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Peer Feedback: Model for the Assessment and Development of Metacognitive Competences in Nursing Students in Clinical Training

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Abstract: Peer feedback serves as a pedagogical methodology that actively engages students throughout their academic journey. Developing metacognitive competences of students in a clinical training context motivates student's engagement and active participation in the learning and assessment processes as added value for academic success. It is particularly effective in fostering competences that are crucial for future professional practice. This study introduces the design and development of a peer feedback model tailored for the assessment and development of metacognitive competences among nursing students undergoing clinical training, named *PEERFEED-EClínico 1.0*. The research employs a constructivist case study approach using a multi-method design comprising two stages: Stage 1 (S1) involves development and modeling, conducted through the first and second cycles of participatory action research (PAR); Stage 2 (S2) focuses on validity and feasibility, employing a quasi-experimental study (before and after) to validate the model's requirements, receptivity, and potential compliance among teachers and students. Data were collected from 2018 to 2021 and involved 163 nursing students and 24 teachers/supervisors enrolled in curricular units related to clinical training during the 3rd and 4th years of their undergraduate nursing degrees. The findings highlight the *PEERFEED-EClínico 1.0* model, which features four levels of implementation. The model emphasizes self-knowledge, self-reflection, and self-regulation along with communication, interpersonal relationships, and teamwork, all of which are deemed essential for students' future professional practice. The peer feedback model promotes a centered student approach, allows the alignment of pedagogical methodologies with international frameworks of quality assurance in higher education, and contributes significantly to nursing education and science knowledge.

Keywords: (peer) feedback; competences; nursing; clinical supervision

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1. Introduction

In higher education institutions (HEIs), there is a call for a significant shift in paradigms related to teaching, learning, and assessment. This shift has arisen in response to the challenges posed by globalization, competitiveness, quality assurance, digitization, and social responsibility. These challenges have led to an increased emphasis on the appreciation and recognition of qualifications and knowledge transfer as an added value and for societal development. These changes have driven HEIs to engage in profound processes of

reflection, evaluation, revision and even the development of new models of academic and pedagogical management.

In this sense, it is important to develop pedagogical learning and assessment methodologies that foster greater student engagement and active participation during their academic careers and which are capable of enhancing the development of the competences required for achieving professional excellence, and in particular, metacognitive competences. This approach places students at the center of the teaching, learning, and assessment process, in which they are expected to take on active, collaborative roles in shaping their own learning (self-directed and self-regulated learning) and training pathways. Research on self-regulated learning focused on students' use of metacognitive processes, where metacognition refers not only to knowledge, awareness, and regulation of one's thinking but also a question of motivation, effort, engagement, and effort. The social cognitive model of self-regulated learning explains the intersection of students' metacognitive processes; their motivations, effort, and willingness to self-regulate their learning [1]; and the influence of peers that are involved in learning experiences [2].

Peer feedback is characterized as a participatory, collaborative and student-centered method [2,3]. It fundamentally involves students [4–6] in the teaching, learning, and assessment process [7,8], and it leads to great benefits if well-structured [9]. With the implementation of student-centered methods, which guarantee an active role for students in the different stages of the teaching, learning, and assessment process [10–12], conditions are created for effective alignment with national and international standards [7,8] for quality assurance in higher education.

To ensure the proper use of peer feedback, studies reinforce the need for prior preparation of students and teachers. This preparation is crucial for the successful implementation of peer feedback and the enhancement of student learning [4]. Evidence also indicates the need for explicit instructions and guidance to ensure that the process of implementing peer feedback is of quality and with high levels of satisfaction [9,13,14]. Insufficient preparation can lead to discussions that lack significance either at a personal level or at the level of learning and evaluation [15].

Furthermore, other studies suggest that as peer feedback is characterized by cooperation and collaboration between students and teachers, the experiences obtained from implementing peer feedback tend to lead to a process of feedback convergence [16,17]. This allows each student to become more aware of their teaching–learning process [10,16] and increases their self-confidence [10]. Peer feedback also contributes to an increase in the student's self-perception, both as a person and a future professional, while fostering self-directed learning [13] These outcomes are the result of the dynamics and metacognitive processes experienced through peer feedback. When peer feedback closely aligns with that of teachers or supervisors, it suggests that students have developed effective processes of self-regulation of their learning [4,18].

Some studies have shown a set of advantages and/or contributions from peer feedback, provided it aligns with specific implementation requirements. This feedback creates a favorable environment for the development of students' competences [13,19,20] whether technical [16,21]; transversal and metacognitive, such as critical–reflective thinking [10,21]; or argumentative and observational [16]. Moreover, students exhibit even greater communication competences and group dynamics [19], as well as a sense of belonging to the team [19]. Additional studies [3,5,22] have similarly recognized that peer feedback nurtures a broader view of the team's activities in different contexts, fostering increased peer cooperation and optimizing collaborative learning. This, in turn, promotes and enhances the overall work and success of the team.

Ferreira et al. [18] and Donia et al. [5] showed that the implementation of peer feedback in clinical training significantly enhances students' decision-making abilities. Furthermore, other studies have emphasized that peer feedback actively encourages students to express their opinions both about themselves (self-reflection) and about the others (peers). This emphasis on open dialogue fosters relational competences and trust, making the process more

meaningful, valuing the right to the opinions of students over others [9] and the awareness of the self in relation to others, thus encouraging critical–reflective thinking [15,17,23]. In line with other studies, peer feedback also contributes to heightened self-awareness of the professional competences that need development, increasing the ability to analyze problems and learning needs [15] and the ability to understand learning goals [5,9]. On the other hand, some studies indicate that some of the students consider this method socially embarrassing and cognitively challenging [24] because they feel they are not prepared for its use, citing little or no prior training or preparation.

This study aims to present the design and development of the peer feedback: model for the assessment and development of metacognitive competences in nursing students in clinical training (*PEERFEED-EClínico 1.0*), which enhances the active participation of students, supported by the mechanism of clinical supervision, during their academic journey to excellence.

The questions that guided this study were: What are the necessary requirements for implementing peer feedback in order to enhance the teaching, learning and assessment process? What is the contribution of peer feedback to the development of metacognitive competences of nursing students in clinical training? What characteristics should peer feedback respect in order to guide the continuous improvement of students' academic performance with a view to academic success?

This paper seeks to provide workable conclusions for educational practice within a framework that can be applied to other academic contexts, thus making a significant contribution to nursing knowledge both as a science and as a discipline/profession.

2. Materials and Methods

2.1. Research Design

A constructivist case study using a multi-method approach was designed with a triangulation of methods, participants, and instruments divided in two distinct stages [25]:

- S1—Develop and model, using two cycles of participatory action research (PAR), to identify the contributions of peer feedback and requirements for the implementation of a collaborative pedagogical model: peer feedback. In S1, PAR enabled the involvement of all participants in understanding the phenomenon (and the context) and in the development and modeling of the action under study. The use of this option was related to the fact that PAR is a paradigm and not a method, which is characterized by an approach that combines methods and techniques of qualitative and quantitative research with the participation of the target group [26]. The option for this process was based on the need to identify a bottom-up approach involving all stakeholders, ensuring their active participation.
- S2—Feasibility/pilot using a quasi-experimental study in which the model was and its contributions to the development of metacognitive competences in nursing students in clinical training were tested. In S2, the methodological option for a quasi-experimental study of the before and after type was chosen because it allowed for the validation of the requirements of the developed model as well as evaluation of the acceptance of and possible compliance with the model [27] by students and teachers/supervisors.

2.2. Participant Characteristics and Sample Selection

The target population consisted of nursing students and teachers/supervisors responsible for the students' clinical supervision. In S1, a target population comprised 3rd and 4th year students enrolled in the clinical training modules and their respective teachers/supervisors. Samples were defined for the focus group data collection. In S1, a stratified random probability sample of students was used, and teachers/supervisors were included, since their number did not exceed 12, in compliance with the requirements of this data collection methodology. In S2, a stratified random probability sample of students and a systematic random probability sample of teachers/supervisors was defined.

2.3. Data Collection and Analysis

The data collection instruments used were as follows: (i) a questionnaire: with a version for students and another for teachers/supervisors applied before and after each PAR cycle, which included a brief explanatory note about the study; informed, free, and clarified consent; operationalized questions based on a 5-point Likert scale integrating the Metacognitive Awareness Inventory (MAI); and adaptation and validation of the Portuguese version [28]. The MAI comprises 52 items, enabling a comprehensive assessment of metacognition. Metacognition can be defined as awareness of one's own cognition and of their control with the aim of identifying the level of cognitive awareness of those who are in a process of learning; (ii) a focus group guide, comprising a student version and a teachers/supervisors version, which includes concise orientation welcoming participants and includes the number of participants, date, place, facilitator's information, and a set of 9 guiding questions; (iii) a participant observation grid, used only in S2, which presents a brief explanatory note addressed to teachers/supervisors followed by a registration table with 11 domains, and the registration can be made in narrative text and/or using a 5-point Likert scale.

The treatment and analysis of quantitative data were carried out using descriptive and inferential statistical measures appropriate to the nature of the data, using SPSS® (Statistical Package for the Social Sciences) version 25.0. For the analysis of the qualitative data of the focus groups, the software QDA (Qualitative Data Analysis Software) Miner® version 4 Lite was used.

2.4. Procedures, Ethics, and Methods

The study was conducted within a higher education institution of health, with scientific, pedagogical, and cultural autonomy under the terms of its statutes.

Throughout planning to the conclusion of this study, strict adherence was observed to the ethical principles and practices in PAR outlined by the International Collaboration for Participatory Health Research (ICPHR). To ensure ethical rigor, the following key principles were upheld throughout the research process: mutual respect, equality and inclusion, participation democracy, active learning, making a difference, collective action and personal integrity [26]. Approvals were obtained through formal channels, including submission to the Ethics Committee (Nº 012, 2017) and authorization from the Board of Directors of the Higher Education Institution. The introductory note of the data collection instruments refers to voluntary and free participation as well as the purpose and use of the information obtained. Furthermore, each participant signed an informed, free, and clarified consent form in accordance with the Declaration of Helsinki and the Oviedo Convention. In addition, authorization for the use of the MAI was secured from its authors.

The questionnaires, which were completed in person, were collected in a sealed envelope by the investigator responsible. All data and information containing personal and sensitive data were stored separately in a closed file cabinet existing for this purpose on the premises of the higher education institution, and the data in digital format were stored on a computer protected by an access password.

3. Results

3.1. Stage 1—Development and Intervention Modeling

The results obtained in S1—Development and Intervention Modeling through 2 cycles of PAR allowed the design and development of peer feedback: a model for evaluating nursing students in clinical training, focusing on mechanisms of self-knowledge, self-reflection, and self-regulation, communication, and interpersonal relationships that promote teamwork. Using participatory research, 163 students and 24 teachers/supervisors were involved based on an interactive and dynamic process (Figure 1).

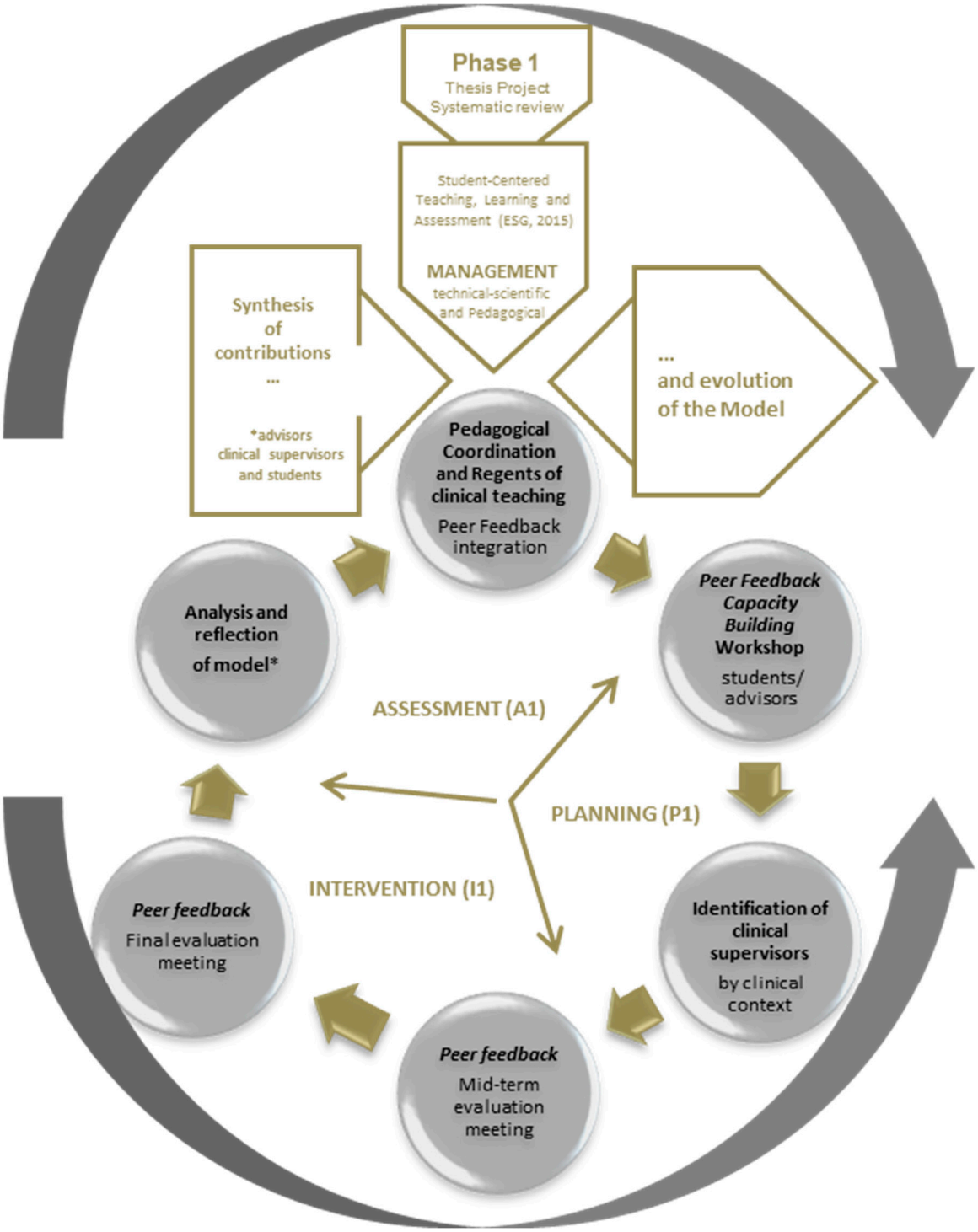

Figure 1. Schematic representation of the participatory action–research cycle.

3.2. Stage 2—Feasibility/Pilot

S2—Feasibility/Pilot, which permitted the culmination of the established methodological approach and the identification of a set of significant results, resulting from the fulfillment of the principles of participatory action of the different interested parties. These principles were followed during the development (S1) and validation (S2) of the peer feedback model for the assessment and development of metacognitive competences in nursing students in clinical training (Figure 2).

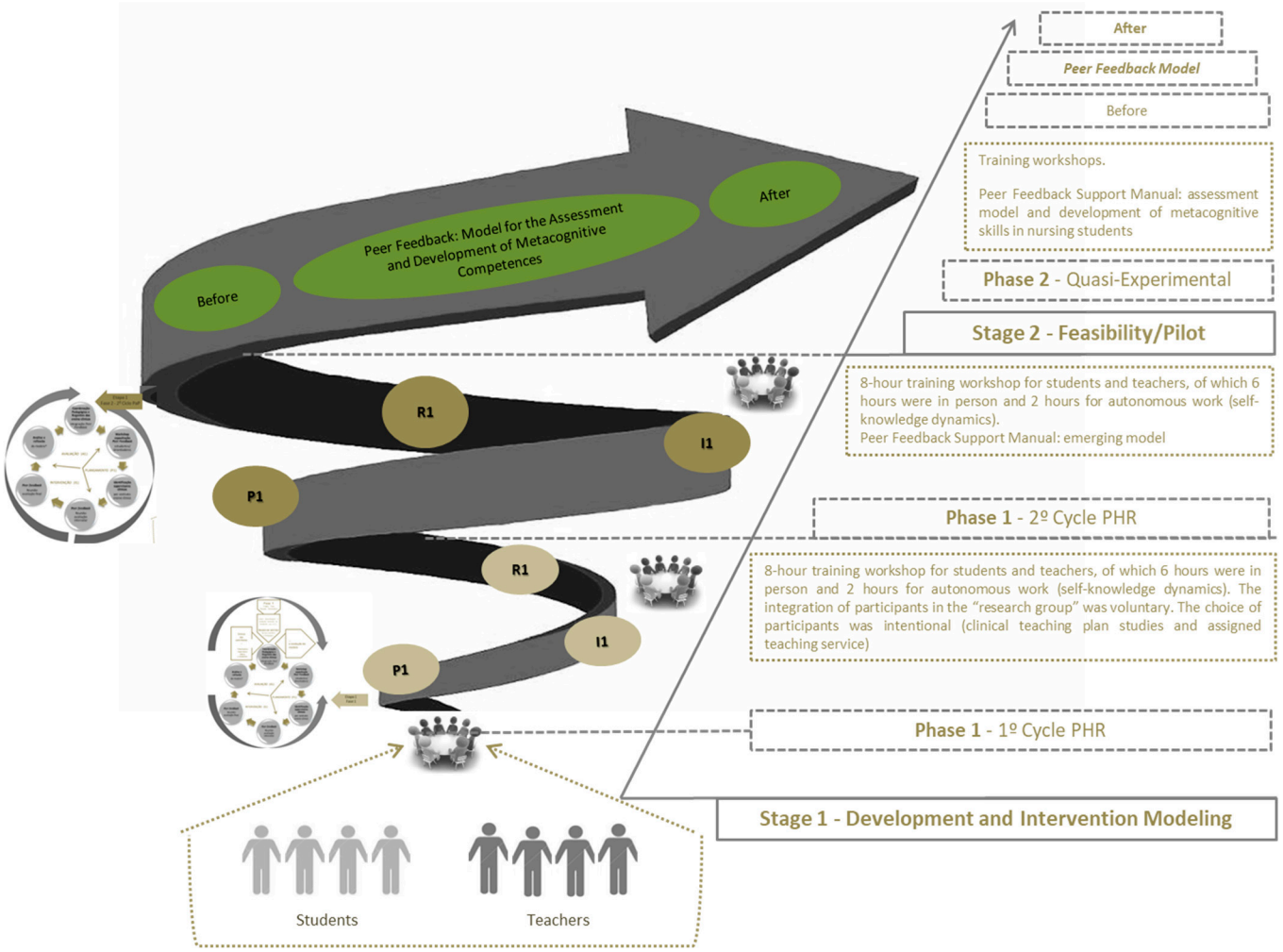

Figure 2. Schematic representation of the study design.

3.3. Teachers' and Students' Perception

Quantitative data showed that all teachers reported having already used peer feedback in the evaluation processes of nursing students in the context of clinical training, assigning degrees of importance of "Very important" (73.3%) and "Important" (26.7%), in relation to the other methods they know/use.

Teachers' perception regarding the contribution that peer feedback has in the development of their competences indicates higher average (M) levels of agreement for "Teamwork" competences (M = 4.9; SD = 0.352), followed by "Critical reflective thinking" and "Ability to communicate" (M = 4.80; SD = 0.414); "Participation in the teaching-learning process" (M = 4.67; SD = 0.488); "Responsibility in the learning process" (M = 4.60; SD = 0.507); "Adaptation to change" (M = 4.00; SD = 0.926); "Learn to think" (M = 3.53; SD = 0.640); "Innovation and creativity" (M = 3.47; SD = 0.743) and "Problem solving" (M = 3.47; SD = 0.915); "Leadership" (M = 3.53; SD = 0.743); and finally "Learning to learn" (M = 3.27; SD = 0.884) (Figure 3).

Qualitative data were analyzed from teachers and students in S1 and S2, where three categories were identified: "Requirements for the implementation of peer feedback"; "Required characteristics of peer feedback"; and "Peer feedback contributions". Of these, twenty subcategories were named (Table 1).

Figure 3. Level of agreement regarding the contribution that peer feedback has in the development of students' competences.

Table 1. Key categories and subcategories.

Categories	Subcategories
(1) Requirements for the implementation of peer feedback	– Clinical supervision – Student's active role – Guideline: Peer feedback implementation – Training workshop
(2) Required characteristics of peer feedback	– Be timely – Be proactive – Be constructive – Student commitment – Be realistic – Be meaningful – Be descriptive – Avoid comparisons – Create evidence
(3) Peer feedback contributions	– Critical-reflective thinking – Self-regulation of learning – Collaborative learning – Professional identity – Self-knowledge – Communication capacity – Teamwork

A summary of key quotes coded and analyzed in relation to these topics from the open questions asked in the focus group sessions with students and teachers is anonymously summarized in Figure 4.

	Students(S) Responses	Teachers(T) Responses
(1) Peer feedback implementation requirements		
	"… the Implementation Guideline: Peer feedback was excellent in initial support, integrating the features we should adopt, … it helped a lot and made the process easier." (S2) "... I felt that my participation is much greater in the whole process, whether of learning or guidance on what each of us can improve, …" (S1) "… and with the presence of professors and tutors, they also get to know our characteristics and competences that they would not otherwise be aware of, … and this also helps with the clinical supervision to which we are subject." (S6) "The workshop was important to learn the principles of peer feedback and their use, as I had the perception of being another way of evaluating (classifying) the performance of my colleagues, and it is much more than that" (S2)	"The workshop is a fundamental step in the implementation of peer feddback, even for those who have already participated before, … it is an important moment of reflection that allows to increase the effectiveness of this methodology." (T2) "I consider it to be a fundamental and mandatory requirement, …" (T8) "Peer feedback, with this implementation model, fully responds to the need to develop in higher education …, a participatory and collaborative approach so that we can have a student-centered teaching, learning and assessment process." (T3) "The Guideline provided in the workshop is a fundamental resource, especially in an initial phase of implementation, helping students a lot in the implementation …, as well as helping me a lot in the initial follow-up, …" (T4)
(2) Peer feedback required characteristics		
	"It is essential that it be given in good time, as this is the only way it helps us to improve quickly, since sometimes when they give us feedback, the internship is already over." (S8) "Now, the peer feedbak allows us to pay attention to the particularities of each one as a person, and the comments are much more specific for each one, allowing us to identify ourselves and even exchange opinions." (S5) "Peer feedback must assume, as it did in our case, a positive and encouraging dimension, avoiding negative comments or focusing only on negative aspects." (S2) "Throughout this process, we all have to be involved and committed, with the support of teachers and tutors." (S3) "It is important that we be able to organize ourselves into meetings to carry out peer feedback without the teachers having to remind us of this or ask us to." (S7) "Peer feedback should be directed towards defined objectives and competences and not other aspects, which sometimes concern personal characteristics." (S2) "Having a record of peer feedback helps a lot with subsequent reflection, as well as allowing this reflection even for the final report of clinical teaching." (S4) "In carrying out the peer feedback, it was important that comparisons were not used." (S5)	"Students therefore understand the importance of adopting an intervening role, being involved in all stages of the process, and not just developing their academic path without contributing to its definition." (T4) "Currently, it is also necessary for clinical teaching to develop strategies and models that assign a central role to the student in building their academic path, and peer feedback is a vehicle of excellence for developing it." (T5) "Professional identity" the teachers state that "Peer feedback also allows each student to have a better perception of the skills required as a future nurse, contributing to the construction of their future professional identity." (T3) "The critical reflective exercise on their own performance and that of their peers leads each student to shape their skills profile, contributing to their own personal and professional growth, helping to build their professional identity." (T4)
(3) Peer feedback contributions		
	"The entire peer feedback process requires and enhances shared learning, where everyone learns through action and respective interaction." (S1) "It demands a permanent capacity for criticism and reflection on the performance of the colleague, but also on our own, leading us to have to be awake, attentive and scientifically curious so that we can exercise this critical-reflective thinking." (S5) "Peer feedback requires that we monitor the performance of colleagues, supported by knowledge about their practice, so that we can give our feedback based on the best scientific evidence." (S2) "Even for those who had difficulties working in a team, they improve a lot with this interaction that we are subject to during peer feedback." (S5) "…we improved our communication as a group, being able to hear and make ourselves heard." (S6) "The peer feedback made me reflect on my own performance, through the opinion of my colleagues, which allowed me to better recognize my strengths and weaknesses." (S5) "… contributes to a greater perception of the skills that each colleague, within a team, must have for an excellent nursing practice." (S3)	"Your ability to work as a team improves substantially…" (T3) "Peer feedback leads students to support their peers, strengthening their relationship in clinical practice and thereby improving their team spirit." (T1) "The ability to communicate, using the terminology that defines the skills to be developed, is one of the aspects that I most identified, …" (T2) "It is possible to verify that they not only improve their communication skills, but also that they interact more easily and with greater initiative with each other and with other members of the professional team." (T4) "Peer feedback undoubtedly enhances a greater ability to communicate, share their opinions, express themselves through the domains and skills that contribute to a professional practice, as well as helping students to establish more and better interpersonal relationships." (T7) "It is visible that the critical-reflective capacity is strongly boosted with peer feedback, …" (T6) "Peer feedback also leads students to the decision-making process, since their feedback supports the actions that they themselves can take to improve some intervention or competence, leading them to share their clinical reasoning... " (T4)

Figure 4. Qualitative results summary: student and staff responses in the focus group.

3.4. Peer Feedback: Model for the Assessment and Development of Metacognitive Competences in Nursing Students in Clinical Training (PEERFEED-EClínico 1.0)

The *PEERFEED-EClinico 1.0* model, a result of the two stages of the study, is characterized by:

1. Engagement of the course pedagogical coordination, module coordinators, clinical supervisors, and students in the implementation of the model;
2. Recognition of the model's pedagogical contribution within the educational framework of the HEI and its significance in developing metacognitive competences in nursing students;
3. Integration of pedagogical training workshops in staff development and the respective annual training plan;
4. Conducting training workshops for students before starting their respective clinical training;
5. Availability and dissemination of guidelines for the implementation of the model;
6. Curricular integration of the model, as evidenced in the pedagogical support documents;
7. Involvement of the HEI's intellectual capital in the adoption of the model in accordance with its requirements, principles, and guidelines;
8. Diversification of learning methodologies and strategies as a result of a collaborative learning and assessment models;
9. Valuing learning and academic experience based on learning goals, collaborative learning, the development of teamwork, and resources for its implementation;
10. Alignment of teaching, learning, and assessment centered on students, their personal goals, participation, engagement and commitment to the development of competences, and satisfaction with the process;
11. Conceptualization of assessment and its recognition as a tool for fostering learning based on references and competences for professional practice, feedback dynamics, and collaborative assessment with a view to academic success;
12. Facilitation of the transition from the model to the future professional context, in which clinical training is developed through clinical supervision and peer support in the development of clinical supervision competences and in recognition of the team, teamwork, and respective leadership.

In view of the results, it was possible to schematically represent the *PEERFEED-EClinico 1.0* (Figure 5). This representation aims to illustrate a dynamic, spiral development structure that showcases the stages of model implementation. Depending on the specific clinical context, this model can be adopted in a dynamic and reciprocal manner. The model identifies four levels of implementation or development, valid for any HEI, namely: Level 1—Demand and Discovery, Level 2—Learning Design, Level 3—Learning Experience, and Level 4—Work and Lifelong Learning/Professional Development.

The model advocates for the inclusion of a specific set of sequential domains at each level, which facilitates the interconnection between levels. This approach offers a holistic perspective of what the model entails and the expected outcomes. In order to consider the implementation effective, the higher education institution (HEI) must adhere to the domains outlined in Level 3. This methodology proposes the integration of the model into the HEI's pedagogical strategy. It aims to provide a trajectory that develops over time, focusing on the process of developing the students' competences during their academic journey and particularly during their clinical training experiences. It also addresses the transition to professional life so that it can maintain its contribution to professional development and lifelong learning, enhancing the development not only of the profession but also of the continuous improvement of the praxis and job satisfaction levels.

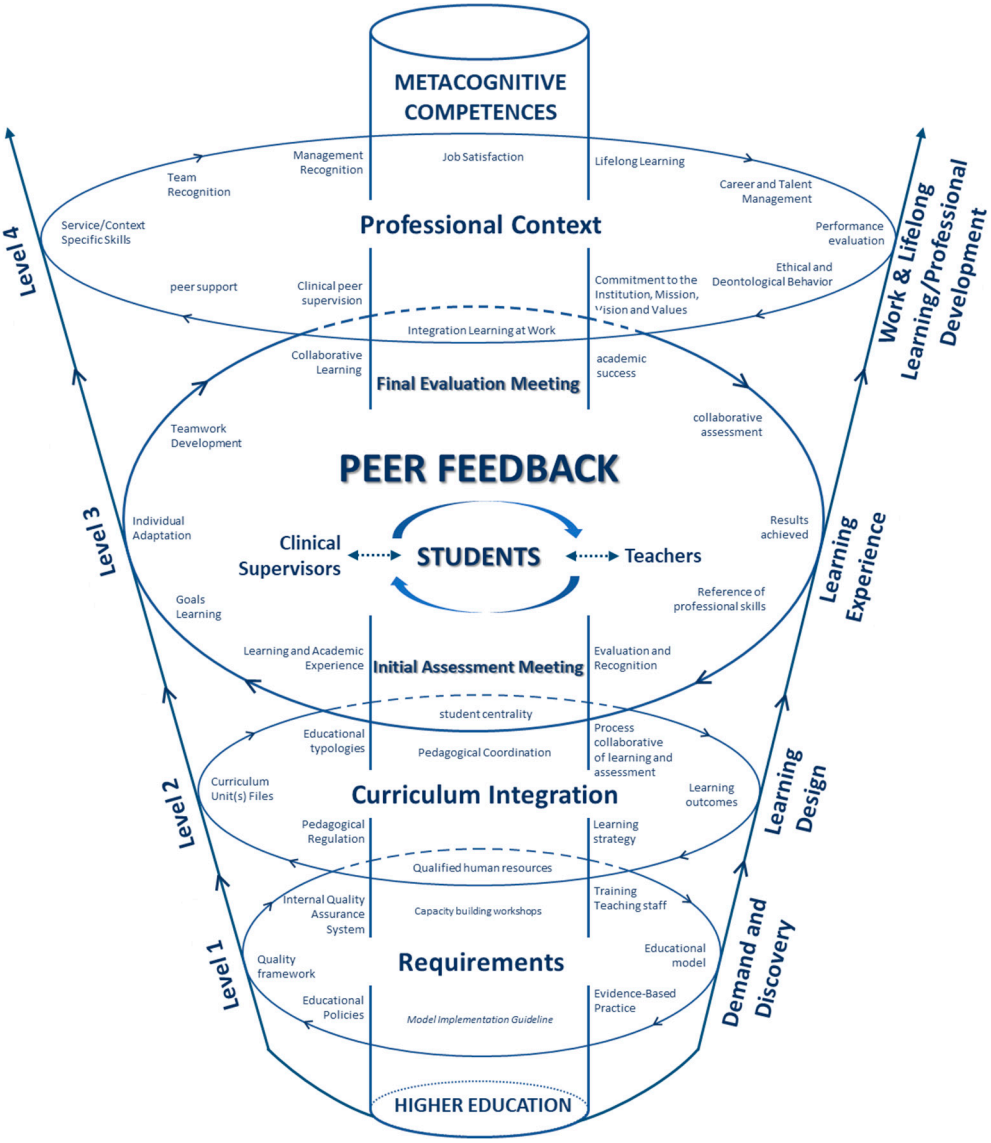

Figure 5. Peer feedback: model for the assessment and development of metacognitive competences in nursing students in clinical training and levels of development.

At the demand and discovery level, the domains encompass areas related to evidence-based practice, educational policies, references for the quality of higher education, educational methodologies and technologies, the educational model, the competence profile, the pedagogical faculty training, the training of both teachers and students, guidelines for the model, and consultancy for teachers and clinical supervisors. At the learning design level, the domains include curricular integration, human resources involvement, learning and assessment strategies, and collaborative learning and assessment models. The learning experience level includes focus shifts to learning and academic experience, student-centricity, and integration of assessment and recognition. Finally, at the work and lifelong learning/professional development level, the model is implemented within in the professional context in lifelong learning processes, commitment to the institution, talent management, and professional projects.

Although each of these four levels has its own aspects, they should be perceived in an interconnected and interdependent way, highlighting the added value and mutual gains for any of these and for the whole they bring individually and collectively. This interconnectedness is crucial, particularly because it aligns with the potential for innovation arising from the development of each level.

Following the completion of the consolidation process for the developed model, its systematization was carried out (Figure 5) with the integration of the discussion of the results obtained in the investigation process, which are presented below.

4. Discussion

4.1. Requirements of PEERFEED-EClínico 1.0

By analyzing the requirements for the implementation of *PEERFEED-EClinico 1.0*, it was possible to identify, both in the opinion of the student and the teachers/supervisors, that one of the requirements for effective implementation is training through a "*Training Workshop*" aimed at both students and at teachers/supervisors [9]. The use of informal peer feedback without prior preparation can create reactions of disagreement and conflict in relationships and the interpersonal communication process [2,15].

Following the training process, the importance of the "*Implementation Guideline: Peer feedback*" was also identified as a support and resource for both students and teachers/supervisors. This is a new finding, since no reference to these data was found in the conceptual framework used. The guideline was developed during S1 of this study, resulting from a pervasive recognition of the significance of establishing a systematic framework of well-structured theoretical assumptions [9] and the characteristics perceived as relevant by students and teachers/supervisors, so that the peer feedback can enhance the teaching, learning, and assessment process.

Another requirement arising from the results is the concept of the "active role of the student", which is a central element in the model. This is evidenced by the students' engagement in an active and participatory manner throughout their learning journey, which enhanced their capacity for the interpretation, integration, and transformation of their cognitive structures through the experiences with which they are involved, thereby fostering the potential for knowledge development. Furthermore, this finding also supports national [7] and international [8] guidelines for HEIs, advocating for the implementation of appropriate procedures to ensure that teaching educational practices encourages students to play an active role in the learning and assessment process.

4.2. Contributions of PEERFEED-EClínico 1.0

Students and teachers/supervisors have identified different contributions that emerged from the implementation of the model, with reflective critical thinking being one of the most significant contributions. This finding is consistent with other studies that suggest that peer feedback enhances the evaluation process by making it more meaningful and transparent, including students' right to opinion about others [8], self-awareness in relation to others, improving problem analysis skills and identifying learning needs, and cultivating critical–reflective thinking [15,17,23] through reflection on action. In addition, similar to findings in other studies, the implementation of peer feedback was associated with better self-awareness of professional competences and the ability to understand learning goals [5,6,9,22].

Through the implementation of the model, students showed greater engagement in the teaching and learning process, demonstrating collaborative learning mechanisms (collaborative learning) among themselves and jointly with the teacher/supervisor. It is important to emphasize unanimous perception among the study participants, particularly the teachers/supervisors, who recognize that peer feedback is a participatory and collaborative method. These results align with those of other studies, which highlight its collaborative nature [2,3] and its contribution to student involvement [4,5] in the teaching, learning, and assessment process [7,8]. Moreover, the more active and interactive the participation of students in the learning process, the greater the acquisition of knowledge [12]. In addition, students have better self-regulation of learning, demonstrating the ability to identify their own learning goals, define research and intervention strategies, and develop the required competences [4,18].

The participants of this study were unanimous in highlighting the contribution of peer feedback in improving teamwork [3,5,22], developing a process of mutual knowledge of its elements, such as potentialities and difficulties and based on this evolution in favor of not only individual but also group goals with a view to success [15]. The aforementioned teamwork dynamics also seem to contribute to greater autonomy in decision-making [15,19]. Simultaneously, participants demonstrate that peer feedback contributes to improving communication competences and interpersonal relationships, which corroborates recent studies in which students, through peer feedback, exhibit greater communication competences [17,19,24].

Students emphasize contribution to improving their self-knowledge, through moments of self-reflection around the awareness they have of themselves and the impression they create in their peers, through the feedback they receive [15].

The students in this study demonstrate a new finding that indicates a positive contribution in the construction of professional identity. This outcome stems from the heightened awareness of the image that they hold of themselves and the image they aspire to project at a professional level. This ability to look at themselves not only in terms of self-reflection but also through the comments of peers influences the perception of how they would like to be perceived and what image they want to pass on to their peers and professionals in the training context.

4.3. Characteristics to Respect in the Implementation of Peer Feedback

According to students and teachers/supervisors, nine key characteristics for enhancing students' academic performance have been systematized into the "Guideline" during the study. Three of the characteristics emerge as new findings: "Be realistic"; "Be descriptive"; and "Creating Evidence", with the others corroborating the findings of other authors, such as: "Be Timely" [9,19]; "Be Meaningful" [20]; "Be Constructive" [9–11,15]; "Student Commitment" [7]; "Be Proactive" [9,10,15,19]; and "Avoid Comparisons" [4,9].

Through the observation process implemented in *PEERFEED-ECLínico 1.0*, students also demonstrate greater ability to recognize learning goals [5,9,22], set personal goals at the beginning of clinical training, and effectively use these and other supporting documents to give peer feedback. Additionally, students readily incorporate peer-identified improvement opportunities into their clinical training, thus reducing difficulties in implementing peer feedback.

However, it is worth noting that students still have some difficulty when providing peer feedback, particularly when it involves using the personal goals initially defined by their peers. Furthermore, less-communicative students may experience greater initial difficulty in carrying out peer feedback, although they mention that it improves over time during clinical training.

4.4. Limitations and Suggestions for Future Research and Practice

Our results may not allow us to infer strong opinions because of two limitations; the study context, at first, was developed at one HEI. The second limitation is the data collection from students from the third and fourth years of nursing degrees.

For future research and practice, this research study could also be expanded by collecting more data, which means proposing the same project to a larger number of HEI, involving more students and teachers, and expanding to other scientific areas. The opportunity to make learning and assessment processes more meaningful for those who experience them is certainly a commitment that we intend to pursue, actively favoring the development of skills of future professionals capable of responding appropriately to complex and constantly changing contexts.

5. Conclusions

The process of developing the model for implementing peer feedback within the context of nursing clinical was based on the implementation requirements of peer feedback in the context of nursing clinical training. The commitment and involvement of the scientific

pedagogical structures, and the students themselves, was evident, with a focus on a student-centered paradigm in which all participants, especially the students, had an active and participatory role in the whole process. This commitment yielded several notable outcomes, including: the "*Training Workshop*"; the "*Implementation Guideline: Peer feedback*"; the promotion of the "*Active role of the student*"; being a "*Collaborative Learning and Assessment Process*". In addition, it reinforced the importance of the "*Clinical Supervision*" processes; the contribution to the development of students' metacognitive competences; the key characteristics for successful peer feedback implementation (*Be Timely*; *Be Constructive*; *Student Commitment*; *Be realistic*; *Be Proactive*; *Be Descriptive*; *Avoid Comparisons*; *Create Evidence*); and a model accepted and integrated in the educational community.

Throughout this planning, action, reflection, and the experience-sharing process, participants gained valuable personal and academic benefits. They developed essential competences for their future professional practice, particularly mechanisms for self-knowledge, self-reflection, and self-regulation, within a teamwork environment. This study significantly impacted the assessment and development of nursing students' metacognitive competences during clinical training. Furthermore, it has fostered collaboration between students, teachers/supervisors and the wider academic community, through research, knowledge sharing, and institutional pedagogical practice. The dissemination of *PEERFEED-EClínico 1.0* as a model for integrating nursing training into clinical contexts represents a significant contribution to the field of nursing both as a science and as a discipline/profession.

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