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Reducing teachers' resistance to reciprocal peer observation

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Despite the evidence supporting reciprocal peer observation (RPO) for teacher professional development, extant literature has reported that teacher resistance is a barrier to its implementation. Few studies have analysed the variables that moderate resistance to RPO. Based on data from 394 in-service teachers who participated in an RPO intervention, three aims are addressed: (1) to examine pretest-posttest differences in resistance to RPO, (2) to analyse the effect of demographic variables and perception of school support in initial resistance to RPO, and (3) to analyse the effect of demographic variables and perception of school support and role performance in final resistance to RPO, after controlling for initial resistance. The Teachers' Resistance to Reciprocal Peer Observation Scale was validated and used as pretest-posttest. Student's paired sample *t*-test was carried out to compare the two scores, and linear regression was used for the second and third aim. Firstly, results show a significant decrease in resistance to RPO. Secondly, initial resistance to the observer and observee role is moderated by teaching experience and feeling properly trained, with additional variables moderating resistance towards being observed (i.e., gender, being part of the school management team, prior experience, school time arrangement). Thirdly, final resistance to both roles is moderated by initial resistance, teaching experience, and variables

referring to judging oneself and the partner as capable of successfully participating in the intervention. Limitations and implications for research and practice are discussed. The changes in the quality of teaching that RPO may generate are contingent on reducing teacher resistance.

KEYWORDS

classroom observation, in-service teachers, peer observation, professional development, resistance to change, teacher attitudes

1 | INTRODUCTION

Teachers' professional development (TPD) is crucial to address current challenges in education (Darling-Hammond et al., 2017; OECD, 2020). TPD refers to the continuous learning process teachers undergo during their professional careers, which involves developing their learning skills and applying their pedagogical knowledge in practice to improve student learning (Avalos, 2011; Kennedy, 2006; Postholm, 2012; Sancar et al., 2021). Recent research has highlighted a new approach to TPD that differs from the traditional method of attending external training or workshops, which lacks depth and sustainability. This new approach places great emphasis on providing teachers with impactful learning opportunities. It includes seven key elements: disciplinary content, active teacher learning, teacher collaboration, modelling of effective practices, sharing of expertise, opportunities for feedback and reflection, and provision of the time needed for learning (Darling-Hammond et al., 2017). Within this new paradigm, collegial classroom observation emerges as one of the most important strategies for effective TPD (OECD, 2020).

There are three main approaches to peer observation (PO): evaluative, developmental, and collaborative or peer review (Fletcher, 2018; Gosling, 2005, 2014). These approaches differ in terms of their goals, the person conducting the observation, and the relationship between observer and observee. The evaluative approach focuses on assessment, and teacher observation is conducted by senior leaders or evaluators (e.g., De Lima & Silva, 2018), while the developmental approach aims to improve teaching through expert feedback from instructional developers. In contrast, collaborative observation focuses on collegial reflection and dialogue based on an equal relationship and mutual learning between the observer and the observee.

In this study, a collaborative approach is adopted through Reciprocal Peer Observation (RPO). RPO can be defined as a pair or group of teachers working together as equal partners who agree to observe one or more pedagogical aspects of each other's practices. Following the three stages of PO (i.e., preobservation, observation, and feedback), teachers gather evidence about their practices with the aim of improving their teaching through mutual and constructive feedback (Corcelles-Seuba, Duran, et al., 2023; O'Leary, 2020). RPO can be considered a form of co-teaching (Baeten & Simons, 2014). Thus, it is one of the deepest forms of teacher collaboration for professional learning, as it requires a high degree of interdependence between colleagues and a significant degree of cooperation (OECD, 2020). In RPO, teachers take on both roles (i.e., observer and observee). These roles are exchanged between partners from one classroom observation to another. Therefore, teachers can learn from each other by observing, giving and receiving feedback, sharing ideas, and discussing their challenges in a supportive and collaborative environment (Gosling, 2002, 2014).

Acting as the observee enables receiving feedback from a partner. If constructive, this feedback can help improve self-efficacy, self-reflection, and trust, as well as fostering changes in the teaching practice (Alam et al., 2020; Bruce & Ross, 2008; Rosselló & De la Iglesia, 2021). Acting as the observer enables learning new teaching strategies and raising awareness of one's own strengths and weaknesses (Alam et al., 2020; Hendry

& Oliver, 2012; Motallebzadeh et al., 2017; Tenenberg, 2016). RPO can become beneficial for the institution, since it fosters collaboration and teacher agency, as well as the perception of collegiality, which reduces teachers' feelings of isolation (Corcelles-Seuba, Duran, et al., 2023; Bruce & Ross, 2008; OECD, 2020; Ostovar-Nameghi & Sheikhahmadi, 2016). Thus, embedding RPO into teachers' daily practice—with no cost or external experts required—may provide opportunities to improve work contexts and promote professional learning communities in which teachers articulate and revise the assumptions that guide their teaching practice (Darling-Hammond et al., 2017; DuFour, 2006; Hargreaves & O'Connor, 2018; Philpott & Oates, 2017).

Despite the numerous benefits of RPO as a form of teacher collaboration for effective TPD, its use is not widespread in schools. In 2018, on average across the OECD, the Teaching and Learning International Survey (TALIS) shows that 41% of teachers report never observing other teachers' classes, and only 9% report participating in this collaborative activity at least once a month (OECD, 2020).

Teacher resistance may play a role in the lack of engagement in PO. Although the collaborative model has a non-judgemental approach, research has consistently indicated that resistance to PO is still a significant barrier to its implementation (Alam et al., 2020; Carroll & O'Loughlin, 2014; Cosh, 1999; Fletcher, 2018; Gosling, 2014; Hammersley-Fletcher & Orsmond, 2004, 2005; Lam, 2001; Motallebzadeh et al., 2017; O'Leary & Savage, 2020; Shortland, 2004; Slater & Simmons, 2001). This study focuses on better understanding teachers' resistance to RPO, which is a major concern in extant literature.

Overall, teacher resistance can be defined as a construct that refers to teachers' reactions (i.e., thoughts, feelings, attitudes, and behaviours) showing reluctance or opposition to a certain change in their teaching practice or context (Avey et al., 2008; Borg, 2015). It can be reduced through effective communication, collaboration, and professional development opportunities (Fullan, 2015), by understanding the school as a learning organisation (Gouëdard et al., 2023; Silins et al., 2002).

In the case of RPO, teachers report resistance to performing the roles of observer and observee. Research has shown that teachers in both roles can feel nervous, uncomfortable, intrusive, insecure, or ashamed, feeling a loss of their privacy in the classroom (Ahmed et al., 2018; Bang, 2009; Bell et al., 2010; Hendry et al., 2021; Martínez et al., 2018). The observee can be concerned that the lesson will not go as planned or that they and their students may be distracted by the presence of the observer (Motallebzadeh et al., 2017; Visone, 2020). The main resistance reported in extant literature has to do with the threat of feeling professionally judged by a colleague, when RPO is mistakenly seen as a judgmental or evaluative process (Ahmed et al., 2018; Bang, 2009; Bell et al., 2010; Carroll & O'Loughlin, 2014; City et al., 2009; Gosling, 2005, 2014; Guo, 2005; O'Leary & Savage, 2020).

Classroom observation has long been used and conceptualised as a method to monitor, evaluate, and assess teachers' improvement in pedagogical practice, especially in the British education system (O'Leary, 2020; O'Leary & Savage, 2020). Because of this approach, the effectiveness of classroom observation to improve teacher professional development has been limited, with negative effects on teachers' attitudes and feelings towards it. If PO is perceived as judgmental, intimidating, or prescriptive, this can lead to feelings of alienation, unwillingness to collaborate, opposition, or lack of ownership (Gosling, 2005, 2014).

Although RPO is based on equality and reciprocity, the relationship between observer and observee may become unbalanced and the observer may be seen as being in the most powerful role (Batlle & Seedhouse, 2022; De Lange & Wittek, 2020). The perception of an asymmetry in knowledge or power is one of the main difficulties in building trust between participants (De Lange & Wittek, 2020). Trust and confidentiality are crucial aspects for offering and receiving constructive feedback and for the success of peer relationships (Hammersley-Fletcher & Orsmond, 2004, 2005; O'Leary & Savage, 2020). When there is a lack of trust, peer feedback can entail high levels of anxiety, as the view of others influences the construction of one's own self-image and identity as a teacher (Castañeda-Londoño, 2017). Moreover, research has consistently shown that teachers perceive a lack of skills in giving and receiving constructive, non-judgmental feedback (Corcelles-Seuba, Soler, et al., 2023; Carroll & O'Loughlin, 2014; Rosselló & De la Iglesia, 2021). Excessive criticism focused only on negative comments or a lack of sensitivity in giving feedback can be perceived as discouraging and generate negative feelings, which

may increase teachers' resistance to RPO (Nguyen & Pham, 2020). In contrast, uncritical feedback is one of the major limitations of RPO because it does not help to improve the teaching practice. Complacency between participants to avoid confrontation between peers encourages conservatism and limits the effectiveness of PO as a tool for TPD (Bang, 2009; Donnelly, 2007; Gosling, 2005; Hammersley-Fletcher & Orsmond, 2004, 2005; Parr & Hawe, 2017; Shortland, 2004; Walker, 2015). Therefore, one of the main challenges has to do with incorporating a non-judgemental approach to observation, by establishing a respectful and collaborative relationship between partners, based on mutual trust, support and respect (O'Leary & Savage, 2020). Trusting relationships and abilities for constructive feedback are necessary to enable open discussion without feeling judged by a peer (Donnelly, 2007; O'Leary & Savage, 2020; Walker, 2015).

To reduce teacher resistance and promote engagement in RPO, institutional support is needed. Extant literature points to three main recommendations, related to willingness and confidentiality, making the collaborative approach explicit, and offering training and time.

First, institutions may guarantee voluntary participation and confidentiality between participants (Hammersley-Fletcher & Orsmond, 2004, 2005; O'Leary, 2020; O'Leary & Savage, 2020). When teachers feel that RPO is an external imposition, there is the risk of a lack of meaningful engagement in the process, complying with institutional requirements rather than engaging with it as a meaningful tool for TPD (Chamberlain et al., 2011; Lomas & Nicholls, 2005; Martínez et al., 2018; O'Leary & Savage, 2020). Confidentiality is necessary for building trusting relationships between peers and between teachers and administration. Teachers' concerns about confidentiality increase the lack of trust in administrators, which may in turn increase teacher resistance.

Second, institutions need to properly present the aims of RPO and promote collaboration between teachers for a real impact on TPD. Although RPO takes a collaborative approach and its purpose has to do with TPD through peer learning, it is important to make this purpose explicit at the beginning of the process to reduce possible fears or myths related to the evaluative approach. The lack of clarity about whether the purpose of PO is professional development or accountability poses a significant barrier that can increase teacher resistance (Gosling, 2005, 2014; O'Leary, 2020; Philpott & Oates, 2017). Lam and Lau (2008) showed that teachers' acceptance of PO was positively associated with the perception of strong collegiality in their schools and with teachers' learning goals, but negatively associated with teachers' performance goals. Rather than a sporadic event, RPO should be conceived as a regular practice embedded in a system of institutional activities (Chamberlain et al., 2011; Heron & Head, 2018). Therefore, teachers need to perceive that the institution is interested in promoting collaborative sharing and dissemination of good practices, with explicit institutional recognition to teachers participating in this process (Shousha, 2015; Torres et al., 2017).

Third, institutions must provide training and time for peer interaction. Teachers require further training in the RPO process with clear guidelines for giving and receiving critical feedback in a respectful, collaborative, and non-judgemental environment, as well as a clear structure of the RPO process (Bang, 2009; Donnelly, 2007; Guo, 2005; Hammersley-Fletcher & Orsmond, 2004, 2005; Martin & Double, 1998; O'Leary & Savage, 2020). Time constraints have been widely reported to hinder RPO and increase teachers' resistance to it (Corcelles-Seuba, Soler, et al., 2023; Golden et al., 2021; Nguyen & Pham, 2020; Rosselló & De la Iglesia, 2021; Verástegui & González, 2019). Institutional support is needed to provide time for teachers to coordinate and complete the three stages of the process within teachers' working hours. O'Leary and Savage (2020) highlight the relevance of the preobservational meeting to allow the observer to clarify the purpose of the observation and agree on the focus of observation, in order to dispel any anxieties. At the same time, having a clear focus reduces the risk of unfocused feedback which has no impact on teaching practices (Hammersley-Fletcher & Orsmond, 2004, 2005).

Considering that RPO is based on collaboration, reciprocity, and equal relationship between teachers, it is expected that resistance to RPO may be reduced when teacher collaboration is promoted and institutions follow the recommended guidelines. Instead of the hierarchical orthodoxy that characterises assessment-based types of classroom observation, relationships in RPO are more collegial in nature, which can help reduce anxiety or authoritative pressure (Alam et al., 2020; Corcelles-Seuba, Duran, et al., 2023; O'Leary & Savage, 2020).

In the last decade, research on RPO has increased and there has been a growing interest in analysing its effectiveness (e.g., Corcelles-Seuba, Duran, et al., 2023; Johnston et al., 2022; Ridge & Lavigne, 2020; Zeng, 2020). Although teacher resistance is a main concern in PO literature, few studies have focused on analysing the variables that can explain a reduction in teacher resistance. The pretest-posttest study by Corcelles-Seuba, Duran, et al. (2023) showed that teachers' participation in an RPO intervention reduced teachers' initial resistance to RPO, especially from teachers with no prior experience in PO. However, this study did not consider differences in terms of observer and observee, neither did it analyse the influence of demographic variables nor perception of school support and role performance. To address these gaps and better explain the variables that influence the reduction in teachers' resistance to RPO, three main aims are addressed in this study:

1. To examine pretest-posttest differences in teachers' resistance to RPO.
2. To analyse the effect of demographic variables and participants' perception of school support in teachers' initial resistance to RPO.
3. To analyse the effect of demographic variables and participants' perception of school support and role performance (i.e., both one's own performance and their partners') in teachers' final resistance to RPO, after controlling for initial resistance.

2 | METHODS

2.1 | Participants and context of implementation

Participants were drawn from a non-probabilistic sample of volunteers. Teachers from a Catalan network of schools (i.e., Xarxa de Competències) and from the Balearic Islands were offered to take part in an intervention based on RPO. The Ethical Committee of the university approved the study, respecting the obligations derived from the Organic Law 3/2018 on Personal Data Protection and Digital Rights, General Regulation on Data Protection (UE) 2016/679 and the current complementary legislation. All participants received written information about the project and gave their consent to participate according to the ethics compliance procedures.

A total of 536 voluntary in-service teachers began to take part in the intervention. Out of those 536 teachers, 400 submitted both the pretest and posttest. Six teachers who came from adult education were excluded from analysis, given the small sample size in view of further statistical modelling in the second and third aims of the study.[1] Thus, 394 participants were finally included in the study. They were from 121 schools, with 227 teachers belonging to the Catalan network of schools and 167 belonging to schools from the Balearic Islands.

With a mean age of 41.350 ($SD = 8.636$), 83 participants were men (21.07%) and 311 were women (78.93%). With an average teaching experience of 13.150 years ($SD = 8.942$) and a mean of 6.190 years in their current school ($SD = 6.640$), 43 teachers came from preschool education (10.91%), 121 from primary education (30.71%), 171 from compulsory secondary education (43.40%), and 59 (14.98%) from post-compulsory education (i.e., baccalaureate preparation for university and vocational training). Before the start of the intervention, 140 teachers (35.53%) reported having prior experience in PO.

Teachers were provided with an initial training session. A four-stage process for RPO was presented (Duran et al., 2020; O'Leary, 2020; O'Leary & Savage, 2020): (1) preobservation meeting, in which the two teachers agree on the observation focus and revise the features of the two roles (i.e., observer and observee); (2) observation sessions, at least one per teacher, exchanging the roles—with the observee writing a postobservation report after the session—; (3) feedback meeting, in which they dialogically share their assessment of each other's lesson, with the aim of eventually setting a goal for improvement; and (4) written reflection by the observee to specify the goal for improvement and possible actions to achieve it. Teachers were provided with support materials (i.e., a booklet with a role guide, a preobservation agreement, and orientations for the written report and reflection). One round of RPO was suggested (i.e., with one observation session per teacher).

Most teachers carried out the intervention in pairs, except for four groups of three (i.e., 12 participants). Out of the 388 participants who carried it out in pairs, data from 370 teachers were paired (i.e., available data for the two pair members), while 18 teachers were unpaired (i.e., their partner did not submit the posttest).

2.2 | Data collection

2.2.1 | Pretest-posttest questionnaire of teachers' resistance to RPO

The Teachers' Resistance to Reciprocal Peer Observation Scale ($\alpha = 0.877$) was validated in this study, and it was used as pretest and posttest. It was composed of six items in a 4-point Likert format, organised into two factors (Table 1): resistance to the observer role (2 items, $\alpha = 0.671$) and resistance to the observee role (4 items, $\alpha = 0.871$). The scale was designed by revising the extant literature on teachers' resistance to PO and was already used by researchers in a previous study (Corcelles-Seuba, Duran, et al., 2023).

A panel of five experts were asked to comment on the content validity of the instrument. All panel members had research experience in the field of peer learning. They were asked to review, comment, and clarify the meaning of the wording for each item. They provided feedback on the appropriateness of each item to ensure that all items were relevant to the local context. Based on their contributions, some adjustments were made in item wording.

To determine the best factor structure, both an Exploratory Factor Analysis (EFA; Brown, 2015) and a Confirmatory Factor Analysis (CFA; Kline, 2016) were performed. EFA was carried out using data from a previous pilot study with 431 teachers in the pretest (Corcelles-Seuba, Duran, et al., 2023). Factors were selected based on parallel analysis and rotated based on oblimin rotation. Loadings greater than 0.4 are considered stable (Guadagnoli & Velicer, 1988).

Results showed that the six items were grouped in two factors: resistance to the observer role (2 items), explaining 31% of the variance; and resistance to the observee role (4 items), explaining 46% of the variance. Both factors explained 77% of the total variance and showed good fit indices: Kaiser-Meyer-Olkin test (KMO = 0.863), Bartlett's test ($p < .001$), Tucker Lewis Index (TLI = 0.984), and Root Mean Square Error of Approximation (RMSEA = 0.073). After EFA, CFA was carried out with the current pretest sample ($n = 536$ teachers) to validate the two-factor structure. Results showed sufficient fit indices to confirm the model: Comparative Fit Index (CFI = 0.987), Tucker Lewis Index (TLI = 0.976), Root Mean Square Error of Approximation (RMSEA = 0.068), and Standardised Root Mean Square Residual (SRMR = 0.020) (Hooper et al., 2008; Hu & Bentler, 1999; Schumacker & Lomax, 2016). All items in each factor significantly contribute with $p < .001$ to the corresponding factor. All statistical analyses to validate the instrument were performed using JASP v0.16.4.

TABLE 1 Factors and items of the Teachers' Resistance to Reciprocal Peer Observation Scale.

Starting sentence, factors, and items
At the present time, I have feelings of concern or worry regarding peer observation
Factor 1: Resistance to the observer role.
Because of observing a colleague.
Because my performance can make my colleague feel professionally questioned or judged.
Factor 2: Resistance to the observee role.
Because of being observed by a colleague.
Because I can feel that my professionalism is questioned or judged by a colleague.
Because during the observation my lesson may not work as I expect or plan.
Because the presence of an observer in the classroom can distract me and/or my students.

2.2.2 | Demographic variables

Besides age and gender, participants were asked to report years teaching, years in the school, educational stage, whether they were part of the school management team at that moment, and whether they had prior experience in PO. The correlations between age, years teaching and years in the school were computed (Table 2). Given the high correlation coefficients, which would create collinearity issues in subsequent linear regression models, years teaching was the only variable used in subsequent analyses, because of the amount of literature on teaching experience (e.g., Podolsky et al., 2019).

2.2.3 | Perception of school support

Along with the pretest, participants were asked to indicate the level of agreement with the following two items in a 4-point Likert format: "I feel I have been properly trained to carry out RPO" (i.e., properly trained) and "The school is offering time so that we can meet to carry out RPO" (i.e., school time arrangement). In the case of feeling properly trained, given that only 14 participants (3.6%) opted for level 1 in the Likert item, responses from levels 1 and 2 were collated.

2.2.4 | Perception of role performance

After carrying out the feedback session in the observer role, participants were asked to report the degree of agreement (i.e., 4-point Likert format) with six self-assessment items referring to how they performed the observer role and one peer-assessment item referring to how their partner performed the observee role (Table 5). Likewise, after carrying out the feedback session in the observee role, they were asked to report the degree of agreement (i.e., 4-point Likert format) with six peer-assessment items referring to how their partner performed the observer role and one self-assessment item referring to how they performed the observee role (Table 7).

For one participant, median imputation was used for the missing values referring to the six self-assessment items. The median of other participants from the same educational stage and similar teaching experience was imputed. Given that the participants' responses to the six self- and peer-assessment items were skewed to levels 3 and 4, two types of responses were collated: total agreement (i.e., level 4) and varying degree of disagreement (i.e., levels 1, 2 and 3).

2.3 | Data analysis

2.3.1 | First aim: Pretest-posttest differences in teachers' resistance to RPO

Student's paired sample t-test was carried out to compare pretest and posttest scores, both overall and per role. A paired sample t-test was carried out to check if there were differences between the final resistance to each role (i.e., observer and observee).

TABLE 2 Pearson's correlation between age, years teaching and years in the school.

	Age	Years teaching
Years teaching	0.778 (<0.001)	–
Years in the school	0.525 (<0.001)	0.693 (<0.001)

Note: p value in parentheses.

2.3.2 | Second aim: The effect of demographic variables and perception of school support in teachers' initial resistance to RPO

Descriptive statistics of overall initial resistance (i.e., pretest scores) were first reported. A paired sample *t*-test was carried out to check if there were differences between the resistance to each role. To check for possible moderators, separate bivariate ANOVAs (i.e., for categorical variables) or linear regressions (i.e., for continuous variables) were carried out, with initial resistance as the dependent variable and each demographic variable (i.e., gender, years teaching, educational stage, school management team, prior experience in PO) and school support variable (i.e., properly trained and school time arrangement) as the independent one. These analyses were carried out with the specific resistance to each role. After bivariate analyses, if more than one independent variable was significant, they were included within a backward stepwise regression. Independent variables that were significant ($p < .05$) or nearly significant ($.05 < p < .10$) remained within the model. First-order interactions were computed and selected via backward stepwise selection. For the final model, the cut-off was set at $p < .10$ for main effects and $p < .05$ for interaction effects. Two models were generated (i.e., one per role). Supplementary analyses were carried out if necessary to help interpret the findings.

2.3.3 | Third aim: The effect of demographic variables and perception of school support and role performance in teachers' final resistance to RPO

Bivariate analyses via ANCOVAs (i.e., for categorical variables) or linear regressions (i.e., for continuous variables) were carried out with final resistance as the dependent variable, and each of the demographic, school support, and self- and peer-assessment variables as independent variables, controlling for initial resistance. These analyses were carried out with the specific resistance to each role. After bivariate analyses, if more than one independent variable was significant, they were included within a backward stepwise regression. Independent variables that were significant ($p < .05$) or nearly significant ($p < .10$) remained in the model. First-order interactions were computed and selected via backward stepwise selection ($p < .10$). For the final model, the cut-off was set at $p < .10$ for main effects and $p < .05$ for interaction effects. Two models were generated (i.e., one per role). Supplementary analyses were carried out if necessary to help interpret the findings. Statistical tests in this study were carried out via JASP v0.16.4 and Jamovi v2.3.21.

3 | RESULTS

3.1 | First aim: Pretest-posttest differences in teachers' resistance to RPO

The paired sample *t*-test shows a significant decrease in resistance to RPO from pretest to posttest, both overall and per role (Table 3). When comparing the two roles, there is no significant difference between the final resistance to the observer or the observee role ($p = .748$).

3.2 | Second aim: The effect of demographic variables and perception of school support in teachers' initial resistance to RPO

Descriptive statistics show an average overall initial resistance of 1.752 ($SD = 0.601$) out of a maximum of 4 points. When comparing the two roles, there is no significant difference between the initial resistance to the observer or

TABLE 3 Pretest-posttest comparison of resistance to RPO.

	Pretest	Posttest			
	M (SD)	M (SD)	t	p value	Effect size Cohen's d
Observer	1.768 (0.659)	1.563 (0.576)	6.081	<.001	0.306
Observee	1.737 (0.654)	1.554 (0.560)	6.227	<.001	0.314
Overall	1.752 (0.601)	1.559 (0.518)	6.805	<.001	0.343

TABLE 4 Bivariate analyses between initial resistance to RPO and independent variables.

Independent variables	Observer	Observee
Demographic variables		
Gender	.610	.050*
Years teaching	.033*	<.001***
Educational stage	.254	.729
School management team	.402	.004**
Prior experience in PO	.689	.025*
School support		
Properly trained	<.001***	<.001***
School time arrangement	.186	.011*

Note: $^c p \le .10$.
$*p \le .05$; $**p \le .01$; $***p \le .001$.

TABLE 5 Regression model for the initial resistance to the observer role.

Predictor	Estimate	SE	t	p	Standardised estimate (β)
Constant[a]	1.449	0.112	12.934	<.001	
Years teaching	−0.008	0.004	−2.260	0.024	−0.111
Properly trained					
12–4	0.558	0.118	4.742	<.001	0.847
3–4	0.428	0.111	3.873	<.001	0.650

Note: $R^2 = 0.065$.
[a]For the reference level of categorical variables.

the observee role ($p = .244$). Bivariate analyses suggest that some control variables significantly moderate initial resistance to each role (Table 4).

3.2.1 | Initial resistance to the observer role

In the backward stepwise regression for initial resistance to the observer role, both years teaching ($p = .024$) and feeling properly trained ($p < .001$) remain within the model (Table 5). Marginal means suggest the following: the more years teaching, the lower the initial resistance to observing a partner; feeling properly trained involves a lower initial resistance to the observer role.

3.2.2 | Initial resistance to the observee role

In the backward stepwise regression for initial resistance to the observee role, several variables remain within the model (Table 6). Marginal means suggest that a lower initial resistance is reported by those participants who are men, belong to the school management team, have prior experience in PO, feel properly trained, and perceive a maximum school time arrangement. In this variable (i.e., school time arrangement), although marginal means of groups 2, 3 and 4 point to a negative linear relationship with initial resistance, group 1 does not seem to follow this trend: in this group, initial resistance is slightly higher than group 4 ($MD = 0.084$), but lower than group 2 ($MD = -0.159$) and group 3 ($MD = -0.101$).

As for the interaction between belonging to the school management team and years teaching, subgroup analyses via correlation analyses show that there is a significant negative small correlation between years teaching and initial resistance to the observee role in the case of participants who do not belong to the school management team (Pearson's $r = -.181$; $p < .001$). In contrast, the correlation is positive but not significant in the case of those who belong to the school management team (Pearson's $r = .144$; $p = .322$).

3.3 | Third aim: The effect of demographic variables and perception of school support and role performance in teachers' final resistance to RPO

3.3.1 | Final resistance to the observer role

After controlling for initial resistance, bivariate analyses suggest that some independent variables affect the final resistance to the observer role (Table 7).

TABLE 6 Regression model for the initial resistance to the observee role.

Predictor	Estimate	SE	t	p	Standardised estimate (β)
Constant[a]	0.557	0.275	2.027	0.043	
Gender					
Women – Men	0.143	0.078	1.841	0.066	0.219
Years teaching	0.012	0.011	1.063	0.289	0.166
School management team					
No – Yes	0.700	0.251	2.785	0.006	0.549
Prior experience in PO					
No – Yes	0.118	0.067	1.779	0.076	0.181
Properly trained					
12–4	0.441	0.118	3.719	<.001	0.673
3–4	0.333	0.109	3.056	0.002	0.509
School time arrangement					
1–4	0.083	0.118	0.704	0.482	0.127
2–4	0.243	0.099	2.463	0.014	0.371
3–4	0.185	0.098	1.898	0.059	0.283
Sch. management team * Years teaching					
(No – Yes) * Years teaching	−0.026	0.012	−2.152	0.032	−0.355

Note: $R^2 = 0.126$.

[a]For the reference level of categorical variables.

TABLE 7 Bivariate analyses of final resistance to the observer role and independent variables.

Independent variables	p value
Demographic variables	
Gender	.861
Years teaching	<.001***
Educational stage	.370
School management team	.419
Prior experience in PO	.572
School support	
Properly trained	.086[c]
School time arrangement	.531
Perception of one's own performance as observer	
In the observation session	
My presence in my partner's class was nondisruptive	.009**
I focused on observing without participating in class	.310
I stuck to observing the indicators we had previously agreed on	.021*
In the feedback session	
I was able to identify positive aspects of my partner's practice	.004**
I was able to identify improvable aspects of my partner's practice	<.001***
I was able to make constructive, non-judgemental comments	<.001***
Perception of how the partner carried out the observee role	
My partner understood my feedback as an aid to reflective practice	<.001***

Note: After controlling for initial resistance.
[c]$p \leq .10$;
*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.

In the backward stepwise regression for the final resistance to the observer role, several variables remain within the final model (Table 8). As for main effects, marginal means suggest that the more years teaching and the lower the initial resistance to the observer role, the lower the final resistance to this role. Moreover, a lower initial resistance is reported by those participants who show total agreement with the self-assessment item referring to identifying partner's improvable aspects, and with the self-assessment item referring to making constructive, non-judgemental comments—although the latter does not reach significance.

As for the interaction between the peer-assessment item (i.e., perception of the partner understanding feedback as an aid) and initial resistance, subgroup analyses via paired sample t-test show that the decrease in resistance is more pronounced in those participants who report total agreement ($p < .001$; Cohen's $d = 0.341$) than those who report some degree of disagreement ($p = .038$; Cohen's $d = 0.198$) with this item. Moreover, an independent sample t-test with the peer-assessment item as the independent variable and initial resistance as the dependent variable shows that those who indicate total agreement had reported a lower initial resistance ($p = .003$; $t = -3.038$).

3.3.2 | Final resistance to the observee role

After controlling for initial resistance, bivariate analyses suggest that some independent variables affect the final resistance to the observee role (Table 9).

TABLE 8 Regression model for the final resistance to the observer role.

Predictor	Estimate	SE	t	p	Standardised estimate (β)
Constant[a]	1.033	0.101	10.205	<.001	
Initial resistance	0.251	0.046	5.507	<.001	0.287
Years teaching	−0.010	0.003	−3.715	<.001	−0.162
One's own perception of identifying partner's improvable aspects					
123–4	0.154	0.066	2.335	0.020	0.267
One's own perception of making constructive comments					
123–4	0.105	0.059	1.774	0.077	0.182
One's perception of the partner understanding feedback as an aid					
123–4	−0.245	0.169	−1.449	0.148	0.250
Initial resistance * One's perception of the partner understanding feedback as an aid					
Initial resistance * (123–4)	0.220	0.085	2.600	0.010	0.252

Note: $R^2 = 0.282$.

[a]For the reference level of categorical variables.

TABLE 9 Bivariate analyses of final resistance to the observee role and independent variables.

Independent variables	*p* value
Demographic variables	
Gender	.090[c]
Years teaching	<.001***
Educational stage	.278
School management team	.177
Prior experience in PO	.949
School support	
Properly trained	.567
School time arrangement	.265
Perception of how the partner carried out the observer role	
In the observation session	
My partner's presence in my class was nondisruptive.	<.001***
My partner focused on observing without participating in class.	.836
My partner stuck to observing the indicators we had previously agreed on.	<.001***
In the feedback session	
My partner was able to identify positive aspects of my practice.	.002**
My partner was able to identify improvable aspects of my practice.	.360
My partner was able to make constructive, non-judgemental comments.	.006**
Perception of one's own performance as observee	
I understood my partner's feedback as an aid to reflective practice.	<.001***

Note: After controlling for initial resistance.

[c]$p \leq .10$;

*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.

TABLE 10 Regression model for the final resistance to the observee role.

Predictor	Estimate	SE	t	p	Standardised estimate (β)
Constant[a]	0.817	0.080	10.271	<.001	
Initial resistance	0.423	0.035	12.204	<.001	0.495
Years teaching	−0.010	0.003	−3.856	<.001	−0.156
One's perception of the partner's nondisruptive presence					
123–4	0.189	0.049	3.852	<.001	0.338
One's perception of the partner sticking to agreed indicators					
123–4	0.097	0.048	2.014	0.045	0.174
One's own perception of understanding feedback as an aid					
123–4	0.180	0.056	3.204	0.001	0.321

Note: $R^2 = 0.393$.

[a]For the reference level of categorical variables.

In the backward stepwise regression for the final resistance to the observee role, several variables remain within the final model (Table 10). Marginal means suggest that the more years teaching and the lower the initial resistance to the observee role, the lower the final resistance to this role. Moreover, total agreement with peer- and self-assessment items (i.e., one's perception of the partner's nondisruptive presence, one's perception of the partner sticking to agreed indicators, and one's own perception of understanding feedback as an aid) involves a lower final resistance as well.

4 | DISCUSSION

The findings of this study show a significant decrease in resistance to RPO after the intervention, with a small-to-medium effect. Such effect size is relevant, considering that the RPO intervention was a short, low-cost intervention which was implemented at a rather large scale (Kraft, 2020). Furthermore, initial resistance was already rather low, probably due to the non-probabilistic sample of volunteers, which may have generated a floor effect to a certain extent, that is, the insufficient measurement precision to support distinctions between participants at the lower regions of the score scale (Ho & Yu, 2015). These findings are relevant for TPD. Although research has shown the effectiveness of quality teacher collaboration (e.g., Sun et al., 2013) and, more specifically, of RPO for TPD (Darling-Hammond et al., 2017; OECD, 2020), teacher resistance is one of the main barriers to its regular use in schools (Alam et al., 2020; Cosh, 1999; Gosling, 2014; Motallebzadeh et al., 2017; Slater & Simmons, 2001).

Some demographic variables were found to moderate initial resistance to RPO. It seems that the more years teaching, the lower the initial resistance, both as observer and observee—except for those participants in the school management team in the case of the observee role. Prior literature on the role of teaching experience is rather ambiguous, as analysed by Grosemans et al. (2015). Focusing on TPD, according to Van Daal et al. (2013), experienced teachers show more avoidance behaviour towards learning in the workplace. Although a direct relationship between teaching experience and resistance to change is sometimes suggested (Hammersley-Fletcher & Orsmond, 2005; Keig, 2000), this relationship is often misunderstood. It seems that highly experienced teachers are more selective (Cameron et al., 2013) and they are eager to participate when the offer of TPD is meaningful, intellectually engaging, safe, and collegial (Gore & Rickards, 2021). Thus, when TDP is based on actions such as the discussion of learning activities, sharing of materials, reflection on practice, or collaboration, no differences were found based on teaching experience (Grosemans et al., 2015; Louws et al., 2017). Ultimately, as Richter et al. (2011) conclude, the time spent in informal learning by teachers with more and fewer years of experience

is comparable. In short, in this study, the lower initial resistance to RPO from more experienced teachers might reflect their preference for meaningful, intellectually engaging, safe, and collegial TPD practices, as indicated by Gore and Rickards (2021). Further research is needed to help interpret the findings.

Perception of school support also seems to moderate initial resistance. It seems that feeling properly trained involves a lower initial resistance to both roles (i.e., observer and observee), and perceiving that the school is offering time for RPO meetings seems to involve a lower initial resistance to being observed. Previous research has underlined the relevance of school support for teacher collaboration (Meyer et al., 2022) and effectiveness (Kraft & Papay, 2014), as well as the importance of initial training in PO (Bang, 2009; Donnelly, 2007; Guo, 2005; Hammersley-Fletcher & Orsmond, 2004, 2005; Martin & Double, 1998; O'Leary & Savage, 2020). Similarly, time restriction has frequently been pointed out as one of the main difficulties in implementing RPO (e.g., Alam et al., 2020; Bruce & Ross, 2008; Golden et al., 2021; Motallebzadeh et al., 2017; Nguyen & Pham, 2020; Rosselló & De la Iglesia, 2021; Verástegui & González, 2019; see Corcelles-Seuba, Soler, et al., 2023, for a review). In addition, time is also a key factor for TPD (Gore & Rickards, 2021), for the emotional dynamics of collaboration (Saunders, 2013; Weddle, 2023), and for effective collegial relationships (Collinson & Fedoruk Cook, 2001).

Three other demographic variables seem to moderate initial resistance to the observee role: gender, school management team, and prior experience in PO. As for gender, men report a lower initial resistance to being observed than women. Gender differences are often analysed in educational research. After reviewing several meta-analytic studies, Casale (2020) highlights the robust evidence that men tend to show higher self-esteem than women. Similarly, in another literature review, Olson et al. (2019) conclude that there are gender differences in how teachers manage their emotions: women more often reported experiencing a range of negative outcomes like socio-emotional difficulties or more unpleasant emotions. Women and men do not react in the same way to teaching innovation (Paechter, 2003). However, these differences should not be linked exclusively to biological sex, but the sociocultural context and the individuals' personal gender constructions should be considered, as Sabbe and Aelterman (2007) state.

As for the school management team, it seems that belonging to it involves a lower initial resistance to being observed by a partner. This was an expected outcome, considering that in this study voluntary participation was promoted by school management teams. The members of school management teams show a wider perspective on the impact of the intervention on educational quality at the school level (Van der Heijden et al., 2015), with this vision having a substantial impact on their leadership behaviour (Krüger et al., 2007). Differences between those who do or do not belong to the school management team have also been reported in other situations. For instance, in a study on teachers' attitudes towards inclusion, both head teachers (school principals) and deputy head teachers (vice-principals) were significantly more inclusive than class teachers (Boyle et al., 2013). Future studies will have to inquire into the reasons behind these differences.

As for prior experience, it is close to significance in the final model. It seems that having prior experience in PO may contribute to a lower initial resistance to being observed by a partner. In contrast, prior experience does not play any role in the resistance to the observer role. It seems reasonable to think that prior positive experiences contribute to a lower resistance to this kind of practice, considering the role of mastery experiences (i.e., past performance attainments) in self-efficacy (Morris et al., 2017).

Focusing on the level of resistance after the intervention, some variables seem to moderate the final resistance to RPO. Firstly, initial resistance predicts final resistance: the higher the initial level, the higher the final level. This relation is quite reasonable because one cannot expect all resistance to vanish after a single round of RPO.

Secondly, the number of years teaching plays a role in final resistance to RPO to both the observer and the observee role, even after controlling for initial resistance. Thus, not only does teaching experience involve a lower initial resistance to RPO, as discussed above, but it also enhances the effect of the intervention in reducing such resistance. Again, this might reflect the preference of more experienced teachers for meaningful, collegial practices (Gore & Rickards, 2021), such as RPO.

Thirdly, focusing on self- and peer-assessment items referring to participants' perception of role performance, results show that it moderates final resistance to each role. It is relevant to perceive that feedback is understood as an aid to reflective practice. When carrying out the observee role, one's own perception of feedback as an aid contributes to a lower resistance. When carrying out the observer role, the effect of this variable is shown in interaction with initial resistance. It seems that a higher initial resistance may make participants more prone to perceive that the partner does not totally understand feedback as an aid to reflective practice. In turn, the decrease in resistance is less pronounced in those participants who do not totally perceive the partner to understand feedback this way. Perceiving feedback as an aid to reflective practice rather than as a judgement or critique is the basis of the collaborative model of PO (Fletcher, 2018; Gosling, 2005, 2014).

As an observer, besides the perception of the partner understanding feedback as an aid, one's own perception of identifying partner's improvable aspects contributes to a lower resistance. Although it does not reach significance in the final model, making constructive, non-judgmental comments seems to contribute to a lower resistance as well.

As an observee, besides one's perception of understanding feedback as an aid, perceiving that the partner's presence is nondisruptive and perceiving that the partner sticks to agreed indicators contribute to a lower final resistance. Considering the aforementioned findings, the relevance of the preobservation meeting is underscored as it enables the observer to clarify the purpose of the observation and agree on the scope of the observation (O'Leary & Savage, 2020).

Overall, these findings suggest that having a positive experience in RPO, that is, judging oneself and the partner as capable of successfully participating in the intervention, contributes to the decrease in teachers' resistance to RPO. Mastery experiences are an important source of self-efficacy (Morris et al., 2017). The appraisal of past success is based on different sources, including mastery experience, but also other sources, such as seeing others perform the task (i.e., vicarious experience), others' evaluative feedback (i.e., social persuasions), or physiological and affective states (Morris et al., 2017). This positive experience can be facilitated through institutional emotional support mechanisms (Gordon et al., 2022), such as creating time and space for teacher dialogue to allow them to discuss feelings, considering the relevant role of emotions in TPD and in the interaction with others (Saunders, 2013).

Future studies will have to analyse other variables that moderate resistance to RPO, given that the models for initial resistance to each role account for a small variance, and initial resistance is the strongest predictor of final resistance. No differences were identified between educational stages, which encourages to use this practice in all of them. However, future studies will have to analyse the implementation of RPO in adult education, given that descriptive statistics from the group of six participants that were finally not included in this study suggest that, contrary to the main trend, average final resistance is higher than initial resistance. Although such a small number of participants may not be representative of the whole population, future studies will have to address the possible different effect of the RPO intervention in this group, especially considering that participants in this study were volunteers who were willing to participate in RPO.

Although the findings of this study offer valuable contributions to the field, it is important to consider some limitations. Firstly, note that the study's sample consisted of voluntary participants in the RPO intervention. This could lead to an overestimation of its universal effect. However, mandating such interventions for teachers would impede teacher agency and the sense of safety (O'Leary & Savage, 2020). Instead, policymakers should offer evidence-based information and consistent support to persuade reluctant teachers.

Secondly, a single measure of school time arrangement and proper training (i.e., school support) were gathered at the beginning of the intervention based on teacher perception. Given the significant role of these variables, this piece of information should also be collected at the end of the intervention in future studies. Moreover, other questions or instruments may help to gain a better insight of the relevance of school time arrangement for RPO.

Thirdly, it should be noted that no qualitative data was used to support and provide a deeper understanding of the quantitative findings. Qualitative data could have been useful in exploring the underlying reasons behind certain trends or patterns observed in the quantitative data. This could have also helped to triangulate the findings, resulting in a more comprehensive understanding.

5 | CONCLUSION

Although RPO is strongly supported by international organisations that aim to guide educational change (e.g., OECD, 2020), its practice is still limited by teachers' resistance to its use. Thus, the changes in the quality of teaching that RPO may bring about as an instrument for TPD are contingent on reducing teachers' resistance to its use. Despite the voluntary and willing sample of participants, this study has shown that there is some resistance to both the observer and the observee role. For the sustainable expansion of these practices, it is necessary to acknowledge this resistance and indicate actions for reducing it. Several variables were found to moderate resistance to RPO in this study. Initial resistance to the observer and observee role is moderated by teaching experience and feeling properly trained, with additional variables moderating initial resistance towards being observed (i.e., gender, being part of the school management team, prior experience, school time arrangement). As for final resistance to both roles, it is moderated by initial resistance, teaching experience, and variables referring to judging oneself and the partner as capable of successfully participating in the intervention. Overall, these variables point to the need of feeling safe and capable for a successful RPO practice. This emphasises the vital role of training before the intervention, in order to understand that the observer is not going to disrupt the class, will follow the agreed observation indicators, and will be able to offer helpful feedback. The need for training on how to provide quality feedback has been underlined in prior studies (e.g., Thurlings et al., 2012). All in all, RPO can become a sustainable, effective intervention for the improvement of teaching practice as long as teacher resistance is carefully addressed.

CONFLICT OF INTEREST STATEMENT

None of the authors have a conflict of interest to disclose.

DATA AVAILABILITY STATEMENT

The datasets generated during and/or analysed during the current study are available from the corresponding author upon reasonable request.

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ENDNOTE

[1] Descriptive statistics of adult education teachers ($n=6$) show that, contrary to the main trend, average final resistance is higher than initial resistance ($M_{pretest}=1.708$; $SD_{pretest}=0.485$; $M_{posttest}=2.313$; $SD_{posttest}=1.190$), although the difference is not significant ($p=.174$).

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