



# The Relationship between Self- and Peer Assessment in Higher Education: A Systematic Review

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**Abstract:** Background: To promote a student-centered approach and sustain the development of a self-regulated attitude toward academic achievement, assessment in higher education should integrate different perspectives: teachers' feedback is crucial, but it needs to be supported by self-assessment and peer assessment activities. Methods: The aim of the current systematic review is to examine the most recent literature (from 2011 to 2022) on these topics, considering the relevant findings that may have theoretical and practical applications in higher-education settings. Three of the broadest online databases for educational research (ERIC EBSCO, Science Direct, Web of Science) were considered for the search, which resulted in 30 documents being retrieved and considered in the analysis. Results: Self- and peer assessment seems to be two distinct processes that may complement and influence each other; although they seem particularly accessible, effectively assessing one's own work and giving one's peers useful feedback is not an easy task, due to several specific cognitive and social issues. Conclusions: The findings show an increasing interest in these topics, with particular attention to the potential benefits that could be derived from a combined and effective use of these assessment processes in higher education.

**Keywords:** higher education; assessment; peer assessment; self-assessment; feedback



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## 1. Introduction

Learning processes in higher education require students to be aware of the effectiveness (or ineffectiveness) of their behaviors related to academic activities. In higher education contexts, assessment is a multidimensional process, wherein information is gathered from various different sources for describing the quality of the learning process and performance by checking whether specific educational goals have been reached [1]. The aim of the assessment activities is not only to give a judgment and/or feedback about students' performance but also to help them revise and improve their learning process [2]. Assessment processes may help students in understanding the success of their learning activity and recognizing the strong points and the critical issues. However, too often, feedback from teachers, which is delivered passively to students, is of limited usefulness. This is for several reasons, mainly because students are not always able to use the feedback that they receive from their instructors in order to revise and improve their performance [3]. Although university professors put some effort into offering their students formative comments and suggestions, it seems clear that purely external feedback from educators is not sufficient for promoting an authentic and autonomous learning process in students. Instructors often complain about students' lack of understanding of the evaluations that they give them [4], and that they are not recognizing what is considered the core elements of a successful performance. This difficulty does not seem related to a lack of interest in the assessment of the quality of their performance, but to a lack of competencies and skills for examining and revising the learning process. In addition, students often have very little motivation to consider their teachers' comments on their academic work [5]; they cannot understand how this feedback may be linked to their future learning tasks, and,

sometimes, they may feel that it is more critical than formative, meaning that they develop negative feelings toward assessment. Students can also be overwhelmed by the different types of evaluations, not having the proper competencies to integrate them into effective multidimensional feedback [5]. Another issue related to the instructors' assessment is that among the students, there may be confusion regarding assessment ratings and formative feedback [6], since there is not a clear distinction between the main functions of course grades and the aims of formative feedback. While a course grade may represent a static "picture" of an individual situation at that moment in a specific academic discipline, formative feedback may represent the starting point for (re-)structuring an individual learning process from a dynamic perspective. A negative course grade may disappoint a student, but the feedback that accompanies it should be viewed as the "next step" for improving and constructing a more effective learning process.

Considering all these reflections, the core question is currently how to promote a full understanding of assessment processes in students, to help them develop not only a self-regulated learning process but also an autonomous process of self-assessment. Academic activity requires students to become more organized and autonomous in their learning, and this also includes the management of the assessment dimension. The possibility of integrating teachers' feedback with self-evaluations and with comments received from their own classmates may help students in developing a more effective approach to assessment, viewing it as a process for supporting learning and academic motivation. To evaluate oneself and one's peers is not an easy or immediate task, since several dimensions are included, not least the need to be self-confident and to trust one's peers in a collaborative climate [7]. The comparison of feedback from different sources (teacher, peers, and self) may offer an integrated overview of the quality of individual (or team) performance in higher education, achieving a more formative function instead of a judgmental one.

The current systematic analysis aims to examine the most recent contributions in the field of research in higher education on the topics of self- and peer assessment. The main findings from the literature in the last decade will be examined, to highlight the main aspects related to the self- and peer assessment process, and to understand how the correlations between them have been identified and studied. Selected findings will be discussed for the purposes of deriving some practical hints that may help higher education institutions to promote more active and participative assessment processes.

## 2. Materials and Methods

The current review has been guided by three main research questions:

**RQ1.** *What are the main features characterizing the processes of students' self- and peer assessment, within the context of higher education, that have been examined in educational research in the last decade?*

**RQ2.** *What are the relationships between self- and peer assessment in higher-education contexts that have been examined in the research?*

**RQ3.** *What strategies have been proposed in the literature to train students for self- and peer-assessment tasks?*

### 2.1. Inclusion Criteria

The online search was based on several criteria:

1. The documents should have been published in peer-reviewed scientific journals;
2. They had to be published in the last decade (from 2011 to 2022);
3. The terms "higher education/university", "assessment strategies", "self-assessment", and "peer assessment" should be included in the keywords or in the main topics of the documents;
4. The documents should be written in English.

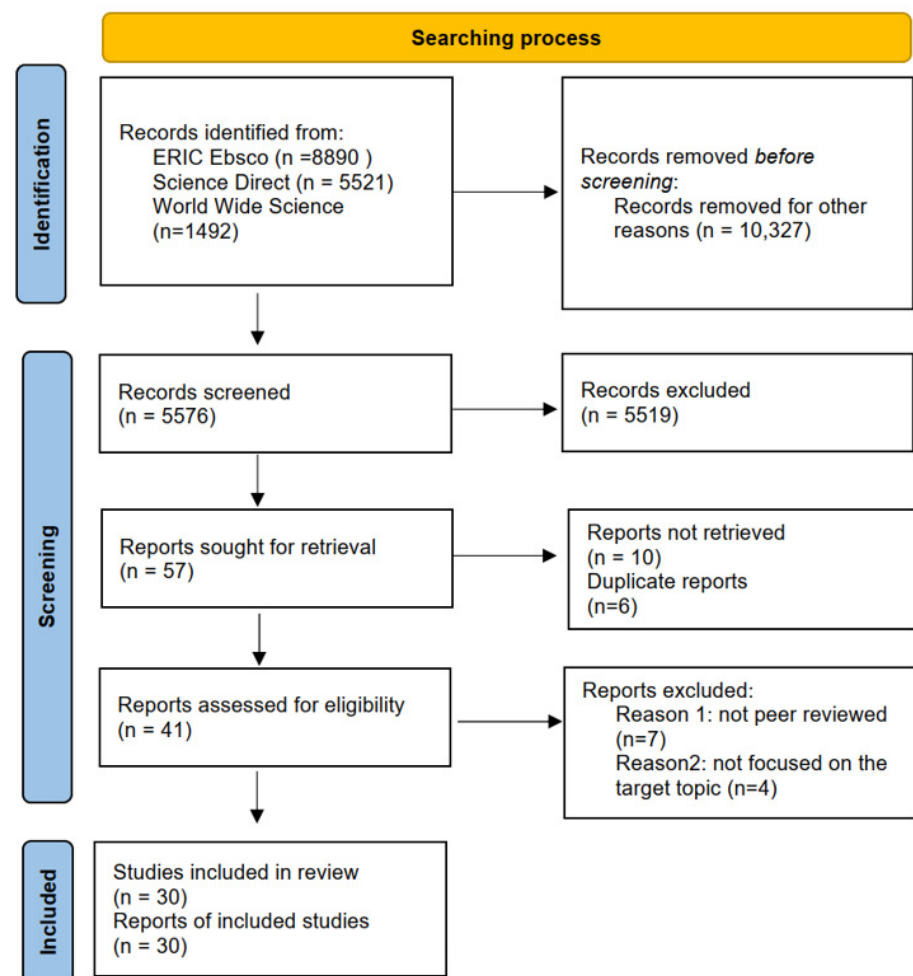
## 2.2. Searching Process

In the first phase of the online search, several of the main scientific databases in the field of educational research were considered (namely, ERIC EBSCO, Science Direct (Amsterdam, The Netherlands), and Web of Science). Specific keywords have been used for the search, in the following combinations: “*higher education AND self-assessment AND peer assessment*” and “*university AND self-assessment AND peer assessment*”. In total, 8890 results were found in ERIC EBSCO, 5521 in Science Direct, and 1492 in Web of Science.

During the second phase, the results from the databases were examined in detail, and 30 papers were selected from ERIC EBSCO, 11 from Science Direct, and 16 from Web of Science, for a total number of 57 papers. Six of them were excluded since they were duplicated records. Forty-one full texts were recovered and were then considered for the subsequent phase.

In the third phase, the retrieved full texts of the documents were examined more in detail, and eleven of them were discarded since they did not meet the inclusion criteria. More specifically, seven of them were conference proceedings without peer review, three are focused on assessment in general and not specifically on the topics considered in the current analysis, and one of them was focused on a totally different topic than those considered in the current analysis (it addressed the evaluation of the quality of the university courses).

The entire search procedure has been described in Figure 1, as required by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses, Page et al. 2021) statement [8].



**Figure 1.** Flow diagram (PRISMA) summarizing the search procedure.

### 2.3. Analysis of the Documents

Thirty full texts have been considered for the systematic analysis. They were reviewed and the results of this process have been summarized in an Excel sheet (see Table 1). Five primary features have been considered for each document: the year of publication, the country of origin of the research, the type of document (research paper or literature review), the main topic, and the findings.

**Table 1.** Systematic analysis of the documents, considering the authors, years of publication, nationality of the research, type of document, main topic, and main findings for each document.

Authors	Year	Nationality	Type of Document	Main Topic	Main Findings
Adachi, C., Hong-Meng Tai, J., and Dawson, P. [9]	2018	Australia	Research paper (qualitative)	Benefits and challenges of self- and peer assessment perceived by university educators	Referred benefits include the enhancement of the learning process; the promotion of transferable skills, cooperation, and self-regulated learning; the possibility to have more feedback. Perceived challenges focus on the need for more time and effort, the role of teachers' and students' motivation, the risk of underestimating the importance of assessment and learning, and the difficulties connected with online learning environments.
Bourke, R. [10]	2018	New Zealand	Research paper (qualitative)	Defining and testing some self-assessment tasks from the perspective of students	For students, it is not easy to engage in self-assessment tasks, but these are very useful skills for helping them develop self-regulation in their learning. These tasks also focus students' attention more on the quality of the learning process than on the grades that they are awarded for their performance.
Bozkurt, F. [11]	2020	Turkey	Research paper (qualitative)	Examining the beliefs that teacher candidates have about peer and self-assessment	Self- and peer assessments are viewed as processes that can support students' autonomous learning, social exchange, and critical thinking. They are not only useful for better understanding teacher assessment but also for improving the individual process of learning.
Cheong C.M., Luo N., Zhu X., Lu Q., and Wei W. [12]	2022	China	Research paper (mixed methods)	The relationship between self- and peer assessment in higher education: the way in which self-assessment integrates peer assessment	Self-assessment completes feedback from peers: giving specific suggestions when peers' indications are lacking or are too generic; offering a different perspective (individual vs. others); correcting the effect of the "social desirability" bias in peer assessment; offering more support for high-achiever students.

Table 1. Cont.

Authors	Year	Nationality	Type of Document	Main Topic	Main Findings
Cirit, D.K. [13]	2021	Turkey	Research paper (mixed methods)	Possible correlations among self-, peer, and teacher assessments for university students	There were no correlations found for self- and teacher assessment, nor for peer and teacher assessment. In most cases, there was a correlation between peer and self-assessment.
González de Sande, J.C. and Godino-Llorente, J.I. [14]	2014	Spain	Research paper (quantitative)	Effectiveness of self- and peer assessment in enhancing the learning process in higher education	Comparing the different assessment methods, peer assessment seems more effective in enhancing students' performance than self-assessment. In addition, both of them seem to be more effective and useful than the instructor assessment only. Conversely, students believe that self-assessment can be more useful for them than peer assessment.
González-Betancor, S.M., Bolívar-Cruz, A., and Verano-Tacoronte, D. [15]	2019	Spain	Research paper (quantitative)	Relationship between the accuracy of self-assessment feedback and gender, and the performance results of university students	In self-assessment, students tend to give themselves higher scores than those given by the instructors for their performance. Male students tend to evaluate themselves more highly than their female classmates; in addition, male students tend to overrate their own performance relative to the scores awarded by both peers and teachers.
Gunning, T.K. et al. [16]	2022	Australia	Research paper (mixed methods)	Evaluation of online strategies for promoting effective self- and intra-team peer assessment in higher education.	The online strategy developed for enhancing self- and peer assessment in collaborative tasks in STEM disciplines has been effective in supporting students in these processes.
Kearney, S. [17]	2019	Australia	Research paper (mixed methods)	Evaluation of a pedagogical model for self- and peer assessment for helping students in the transition from secondary school to university.	The pedagogical model proposed helps students to better understand the teaching–learning process, offering them the opportunity to use assessment feedback for revising and improving their learning.
Kılıç, D. [18]	2016	Turkey	Research paper (quantitative)	Self- and peer assessment in teachers' education. Correlation between self-, peer and teacher assessment scores.	Peer-assessment scores are higher than self- and teacher-assessment scores (which were almost equivalent). The role of the integration of these three processes (self-, peer, and teacher assessment) is to promote formative assessment for preservice teachers.

Table 1. Cont.

Authors	Year	Nationality	Type of Document	Main Topic	Main Findings
Ma, N., Du, L., Lu, L., and Sun, Y.F. [19]	2022	China	Research paper (mixed methods)	Differences in peer assessment, considering the learners' characteristics	High achievers (HAs) and low achievers (LAs) show different levels of reflection in peer assessment: while LAs reflect first on peers' feedback and then engage in self-reflection, HAs reflect on others' performance and on the feedback they received as a result of peer-assessment practices.
Makovskaya, L. [20]	2022	Uzbekistan	Research paper (qualitative)	Teachers' and students' opinions about sustainable assessment practices (including peer and self-assessment tasks)	There are contrasting opinions regarding self- and peer assessment. Some participants find them difficult to perform and not as useful in the current forms, although others recognize their crucial role in enhancing students' learning. Probably, most difficulties are associated with the lack of competencies for accomplishing peer and self-evaluation tasks.
Misiejuk, K. and Wasson, B. [21]	2021	Norway	Scoping literature review	Backward evaluation in peer assessment	Backward evaluation may have a relevant role in peer assessment since it allows students to evaluate the usefulness and the quality of peer feedback, developing their own assessment skills.
Nawas, A. [22]	2020	Australia	Research paper (mixed methods)	Students' anxiety in peer and self-assessment tasks	Students tend to be more anxious about self-assessment than about peer assessment. Assessment tools may be useful for reducing stress among students.
Ndoye, A. [23]	2017	US	Research paper (qualitative)	How students believe that self- and peer assessment may affect their learning process	Students recognize the importance of constructive feedback from themselves and others. In addition, several social benefits may be derived from peer assessment.
Nulty, D.D. [24]	2011	Australia	Literature review	Use and effectiveness of peer and self-assessment in the first year of university	Findings from the literature show that the use of self- and peer assessment in the first year of university has several benefits; however, these processes should be specifically introduced and presented to the students.
Panadero, E. and Alqassab, M. [25]	2019	China/Spain	Literature review	The role of anonymity in peer assessment	Anonymity in peer assessment may lead to more critical feedback and help to develop different kinds of feedback for classmates. This can increase the perceived value of peer assessment in specific contexts and with specific learning goals.



Table 1. Cont.

Authors	Year	Nationality	Type of Document	Main Topic	Main Findings
Planas-Lladó, A. et al. [26]	2021	Spain	Research paper (quantitative)	The relationship between self- and peer assessment in teamwork and team performance	The quality of the learning results is related positively to the performance of the team, and also in terms of self- and team evaluation. The performance grade seems to be higher in those groups where the members assigned similar ratings to each others' work.
Ratminingsih, N.M., Artini, L.M., and Padmadewi, N.N. [27]	2017	Indonesia	Research paper (mixed methods)	Role of self- and peer assessment in student teachers' reflective practices	Self- and peer assessment practices are crucial for encouraging reflective thinking in student teachers, not only with reference to their academic learning but also for their future profession.
Rico-Juan, J.R., Cachero, C., and Macià, H. [28]	2022	Spain	Research paper (quantitative)	Effects on the accuracy of peer assessment, considering individual vs. collaborative feedback	Working collaboratively with classmates in peer assessment tasks is positively correlated with more accurate self-evaluations. This may also have an impact on the learning process, but only for those students who have already shown good performance.
Seifert, T. and Feliks, O. [29]	2019	Israel	Research paper (mixed methods)	Effects of online self- and peer assessment on the development of students' assessment skills	Online self- and peer assessment can be useful for helping students to understand the assessment process and develop assessment skills. Students are not fully aware of the potentialities of these assessment processes.
Serrano-Aguilera, J.J. et al. [30]	2021	Spain	Research paper (quantitative)	Effectiveness of a peer assessment strategy based on collaborative learning in different higher-education contexts	Involvement in cooperative peer-assessment strategies has positive effects on students' performance. Peer evaluations obtained in this way are very similar to those given by teachers.
Simonsmeier, B.A., Peiffer, H., Flaig, M., and Schneider, M. [31]	2020	Germany	Research paper (quantitative)	Effects of peer assessment on academic self-concept	Participation in training regarding academic writing, with peer feedback, enhanced the academic self-concept related to field discipline.
Stančić, M. [32]	2021	Serbia	Research paper (qualitative)	Students' perceptions about the benefits and challenges of peer and self-assessment in higher education contexts.	Peer assessment has a more positive impact on the learning process than self-assessment. However, peer assessment may be uncomfortable and challenging for some students, but when developing a sense of responsibility and motivation, students may experience many benefits from peer assessment, including improving their own assessment skills.

Table 1. Cont.

Authors	Year	Nationality	Type of Document	Main Topic	Main Findings
Tait-McCutcheon, S. and Knewstubb, B. [33]	2018	New Zealand	Research paper (mixed methods)	Features that allow self-, peer, and teacher assessments to be consistent with each other	The alignment of self-assessment with peer and teacher evaluations may depend on individual aspects related to self-efficacy, cultural background, personal expectations, and others. It is important to also consider this when training students to reflect in the self-assessment task.
To, J. and Panadero, E. [34]	2019	China/Spain	Research paper (qualitative)	Effects of peer assessment on self-assessment in first-year university students	Participation in peer assessment activity may improve students' understanding of the main features of the assessment process, and their ability to assess academic performance. The peer assessment process may be impaired by competition among students, misunderstandings related to the feedback received, and a lack of trust in their classmates' opinions.
Tsunemoto, A. et al. [35]	2021	Canada	Research paper (quantitative)	Effects of peer assessment and benchmarking on the self-assessment process in second-language learning	To participate in peer assessment activities in the field of second-language learning may be useful for improving individual self-assessment abilities, making self-rating of their performance more in line with ratings received from external judges.
Wanner, T. and Palmer, E. [36]	2018	Australia	Research paper (mixed methods)	The relationship between self- and peer assessment and academic learning and performance for university students	Self- and peer assessment in higher education are crucial for promoting a formative vision of assessment and a student-centered perspective. Participation in activities focused on self- and peer assessment may not only help students understand how the assessment process works but also support them in enhancing their learning process and performance.
Yang, A.C.M. et al. [37]	2022	Taiwan/Japan	Research paper (mixed methods)	Effects of online self-assessment on the learning process and performance	Students that regularly took the online assessment activities may have an improvement in their performance, resulting in higher ratings.
Zhan, Y., Wan, Z.H., and Sun, D. [38]	2022	China	Literature review	Effects of online peer assessment on the learning process	Online peer feedback is fundamental for improving the students' learning process. Educators should promote specific training for supporting peer assessment activities and creating a collaborative and formative climate.



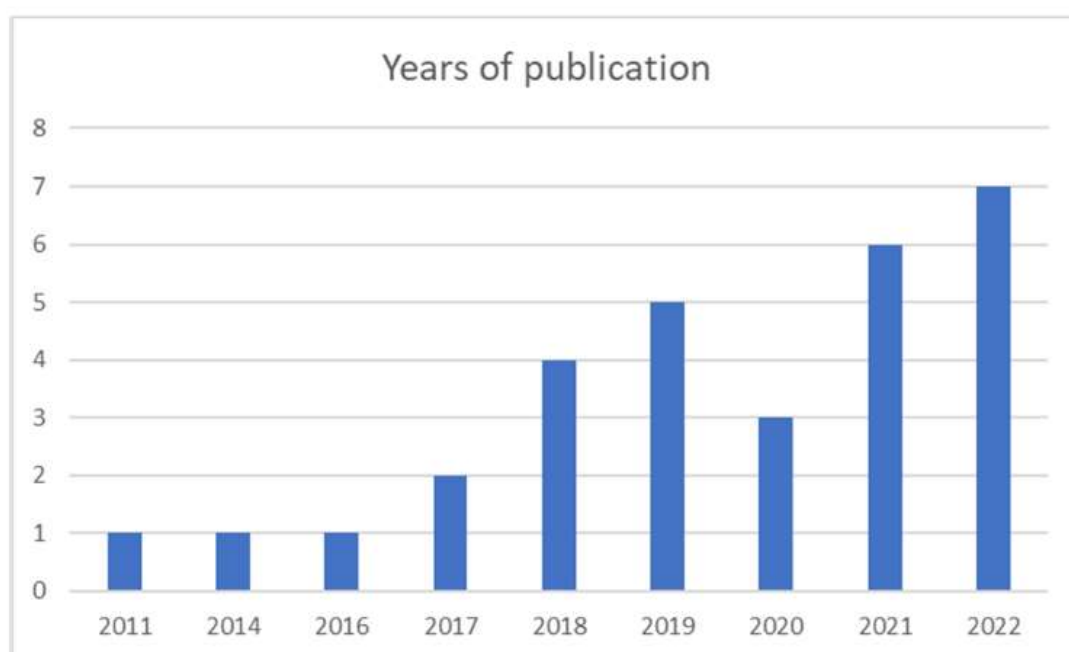
Table 1 shows the main features of each document that was examined. The analysis of the documents includes two main dimensions:

- An analysis of the frequencies of the mentioned features, in order to examine the main trends in current research on the topic;
- An examination of the main research topics that appear in the literature, in order to answer the three research questions.

### 3. Results

#### 3.1. Years of Publication

Considering the number of documents published each year, there is a growth trend over the past 10 years (only a fall can be detected in the year 2020, probably due to the effects of the COVID-19 pandemic on academic activity). This could be considered an indicator of the growing interest in the topic of peer and self-assessment strategies for higher education contexts. The frequencies of publication are reported in Figure 2.



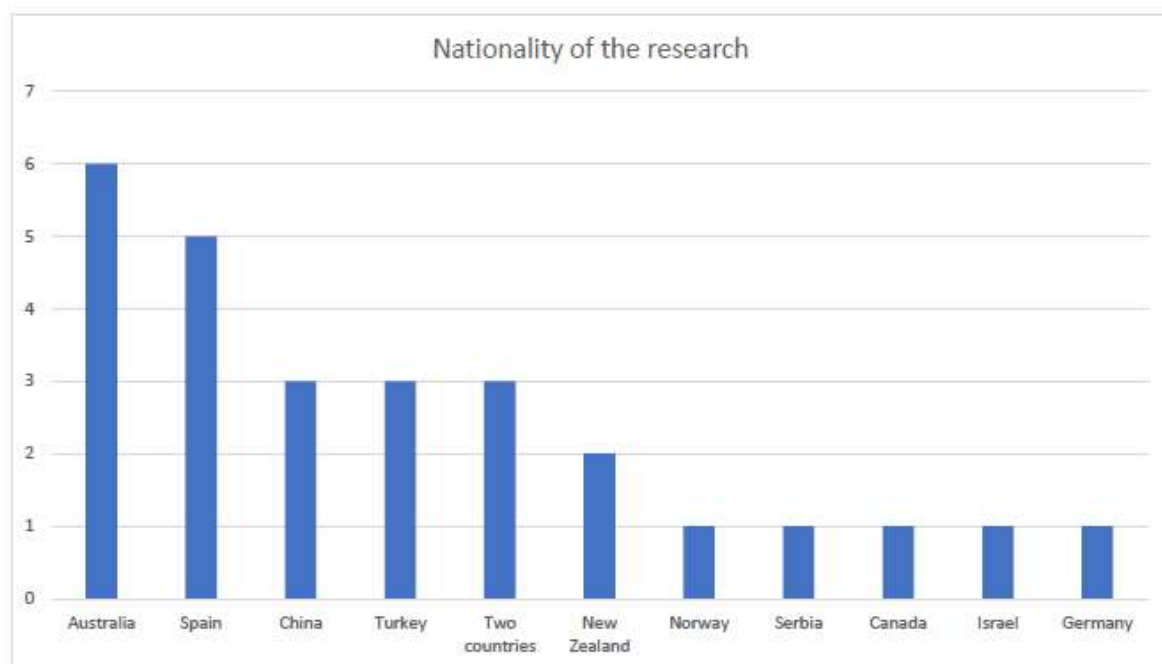
**Figure 2.** The number of documents published each year (frequencies).

#### 3.2. Nationality of the Research

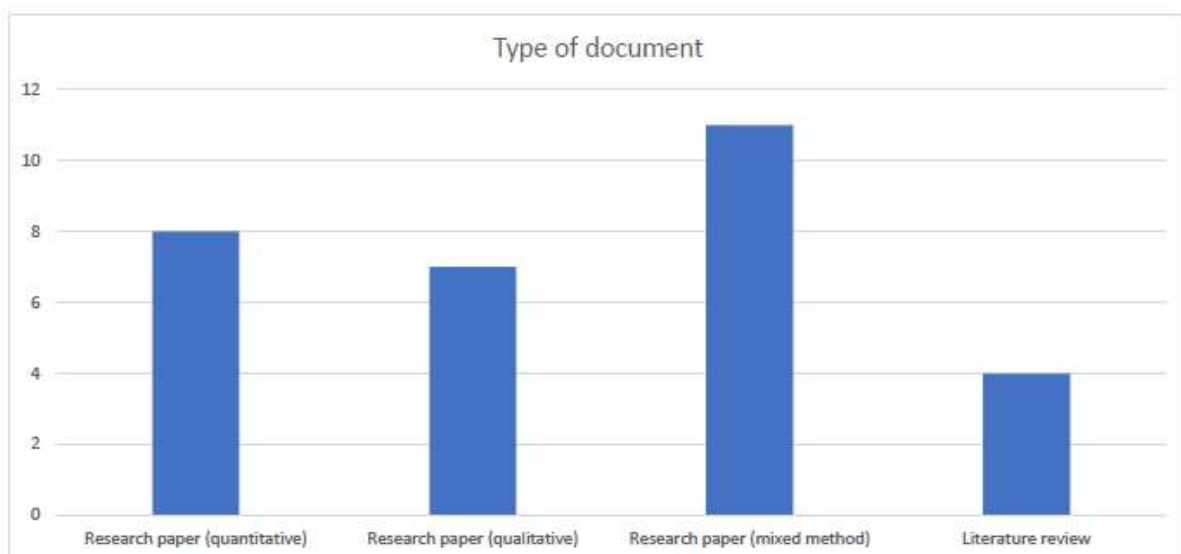
Examining the countries in which the research has taken place, many studies have been developed in Australia. Another country that seems to have investigated this topic widely is Spain: it is the most significant European country in the current analysis. China has also conducted several studies; in addition, there are collaborations between Spain and China in two of the research projects examined. Other European countries that have studied peer and self-assessment are Germany, Norway, Serbia, and Turkey, while beyond Europe, the US, Canada, New Zealand, Uzbekistan, and Israel have conducted research on these themes. The frequencies of the countries of origin of the studies are reported in Figure 3.

#### 3.3. Type of Document

There are four types of documents examined in this study: research studies with a quantitative methodology, research studies with a qualitative methodology, research studies with a mixed-method methodology, and reviews of the literature. Most of the papers are research studies with a mixed-method or quantitative methodology. The frequencies of the different types of documents are reported in Figure 4.



**Figure 3.** Countries of origin of the research (frequencies).



**Figure 4.** Types of documents (frequencies).

### 3.4. Main Themes in the Documents

Considering the themes that emerged from the analysis of the document, there are three main thematic categories:

1. Papers mainly focused on *self-assessment* and its core features ( $n = 3$ );
2. Papers mainly focused on *peer assessment* and its core features ( $n = 7$ );
3. Papers mainly focused on the correlations between peer assessment and self-assessment ( $n = 20$ ).

#### 3.4.1. Self-Assessment and Its Core Features

This category includes a few papers that are mainly focused on the dimension that characterized the process of self-assessment in higher education contexts. The findings revealed that self-assessment is a challenging activity: students do not always have the

skills for effectively evaluating their learning process and performance, tending to overrate themselves, and having a more positive perception of their performance than their peers and teachers [15]. However, to be engaged in self-assessment activities may be beneficial for the development of a self-regulated attitude toward learning [Burke], adopting a more process-oriented motivational pattern. The difficulties may be overcome by practicing self-assessment activities with the gradually fading support of the instructor: for example, students attending online activities of self-assessment [37] may develop assessment skills that could also help them in enhancing their academic performance and obtaining higher ratings from instructors.

#### 3.4.2. Peer Assessment and Its Core Features

Several documents are focused on the role of peer assessment in the university students' learning process. Several strategies can be adopted in the process of evaluating their peers' performance. Working collaboratively toward developing feedback for their peers, negotiating, and integrating different points of view may be an effective strategy. This may have two main benefits: it can lead to peer feedback that is very similar and is more in line with the feedback given by the instructors and teachers [30] and it can also have a positive impact on self-evaluation since, while evaluating others, students come to understand what the most important aspects are for evaluating their own work [28]. This is particularly true for students who already have a good performance: high achievers, in fact, are able to assess their classmates' performance, and, at the same time, reflect upon the feedback they receive from their peers to improve their own learning process [19]. Conversely, low achievers must first consider their peers' feedback, then they can try to reflect on their own learning results. Another critical aspect of peer assessment is represented by the need to make a good impression, which may lead to giving too much positive feedback to their classmates. A possible solution is represented by anonymity [25]: with the possibility of remaining anonymous, students may be more critical in their reflection and can develop a more articulate and comprehensive evaluation. The use of anonymity in peer feedback may be very useful with specific learning goals and in some educational contexts. The quality of peer assessment can be improved if backward evaluation is applied [21], giving students the possibility to evaluate, in turn, the quality and usefulness of the feedback they have received from their classmates. All these aspects highlight the need to promote specific training for improving students' assessment skills and make them practice the evaluation of their peers' performance, both in class [31] and also in online educational contexts [38].

#### 3.4.3. Correlations between Peer Assessment and Self-Assessment

Considering the findings of the document examined, the fact emerges that self- and peer assessment are two processes that, although they are distinct and specific, seem to influence each other. To propose activities based on these processes is a very demanding task, both for students and instructors, but it may promote other relevant benefits from the perspective of self-regulated learning. University teachers recognize that proposing peer and self-assessment activities in class is very challenging since these activities are very demanding in terms of time and effort and they require active and motivated participation by the students. Students may feel slightly embarrassed or anxious in evaluating their own performance and their classmates' performance [22]. In addition, if students are not sufficiently skilled in assessing themselves and their classmates, not only could they experience difficulties and discomfort in these tasks [20] but their judgments could then also not be as useful or informative, with the additional risk that they could be completely disconnected from the instructors' feedback [13]. However, the benefits encourage the implementation of self- and peer assessment, since this can promote the achievement of transferable skills, enhance collaboration among classmates, and encourage the development of self-regulated learning [9], as well as supporting critical thinking and reflective reasoning [11]. These competencies are needed not only in their academic career but also in the students' future professional activities, from the perspective of lifelong learning [27]. Self- and peer assess-

ment are fundamental from the perspective of the student-centered teaching and learning process [36]: indications from their classmates can become relevant food for thought, but self-evaluations may integrate their learning and offer a more exhaustive and constructive perspective on individual performance [12–23]. Students may also find some difficulties, especially in terms of peer assessment, whereby they may feel uncomfortable in “giving ratings” to the other students [32], or they may perceive a competitive climate in judging their classmates’ performance, not trusting others’ opinions [34] and being influenced by negative feelings related to one or more of their colleagues. However, while trying to offer useful and formative feedback to their peers, students may thereby understand the elements that are valued most in academic performance, becoming more accurate and effective in assessing their own learning process [35] as well as in collaborative tasks, while assessing the work of the team [26]. A sense of mutual respect and support from their peers may motivate students to integrate the teacher’s feedback with peer and/or self-evaluation in academic contexts; this seems more effective in enhancing students’ learning than receiving only a judgment from the instructor [14–18]. Considering this finding, it is highly advisable that assessment strategies, including self-evaluation and peer feedback, should be specifically addressed by university teachers from the very first years of the students’ academic path [24]. Some specific strategies for enhancing self- and peer assessment are currently being developed [16,17], with particular attention being paid to the potentialities of the online learning environment [29]. For example, providing students with specific self- and peer assessment rubrics may help them in focusing on the essential aspects of their performance and learning goals [22]. In addition, self- and peer assessment feedback may depend on individual variables (self-efficacy, self-esteem, cultural background, etc.), that should be carefully considered when helping students improve their assessment skills [33]. This is fundamental for allowing students to produce feedback that may align with and integrate the evaluation of the instructor.

#### 4. Discussion

The current systematic analysis aims to examine the development of educational research on the topic of self- and peer assessment in higher education in the last decade. Considering the document examined, some preliminary considerations can be made before trying to answer the research questions specifically. First, there is an upward trend in the number of research papers and documents focused on the theme of peers and self-assessment in higher education (the only drop in this trend can be detected in the period encompassing the COVID-19 pandemic). This seems to be an indicator of the increasing interest in these research topics and also of the possible practical hints that can be derived from the findings toward enhancing higher-education practices. This is also confirmed by the high number of research papers considered in the analysis, in contrast with the literature review, underlining that these are currently core topics in educational research. However, most of the studies have been conducted in a few countries with a limited representation of European countries. To shift from a traditional approach to assessment toward a more student-centered one is a complex task that needs specific training and a motivated attitude for both students and instructors: to promote the effective renovation and development of university practices, research into assessment processes should be encouraged and promoted.

Considering the first research question (RQ1: *What are the main features characterizing the processes of students’ self- and peer assessment, within the context of higher education, that have been examined in educational research in the last decade?*), findings show that peer assessment has been examined more frequently than self-assessment. The importance of developing self-evaluation skills in higher education contexts has already been reported in educational research in the last few decades of the twentieth century [39–41]. Indications have been offered, since then have encouraged university instructors to promote students’ autonomous reflection in the assessment dimension as well. Current findings confirm the need to train students in self-assessment to make them able to create realistic and formative

feedback on their own performance, in order to revise and improve it [15–37]. Recently, the emphasis has moved toward peer assessment practices. Evaluating the performance of one's peers is not that easy a task. Several difficulties can impair this process, for example, the fear of “making a bad impression” on classmates or a sense of competition in academic performance, which could lead to a lack of trust in colleagues' opinions. For this reason, students may give too-positive feedback to their peers [18], to assure social acceptance, but underestimate the real formative value of assessment [9]. To avoid this risk, it is fundamental to act from two angles: promoting specific training for peer assessment from the first years of the university path [31] and encouraging students to develop assessment skills, in order to integrate peer feedback with self-assessment evaluations [12]. The promotion of a class climate based on cooperation, mutual respect, and acceptance could also be very encouraging when engaging in peer assessment.

With reference to the second research question (RQ2: *What are the relationships between self- and peer assessment in higher-education contexts that have been examined in the research?*), it can be assumed that peer assessment and self-assessment are two distinct processes that influence each other, on the basis of a circular relationship. When examining the performance of others, university students become objectively aware of the most relevant indicators of quality in their academic performance; this understanding may easily be transferred in self-assessment practices [35], promoting a more realistic and useful evaluation of their own learning process. Conversely, for competent students, self-evaluations may integrate their peers' feedback, allowing them to have a more exhaustive perspective on a specific form of academic performance [12]. Integrating feedback from classmates and a process of self-evaluation is necessary to overcome the biases that are implicitly present in each assessment process and that may lead to unrealistic comments and ratings that are too high or too low [18].

Considering the third research question (RQ3: *What strategies have been proposed in the literature to train students for self- and peer assessment tasks?*), it emerged from the current analysis that there was a need to help students develop the proper skills for objectively and effectively assessing themselves and their peers. Self- and peer evaluations may be affected by some individual features, e.g., academic self-efficacy, self-competencies, and cultural elements, that should be taken into account while planning training for improving the assessing of competencies [34]. Teachers and instructors should carefully consider two dimensions: the first is related to the need for making students aware of the importance of self-assessment and peer assessment in enhancing self-regulation in the learning process [11] for their current and future training experiences. This implies shifting from considering assessment as a judging process to a more formative view of assessment activities. The second is focused on the strategies and tools that may be used for helping students develop assessing competencies. Teachers may support the students' assessment process by adopting scaffolding strategies, where the main features of assessment are addressed and discussed with the whole class [24]. Some assessing rubrics [22], presented and discussed in class with the students, may be very effective in offering a guide for identifying key elements of the learning process and performance, understanding and quantifying the quality of the learning product, and the critical reviewing of one's own educational experience.

The current systematic analysis has some limitations. First, only three online databases have been considered: although they are some of the most influential ones in the field of educational research, several significant records may have been omitted and left out of the present analysis. Second, some of the documents retrieved have not been considered in the final analysis since they have not been published in peer-reviewed journals (mainly conference proceedings). With this selection, some relevant findings may have been lost.

## 5. Conclusions

Introducing self- and peer assessment practices has become a crucial topic in the field of higher education. In the student-centered approach to teaching, one of the main goals is

represented by the development of self-regulated and autonomous behaviors and attitudes in the learning process. The traditional approach of assessment has focused mainly on the evaluation of individual performance, underestimating the importance of offering specific insights for adjusting learning strategies, and making the learning process more effective and significant. In higher education contexts, students should improve their cognitive and learning process, monitoring and revising their performance; teachers' feedback is not sufficient to fully understand what aspects are working well and what aspects are more problematic. If students are not aware of the value of specific features in the learning process, it becomes very difficult to focus their attention on improving the more salient ones. They should start reflecting upon their performance and the performance of their classmates to develop a more in-depth analysis, identifying the main indicators and the criteria required by the task and by the instructors, and establishing personal criteria and goals for themselves. Educational goals should be negotiated and shared between teachers and students, to give a precise definition of what should be considered, monitored, and assessed for defining the quality and the success of the educational experience. For these reasons, specific training on the topic of assessment, presenting its aims, main characteristics, and practices at the beginning of university courses may be very useful to encourage students to become involved in self-reflection for assessing their learning process and to help their peers improve their own processes.

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