship between teachers and students. However, this aspect is still underexplored, and more research is needed on the impact of the teacher-student relationship on receptivity to feedback across various cultural and educational contexts. Additionally, further investigations are necessary to understand the role of teacher education in fostering trusting relationships and providing effective feedback.

The research identified and documented numerous scientific studies that highlight the significant influence of various external factors—such as cultural, social, technological, and classroom dynamics—on students' receptivity to feedback in the educational process. The socio-economic status of students, along with their gender, has been shown to significantly impact their ability to accept criticism over time as part of their learning development. Additionally, active and consistent parental involvement in the educational process greatly enhances the effectiveness of feedback, particularly for young children, fostering their emotional and cognitive engagement (Snell et al., 2022; Zumbrunn et al., 2023). These findings align with previous research (Black & Wiliam, 1998; Hattie & Timperley, 2007; Shute, 2008), which emphasizes the importance of the sociocultural and environmental context in providing and receiving feedback. Technology, a rapidly evolving factor, plays a crucial role in improving feedback delivery. Modern digital tools, such as ChatGPT and other AI applications, enhance the speed, interactivity, and personalization of feedback, which increases its acceptance among students, boosts their engagement, and reduces the resistance often associated with criticism (Faber et al., 2017; Kleisarchakis & Xezonaki, 2020; Villan & Santos, 2023; Chilamá, 2024; Lee & Jho, 2024). The findings are consistent with earlier studies (Hattie, 2009; Evans, 2013) that extensively analyzed digital and online feedback, arguing that digital media enable richer, timelier, and personalized feedback. Furthermore, peer or self-assessment, when paired with careful and constructive guidance from teachers, promotes collaboration among students, enhances receptivity to criticism, and fosters an environment of mutual support and learning (Mandouit, 2018; Wong, 2020; Sylejmani & Ahmedi, 2025). The dynamics that develop within the classroom, especially when combined with positive reinforcement and supportive teaching methods, significantly improve social interactions among students and enhance their acceptance of criticism. This is true even when feedback does not lead to immediate improvements in specific skills or academic performance (Hardman & Bell, 2018; Gidari & Kakana, 2021; Pederson, 2024). These findings align with previous theoretical approaches (Dweck, 2006; Shute, 2008; Evans, 2013; Winstone et al., 2017), confirming that active student involvement in the assessment process—through self-assessment and peer assessment—contributes significantly to the development of metacognitive skills, a sense of responsibility, and a positive attitude towards feedback. Despite extensive research on the impact of technology and classroom dynamics on feedback provision and acceptance, cultural and social factors—such as family roles, cultural values, and social norms—remain relatively understudied. This gap limits our understanding of how these factors shape the learning experience. Therefore, further studies are needed to explore the interactions among these multidimensional factors and their impact on feedback across different cultural and social contexts, as well as the long-term effects of peer assessment on enhancing student receptivity and collaboration.

In examining the use of self-assessment processes, fourteen studies (50%) incorporated various self-assessment methods and tools. Many of these studies implemented digital applications, such as digital formative feedback through Snappet (Faber et al., 2017), Onecourse on tablets (Outhwaite, Gulliford & Pitchford, 2017), and SMS messages via Text to Talk (Snell, Wasik & Hindman, 2022). Some studies combined digital feedback with peer assessment (Sylejmani & Ahmedi, 2025) and artificial intelligence tools like ChatGPT (Villan & Santos, 2023; Lee & Jho, 2024). Collaborative feedback models included the Continuous Collaborative Model (Mandouit, 2018) and the Feedback for Learning Matrix (Brooks, Carroll & Gillies, 2019). Additionally, self-assessment was often paired with rubrics and feedback from teachers (Wong, 2020) and peers (Zumbrunn et al., 2023). Research also focused on the effects of positive and negative feedback facilitated by guiding questions (Puusepp et al., 2023), formative feedback (Smit et al., 2023), descriptive feedback (Rezvani & Yazdi, 2024), and progress reflection using success criteria (Brooks et al., 2024). The use of self-assessment tools significantly helps primary school students accept criticism better than research that does not incorporate these practices. Active participation through self-assessment enhances receptivity to feedback, especially when it is paired with clear, supportive commentary. Digital self-assessment tools, such as Snappet, were linked to improved performance and positive attitudes (Faber, Luyten & Visscher, 2017), while the use of Onecourse on tablets notably increased engagement among low-achieving students (Outhwaite, Gulliford & Pitchford, 2017). Collaborative models promoted acceptance of individualized criticism (Mandouit, 2018) and boosted self-confidence (Brooks et al., 2019). Students found criticism to be beneficial when it was clear and supportive (Wong, 2020; Rezvani & Yazdi, 2024). Moreover, parental involvement through playful activities contributed to improved acceptance of criticism (Snell, Wasik & Hindman, 2022). A growth mindset was linked to greater acceptance of feedback (Puusepp et al., 2023), while peer assessment enhanced collaboration and receptivity under guidance (Sylejmani & Ahmedi, 2025). In contrast, without self-assessment practices, the effects of feedback were limited. Corrective feedback given without student engagement led to stagnant receptivity (Hardman & Bell, 2018), while students with emotional difficulties often attributed low acceptance to negative criticism (Downs et al., 2019). Generalized and vague criticism frequently resulted in rejection (Sewagegn & Dessie, 2020). Overall, self-assessment combined with clear support encourages positive attitudes towards criticism, whereas its absence can lead to defensiveness and decreased willingness to improve. These findings align with the theoretical and research frameworks of previous studies (Black & Wiliam, 1998; Hattie & Timperley, 2007; Shute, 2008; Winstone et al., 2017), confirming that active student involvement through self-assessment and collaborative processes is crucial for effectively utilizing feedback.

7. Conclusions – Suggestions

Recent research indicates that the impact of feedback on students' receptiveness to teacher criticism is a complex phenomenon influenced by various internal and external factors. Over the past decade, there has been a notable increase in research activity, with strong international participation from numerous countries and continents. Europe leads in

producing studies, while significant contributions also come from Asia, the Americas, and other regions. This widespread research highlights the international dimension and broad interest in the field. The research exhibits considerable methodological diversity, emphasizing mixed approaches that combine quantitative and qualitative methods for a more comprehensive analysis. Quantitative studies typically rely on questionnaires and statistical techniques, whereas qualitative studies focus on interviews and observations to provide a deeper understanding. Experimental research employs control groups to examine causal relationships. This methodological variety enriches the investigation of the topic and enhances the validity of the findings. In the realm of primary education, research predominantly targets primary schools, with limited involvement from kindergartens. Sample sizes differ based on the methodological approach: quantitative and experimental studies generally utilize larger samples, while qualitative research tends to involve smaller participant numbers. This diversity showcases the adaptability of research methods used to explore various aspects of the educational process in primary education.

The research encompasses a wide range of subjects, primarily focusing on General Learning, Mathematics, and Language. Educational Psychology and General Pedagogy receive less attention in comparison. There is also a diversity of themes, as some studies integrate different fields of knowledge or concentrate on more specialized topics, such as Computer Science and English as a foreign language. Additionally, technology is utilized in a limited but purposeful manner, primarily through mobile devices, artificial intelligence applications, virtual environments, and online platforms. However, references to demographics, such as gender ratios, are infrequent, highlighting an area that requires further investigation.

The findings indicate that various factors related to feedback characteristics—such as type, delivery method, instructional approach, timing, and context—significantly impact its effectiveness. Students respond most positively to feedback that is clear, constructive, and tailored to their individual needs, while vague or harsh criticism tends to decrease receptivity. Emphasizing formative feedback, which encourages continuous improvement, enhances both students' skills and motivation. Additionally, the timing of feedback is crucial for its acceptance and effectiveness. Although there is already a substantial amount of research on this topic, further investigation into the timing and context of feedback delivery is necessary to determine best practices and maximize its impact on the learning process. The review indicates that students' individual characteristics—such as self-esteem, self-confidence, psychological development, and emotional maturity—significantly influence how they receive and respond to feedback. Students with high self-efficacy and a positive mindset tend to be more open to criticism as a valuable learning tool. Additionally, factors like age and emotional needs shape their preferences and sensitivity to feedback. While there is a substantial amount of data available, research on these influences is still limited, particularly concerning the long-term effects of feedback and the needs of students with special educational requirements. This highlights the necessity for further studies in this area. The relationship between students and teachers, while not extensively studied, significantly influences how receptive students are to feedback. A positive and respectful relationship, paired with open communication, enhances students' ability to accept criticism and their

desire to learn. Moreover, collaboration among teachers improves the quality of feedback and boosts student engagement. However, this topic remains underexplored, and further research is needed, particularly concerning various cultural contexts and the role of teacher training in developing trusting relationships.

Research confirms that various external factors—such as socioeconomic status, gender, family involvement, technology, and classroom dynamics—significantly affect students' receptiveness to feedback. Active parental involvement and the use of modern digital tools enhance student engagement, making feedback more acceptable and effective. Additionally, peer assessment and self-assessment, when guided appropriately, foster collaboration and cultivate a positive attitude toward constructive criticism. Despite substantial research in these areas, cultural and social factors remain relatively underexplored, highlighting the need for further studies that examine their interactions with feedback across diverse settings and their long-term impact on the learning process. The analysis indicates that implementing self-assessment processes, particularly when integrated with digital tools and collaborative models, significantly enhances students' receptiveness to feedback. Active involvement in self-assessment fosters a greater acceptance of criticism, boosts learning engagement, and reinforces self-confidence. Additionally, providing clear and supportive feedback, encouraging parental involvement, and facilitating peer assessment under guidance all positively influence students' attitudes. Conversely, a lack of self-assessment coupled with unclear or negative feedback tends to lead to defensive behavior and a decreased motivation to improve. Overall, self-assessment stands out as a crucial factor in promoting positive attitudes toward feedback, enriching the learning experience, and enhancing students' openness to teacher criticism.

Further research is necessary to determine the best practices for when and how feedback should be provided. It is also important to explore the long-term effects of factors such as students' age, psychological maturity, and special educational needs. Additionally, studies should focus on the significance of the teacher-student interpersonal relationship and the proper training required for teachers to deliver effective feedback. At both the school and educational policy levels, further investigation is needed to understand how leadership and administrative strategies can foster supportive environments, enhance teachers' professional development, and ensure the consistent application of effective feedback practices. Lastly, cultural and social factors, such as family values and social norms, are still not well understood, highlighting the need for more research on their influence on the learning process and outcomes of feedback.

Funding

None.

Informed Consent

Obtained.

Provenance and Peer Review

Not commissioned; externally double-blind peer reviewed.

Data Availability Statement

The data that support the findings of this study are available on request.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

References

Andrade, H., & Valtcheva, A. (2009). Promoting learning and achievement through self-assessment. *Theory into practice, 48*(1), 12-19. https://doi.org/10.1080/00405840802577544

Badrun, B. (2024). A Systematic Review of the Nexus between Teacher Feedback and Student Motivation. Education Studies and Teaching Journal (EDUTECH), 1(1), 70-79. https://journal.ppipbr.com/index.php/edutech/article/download/237/220

Baliram, N. S., & Youde, J. J. (2018). A Meta-Analytic Synthesis: Examining the Academic Impacts of Feedback on Student Achievement. *International Dialogues on Education: Past and Present, 5*(2), 76-90. https://doi.org/10.53308/ide.v5i2.72. ISSN 2198-5944

Bandura, A. (1997). Self-efficacy: *The exercise of control.* W.H. Freeman.

Bennett, R. E. (2011). Formative assessment: A critical review. *Assessment in education: principles, policy & practice*, *18*(1), 5-25. https://doi.org/10.1080/0969594X.2010.513678

Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice, 5(*1), 7-74. https://doi.org/10.1080/0969595980050102

Brookhart, S. M. (2008). *How to give effective feedback to your students*. ASCD. ISBN: 978-1-4166-2306-9. ASCD.

Brooks, C., Burton, R., Van der Kleij, F., Ablaza, C., Carroll, A., Hattie, J., & Salinas, J. G. (2024). "It actually helped": students' perceptions of feedback helpfulness prior to and following a teacher professional learning intervention. *Frontiers in Education, 9,* 1433184. Frontiers Media SA. https://doi.org/10.3389/feduc.2024.1433184

Brooks, C., Carroll, A., Gillies, R. M., & Hattie, J. (2019). A matrix of feedback for learning. *Australian Journal of Education, 63*(2), 123-141. https://search.informit.org/doi/abs/10.3316/ielapa.329362104776530

Canbazoğlu Albayrak, H. B. & Bukova Güzel, E. (2024). Developing cognitive mathematical modeling competencies of a fourth-grade elementary school student: Elaborated feedback. *Pamukkale University Journal of Education [PUJE], 62,* 29-71. https://doi.org/10.9779/pauefd.1290603

Carless, D., & Boud, D. (2018). The development of student feedback literacy: Enabling uptake of feedback. *Assessment & Evaluation in Higher Education, 43*(8), 1315-1325.

https://doi.org/10.1080/02602938.2018.1463354

Carless, D. (2015). *Excellence in university assessment: Learning from award-winning practice.* Routledge. ISBN: 9781138824553

Cen, Y., & Zheng, Y. (2024). The motivational aspect of feedback: A meta-analysis on the effect of different feedback practices on L2 learners' writing motivation. *Assessing Writing, 59*, 100802. https://doi.org/10.1016/j.asw.2023.100802

Chen, T. (2016). Technology-supported peer feedback in ESL/EFL writing classes: A research synthesis. Computer *Assisted Language Learning, 29*(2), 365-397. https://doi.org/10.1080/09588221.2014.960942

Chilamá, P. A. A. (2024). Herramientas de evaluación en entornos virtuales para la retroalimentación de la enseñanza de computación en educación básica elemental. *SATHIRI, 19*(2), 76-87. https://doi.org/10.32645/13906925.1281

Gidari, S., & Kakana, D. M. (2021). Improving the Quality of the Preschool Environment through a Teacher Professional Development Program. *Exploring the Child's World, 18,* 26-37. https://ejournals.epublishing.ekt.gr/index.php/omep/article/view/30019/23163

Cordovani, L., Tran, C., Wong, A., Jack, S. M., & Monteiro, S. (2023). Undergraduate learners' receptiveness to feedback in medical schools: A scoping review. *Medical Science Educator, 33*(5), 1253-1269. https://doi.org/10.1007/s40670-023-01858-0

Downs, K. R., Caldarella, P., Larsen, R. A., Charlton, C. T., Wills, H. P., Kamps, D. M., & Wehby, J. H. (2019). Teacher praise and reprimands: The differential response of students at risk of emotional and behavioral disorders. *Journal of Positive Behavior Interventions, 21*(3), 135-147. https://doi.org/10.1177/1098300718800824

Dweck, C. S. (2006). *Mindset: The new psychology of success.* Random House. https://adrvantage.com/wp-content/uploads/2023/02/Mindset-The-New-Psychology-of-Success-Dweck.pdf

Eriksson, E., Boistrup, L. B., & Thornberg, R. (2020). "You must learn something during a lesson": how primary students construct meaning from teacher feedback. *Educational Studies, 46*(6), 709-724. https://doi.org/10.1080/03055698.2020.1753177

Esmaeeli, B., Esmaeili Shandiz, E., Shojaei, H., Fazli, B., & Ahmadi, R. (2023). Feedback in Higher Education: An Overview of Reviews and Systematic Reviews. *Medical Education Bulletin*, *4*(2), 745-764. https://doi.org/10.22034/meb.2023.405421.1080

Evans, C. (2013). Making sense of assessment feedback in higher education. *Review of educational research*, *83*(1), 70-120. https://doi.org/10.3102/0034654312474350

Faber, J. M., Luyten, H., & Visscher, A. J. (2017). The effects of a digital formative assessment tool on mathematics achievement and motivation in grade three primary education. *Computers & Education, 88,* 48-63. https://doi.org/10.1016/j.compedu.2016.12.001

Fong, C. J., Warner, J. R., Williams, K. M., Schallert, D. L., Chen, L. H., Williamson, Z. H., & Lin, S. (2016). Deconstructing constructive criticism: The nature of academic emotions associated with constructive, positive, and negative feedback. *Learning and Individual Differences, 49,* 393-399. https://doi.org/10.1016/j.lindif.2016.05.019

Frantz, J., Cupido-Masters, J., Moosajee, F., & Smith, M. R. (2022). Non-cognitive support for postgraduate studies: A systematic review. *Frontiers in Psychology, 12,* 773910. https://doi.org/10.3389/fpsyg.2021.773910

Gao, X., Noroozi, O., Gulikers, J., Biemans, H. J., & Banihashem, S. K. (2024). A systematic review of the key components of online peer feedback practices in higher education. *Educational Research Review, 42,* 100588. https://doi.org/10.1016/j.edurev.2023.100588

Green, J. (2023). Primary students' experiences of formative feedback in mathematics. *Education Inquiry*, *14*(3), 285-305. https://doi.org/10.1080/20004508.2021.1995140

Hahn, M. G., Navarro, S. M. B., Valentín, L. D. L. F., & Burgos, D. (2021). A systematic review of the effects of automatic scoring and automatic feedback in educational settings. *IEEE Access, 9,* 108190-108198. https://doi.org/10.1109/ACCESS.2021.3100890

Hardman, W., & Bell, H. (2018). 'More fronted adverbials than ever before'. Writing feedback practices and grammatical metalanguage in an English primary school. *Language and Education, 33*(1), 35–50. https://doi.org/10.1080/09500782.2018.1488864

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement.* Routledge. https://inspirasifoundation.org/wp-content/uploads/2020/05/John-Hattie-Visible-Learning_-A-synthesis-of-over-800-meta-analyses-relating-to-achievement-2008.pdf

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), 81-112. https://doi.org/10.3102/003465430298487

Haughney, K., Wakeman, S., & Hart, L. (2020). Quality of feedback in higher education: A review of literature. *Education Sciences, 10*(3), 60. https://doi.org/10.3390/educsci10030060

Huizinga, T., Handelzalts, A., Nieveen, N., & Voogt, J. (2015). Fostering teachers' design expertise in teacher design teams: conducive design and support activities. *Curriculum journal, 26*(1), 137-163. https://doi.org/10.1080/09585176.2014.990395

Hyland, K. (2006). *Feedback in second language writing: Contexts and issues.* Cambridge University Press. ISBN: 9781139524742

Jensen, L. X., Bearman, M., & Boud, D. (2021). Understanding feedback in online learning–A critical review and metaphor analysis. *Computers & Education, 173,* 104271. https://doi.org/10.1016/j.compedu.2021.104271

Jonsson, A. (2013). Facilitating productive use of feedback in higher education. *Active Learning in Higher Education, 14(*1), 63-76. https://doi.org/10.1177/1469787412467125

Kerman, N. T., Banihashem, S. K., Karami, M., Er, E., Van Ginkel, S., & Noroozi, O. (2024). Online peer feedback in higher education: A synthesis of the literature. *Education and Information Technologies*, *29*(1), 763-813. https://doi.org/10.1007/s10639-023-12273-8

Kleisarchakis, M., & Xezonaki, A. (2020.). Teachers' views on the contribution of educational applications for mobile devices to teaching effectiveness: A research approach to language lessons for primary school students. C.V.P. Pedagogy & Education. https://shorturl.at/C4FwQ

Koenka, A. C., Linnenbrink-Garcia, L., Moshontz, H., Atkinson, K. M., Sanchez, C. E., & Cooper, H. (2021). A meta-analysis on the impact of grades and comments on academic motivation and achievement: A case for written feedback. *Educational Psychology*, *41*(7), 922-947. https://doi.org/10.1080/01443410.2019.1659939

Laici, C., & Pentucci, M. (2019). Feedback with technologies in higher education: a systematic review. *Form@re - Open Journal Per La Formazione in Rete, 19*(3), 6–25. https://doi.org/10.13128/form-7698

Laranjeira, M., & Teixeira, M. O. (2023). Children's perceptions of teacher feedback: Portuguese validation of a scale. *International Journal of School & Educational Psychology*, *11*(4), 334-343. https://doi.org/10.1080/21683603.2023.2243854

Lee, J. & Jho, H. (2024). The Impact of an AI-based Feedback System on the Improvement of Elementary Students' Statistical Inquiry Question Posing: The Moderating Effects of AI Perception and Feedback Self-efficacy. *Brain, Digital, & Learning, 14*(3), 459-473. https://doi.org/10.31216/BDL.20240026

Lipnevich, A. A., & Panadero, E. (2021). A review of feedback models and theories: Descriptions, definitions, and conclusions. In *Frontiers in Education,* 6, 720195). Frontiers Media SA. https://doi.org/10.3389/feduc.2021.720195

Lipnevich, A. A., & Smith, J. K. (2022). Student–feedback interaction model: Revised. *Studies in Educational Evaluation, 75.* https://doi.org/101208. 10.1016/j.stueduc.2022.101208

Liu, Q., & Brown, D. (2015). Methodological synthesis of research on the effectiveness of corrective feedback in L2 writing. *Journal of Second Language Writing, 30,* 66-81. https://doi.org/10.1016/j.jslw.2015.08.011

Mandouit, L. (2018). Using student feedback to improve teaching. *Educational action research*, *26*(5), 755-769. https://doi.org/10.1080/09650792.2018.1426470

McMillan, J. H., & Hearn, J. (2008). Student self-assessment: The key to stronger student motivation and higher achievement. *Educational horizons, 87*(1), 40-49. https://files.eric.ed.gov/fulltext/EJ815370.pdf

Morris, R., Perry, T., & Wardle, L. (2021). Formative assessment and feedback for learning in higher education: A systematic review. *Review of Education, 9*(3), e3292. https://doi.org/10.1002/rev3.3292

Mory, E. H. (2013). Feedback research revisited. *In Handbook of research on educational communications and technology* (pp. 738-776). Routledge. https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=2fde1d3e99ee0c9f989a8488b1978756a82a1bd4

Nicol, D. J., & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in Higher Education, 31*(2), 199-218. https://doi.org/10.1080/03075070600572090

Nieminen, J. H., & Carless, D. (2023). Feedback literacy: A critical review of an emerging concept. *Higher Education*, *85*(6), 1381-1400. https://doi.org/10.1007/s10734-022-00895-9

Outhwaite, L. A., Gulliford, A., & Pitchford, N. J. (2017). Closing the gap: Efficacy of a tablet intervention to support the development of early mathematical skills in UK primary school children. *Computers & Education, 108,* 43-58. https://doi.org/10.1016/j.compedu.2017.01.011

Panadero, E., & Lipnevich, A. A. (2022). Feedback models and typologies: A systematic review. *Educational Psychology Review, 34*(1), 1-34. https://doi.org/10.1007/s10648-021-09609-2

Paterson, C., Paterson, N., Jackson, W., & Work, F. (2020). What are students' needs and preferences for academic feedback in higher education? A systematic review. *Nurse Education Today, 85,* 104236. https://doi.org/10.1016/j.nedt.2019.104236

Pederson, S. (2024). The ABCs of Teacher-Student Interaction: Feedback in a Japanese Elementary School English Class. *Bull.Fac.Educ.Kumamoto.Univ.No.73,* 77. Pederson, S. (2024). The ABCs of Teacher-Student Interaction: Feedback in a Japanese Elementary School English Class. Bull.Fac.Educ.Kumamoto.Univ.No.73, 77.

Pekrun, R., Goetz, T., Frenzel, A. C., & Perry, R. P. (2005). *Achievement emotions questionnaire. Learning and Individual Differences.* https://doi.org/10.1037/t21196-000

Puusepp, I., Linnavalli, T., Tammi, T., Huotilainen, M., Kujala, T., Laine, S., Kuusisto, E. & Tirri, K. (2023). Development of associations between elementary school students' mindsets and attentional neural processing of feedback in an arithmetic task. *Frontiers in Psychology, 14,* 1155264. https://doi.org/10.3389/fpsyg.2023.1155264

Rezvani, H. & Yazdi, O. M. (2024). A Qualitative Analysis of the Impact of Descriptive Feedback on the Learning Motivation of Elementary Students. *Journal of Study and Innovation in Education and Development, 3*(4), 1-9. https://doi.org/10.61838/jsied.3.4.1

Rolheiser, C., Bower, B., Stevahn, L. (2000). *The Portfolio Organizer: Succeeding with Portfolios in Your Classroom.* ASCD. https://files.znu.edu.ua/files/Bibliobooks/Kushynova/0034708.pdf

Quintelier, A., Vanhoof, J., & De Maeyer, S. (2018). Understanding the influence of teachers' cognitive and affective responses upon school inspection feedback acceptance. *Educational assessment, evaluation and accountability*, *30*(4), 399-431.

https://hdl.handle.net/10067/1554490151162165141

Schwab, S., Markus, S., & Hassani, S. (2024). Teachers' feedback in the context of students' social acceptance, students' well-being in school and students' emotions. *Educational Studies*, *50*(5), 978-995. https://doi.org/10.1080/03055698.2021.2023475

Sewagegn, A. A., & Dessie, A. A. (2020). The Value of Feedback in Primary Schools: Students' Perceptions of Practice. *International Journal of Learning, Teaching and Educational Research, 19*(10), 338-354. https://doi.org/10.26803/ijlter.19.10.19

Shute, V. J. (2008). Focus on formative feedback. *Review of educational research, 78*(1), 153-189. https://doi.org/10.3102/0034654307313795

Smithers, L. G., Sawyer, A. C. P., Chittleborough, C. R., Davies, N. M., Davey Smith, G., & Lynch, J. W. (2018). A systematic review and meta-analysis of effects of early life non-cognitive skills on academic, psychosocial, cognitive and health outcomes. *Nature human behaviour, 2*(11), 867–880. https://doi.org/10.1038/s41562-018-0461-x

Smit, R., Dober, H., Hess, K., Bachmann, P., & Birri, T. (2023). Supporting primary students' mathematical reasoning practice: the effects of formative feedback and the mediating role of self-efficacy. *Research in Mathematics Education, 25*(3), 277-300. https://doi.org/10.1080/14794802.2022.2062780

Snell, E. K., Wasik, B. A., & Hindman, A. H. (2022). Text to talk: Effects of a home-school vocabulary texting intervention on prekindergarten vocabulary. *Early Childhood Research Quarterly, 60,* 67-79. https://doi.org/10.1016/j.ecresq.2021.12.011

Sylejmani, V., & Ahmedi, V. (2025). Exploring the impact of peer-to-peer assessment on student performance and social interaction: Insights from teachers and students in primary education. *International Journal of Education and Practice, 13*(1), 272-280. https://doi.org/10.18488/61.v13i1.4056

Villan, F., & Santos, R. P. D. (2023). ChatGPT as co-advisor in scientific initiation: Action research with project-based learning in elementary education. *arXiv preprint arXiv:2311.14701*. https://doi.org/10.48550/arXiv.2311.14701

Winstone, N. E., Nash, R. A., Parker, M., & Rowntree, J. (2017). Supporting learners' agentic engagement with feedback: A systematic review and a taxonomy of recipience processes. *Educational psychologist*, *52*(1), 17-37. https://doi.org/10.1080/00461520.2016.1207538

Wisniewski, B., Zierer, K., & Hattie, J. (2020). The power of feedback revisited: A meta-analysis of educational feedback research. *Frontiers in Psychology, 10,* 3087. https://doi.org/10.3389/fpsyg.2019.03087

Wong, H. M. (2020). Perceptions of Singaporean primary students: What is self-assessment and feedback to me? *OER Knowledge Bites, 12*(6). https://nie.edu.sg/docs/default-source/oer/oer-knowledge-bites-volume12.pdf?sfvrsn=cbb06531

Yu, R., & Yang, L. (2021). ESL/EFL learners' responses to teacher written feedback: Reviewing a recent decade of empirical studies. *Frontiers in Psychology, 12,* 735101. https://doi.org/10.3389/fpsyg.2021.735101

Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. *In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), Handbook of self-regulation* (pp. 13–39). Academic Press. https://doi.org/10.1016/B978-012109890-2/50031-7

Zumbrunn, S., Ekholm, E., Broda, M., & Koenka, A. C. (2023). Trajectories of students' writing feedback attitudes. *The Journal of Experimental Education*, *91*(4), 676-695. https://doi.org/10.1080/00220973.2022.2064413

Zynuddin, S. N., Kenayathulla, H. B., & Sumintono, B. (2023). The relationship between school climate and students' non-cognitive skills: A systematic literature review. *Heliyon, 9*(4), e14773. https://doi.org/10.1016/j.heliyon.2023.e14773

Copyright Disclaimer