RedFame

Journal of Education and Training Studies
Vol. 12, No. 1; January 2024
ISSN 2324-805X E-ISSN 2324-8068
Published by Redfame Publishing
URL: http://jets.redfame.com

Effective Classroom Management Training to Promote Better Education: Changes in Pre-service Teacher Strategies after Triad Debriefing

Laëtitia Delbart[1], Christophe Baco[1], Marie Bocquillon[1], Antoine Derobertmasure[1]

[1]Methodology and Training Unit, University of Mons, Mons, Belgium

Correspondence: Laëtitia Delbart, Methodology and Training Unit, University of Mons, Place du parc, 18, 7000 Mons, Belgium.

Received: September 8, 2023 Accepted: October 24, 2023 Online Published: November 9, 2023

doi:10.11114/jets.v12i1.6516 URL: https://doi.org/10.11114/jets.v12i1.6516

Abstract

Throughout the world, training teachers in effective classroom management strategies is a major societal challenge. It is important for pre-service teachers to receive feedback on specific classroom management strategies from their trainers (supervisor and cooperating teacher), using an observation tool and ideally a video recording of their practice. Yet little is known about the evolution of pre-service teachers' actual classroom management practices during their internships and the feedback they receive from their trainers. This article therefore presents the evolution of the actual practices of pre-service French-speaking Belgian teachers observed on two occasions during their internships (Observation 1 and Observation 2). It also presents the link between the feedback given by the trainers and the intentions to act expressed by the pre-service teacher during the debriefing following the first observation (O1) and the strategies implemented by the pre-service teachers during the second observation (O2). To this end, an observation grid inserted into an observation software was used live in secondary school classrooms, and the debriefings were recorded and then analyzed. By comparing the feedback and intentions to act expressed during the debriefings with the actual strategies of the pre-service teachers, it was possible to identify which feedback and intentions to act were actually implemented by the pre-service teachers, on the basis of observable indicators. The results point to a number of positive developments in pre-service teachers' practices, and indicate certain avenues for improvement. They also show that pre-service teachers followed half the feedback given to them by their trainers. The results provide a basis for formulating ways of training teachers in effective classroom management.

Keywords: pre-service teacher training, effective classroom management, observation, debriefing, triad, cooperating teacher, supervisor

1. Introduction

1.1 The Importance of Classroom Management

Around the world, training teachers to be highly competent in classroom management in order to promote quality education is a key issue, as classroom management is one of the main difficulties encountered by both novice and experienced teachers (e.g., Dufour, 2010; Gagné et al., 2021). This difficulty is even one of the main reasons for the "reality shock" experienced by novice teachers (OECD, 2018) and one of the main reasons for their early dropout (e.g., Jackson et al., 2013). In fact, classroom management is as much a part of the teaching profession as learning management. While learning management concerns the content to be taught, classroom management refers to the classroom climate. Several researchers have proposed definitions of classroom management (Gaudreau, 2017; Bissonnette et al., 2016, Nault & Lacourse, 2016), which translates into reflective, sequential, and simultaneous actions by the teacher, with the aim of establishing, maintaining, or restoring a climate that fosters student engagement in their learning and avoids misbehavior detrimental to that learning.

Furthermore, classroom management has a major impact on students' academic success (e.g., Hattie, 2009). In fact, in well-managed classrooms, where a positive and reassuring climate is in place, students engage in fewer misbehaviors and more time is devoted to teaching. The conditions are therefore better for learning (e.g., Dufour, 2010). As presented in the next section, in order to train future teachers in effective classroom management strategies, pre-service training programs can draw on research into effective classroom management.

1.2 Effective Classroom Management

Numerous empirical investigations and research syntheses (e.g., Bissonnette et al., 2016; Charlton et al., 2021; Egeberg et al., 2016; Horner et al., 2010, Knoster, 2014; Korpershoek et al., 2016; Sugai & Horner, 2009; Wills et al., 2023; Zoder-Martell et al., 2023) have highlighted effective classroom management strategies, i.e., those that "establish and sustain an orderly environment so students can engage in meaningful academic learning" and "enhance students' social and moral growth" (Evertson & Weinstein, 2006, p. 4). There are two types of strategies: preventive and corrective. Preventive classroom management strategies are implemented to prevent misbehavior and foster a positive classroom climate (e.g., strategies to establish a positive relationship between teachers and students, explicit instruction of expected behaviors, etc.) (Bissonnette et al., 2016; Marzano et al., 2003). Nevertheless, these strategies are not sufficient, and teachers must resort, in certain situations, to "corrective" strategies to manage student misbehavior when it occurs. Corrective classroom management strategies manage these misbehaviors through a graduated system of nonverbal strategies (e.g., approaching a disruptive student, putting a hand on their desk, etc.) and verbal strategies (e.g., reminding the student of the expected behavior, asking the student to make amends, etc.) (Bissonnette et al., 2016; Knoster, 2014). Research also points to the ineffectiveness of certain strategies, such as using verbal reprimands without making the expected behavior explicit, or shouting (Bissonnette et al., 2016; Rhode et al., 1993).

To implement effective classroom management strategies, teachers need to be trained in them, starting with their initial training. Initial teacher training alternates between the training institution and the professional environment during internships (Baco et al., 2023). The rest of this text presents teaching internships and the importance of debriefings and feedback in supporting pre-service teachers' learning of effective classroom management strategies.

1.3 Internships as an Opportunity for Classroom Management Training

While teacher training must base its content (in this case, behavior management) on research findings, it must also enable pre-service teachers to practice implementing these strategies. To this end, internships are fundamental, and it is more their quality (and especially the quality of their supervision by professionals) than their length that has an impact on the professional development of pre-service teachers (Haas et al., 2022). Indeed, to support the trainee's professional development, it is vital that pre-service teachers receive feedback on their practices from their trainers (Cutrer-Párraga et al., 2023): the cooperating teacher (the teacher welcoming a pre-service teacher into their classroom) and the supervisor (the trainer from the training institution). During internships, triad debriefings (between the pre-service teacher, cooperating teacher and supervisor) are ideally held after the trainers have observed a lesson by the pre-service teacher (Portelance & Caron, 2017). Relationships within the triad are not neutral. This can have an impact on the debriefings and professional development of the pre-service teacher. For example, the trainers' expectations and assessments do not necessarily coincide, and there may also be a hierarchical relationship between the representative of the training institution and the cooperating teacher (Bullough & Draper, 2004), which can make the pre-service teacher confused, not knowing which advice to follow.

During debriefings, trainers may adopt a more or less directive supervisory style (Crasborn et al., 2011). In order to effectively train pre-service teachers in classroom management, these different styles need to be mobilized appropriately, depending on the needs of the pre-service teacher. For example, directive styles, such as instructional coaching (De Jager et al., 2002) or modeling (e.g., Cutrer-Párraga et al., 2022), can be very effective in learning different ways of teaching. Then, the pre-service teacher can mobilize and adapt these strategies to the different contexts they encounter. To support their observation and prepare feedback, the trainer can be equipped (Banville & Rikard, 2001; Bocquillon, 2020; Bocquillon et al., 2018) as presented in the following section.

1.3.1 The Importance of Equipped Feedback

Feedback, which can be defined as providing information to the learner about their performance (Hattie & Timperley, 2007), is one of the elements with the greatest impact on learning (e.g., Good & Brophy, 2008; Hattie & Timperley, 2007). In practical teacher training, it is used to improve pre-service teachers' skills (Van de Ridder et al., 2008). However, feedback is an interpretive process influenced by many factors, its preparation requires great care and can be equipped.

Several factors influence feedback. For example, communication between trainer and trainee may be limited by the degree to which they share a common perception of the performance in question (Dye, 2007). This perception can be influenced by various factors, such as the memory of the trainer and the pre-service teacher, as well as the trainer's expectations, values, interests, and previous experience (Dye, 2007). Thus, each observer tends to create their observation system based on ideal teaching practices, some based on research and/or educational theories, and others based on personal preferences, resulting in highly varied feedback, each depending on the observer (Stuhlman et al., 2009). Moreover, some feedback is too general and not specific enough, i.e., it does not focus on specific teaching strategies (Struyk & McCoy, 1993). Yet, according to several authors (e.g., Marzano et al., 2011; Stuhman et al., 2009), it is more effective to provide pre-service teachers with targeted feedback on specific pedagogical strategies rather than

general comments on their practices. In order to objectively observe a performance and provide specific feedback to the pre-service teacher based on their actual practice, the trainer can use an observation grid (Banville & Rikard, 2001; Bocquillon, 2020). To take this a step further, it is also possible to show the (pre-service) teacher a recording of their practice and formulate feedback regarding their filmed performance (Bocquillon, 2020; Knight et al., 2015). This is all the more necessary, as previous research conducted by our team has highlighted that pre-service teachers find it difficult to describe their practices objectively (e.g. Derobertmasure et al., 2015). Feedback can therefore be prepared on the basis of actual performance analyzed using a grid of specific observable behaviors whose effectiveness has been demonstrated (e.g., Good & Brophy, 2008; Stuhlman et al., 2009). This overcomes many of the limitations of the feedback commonly given to pre-service teachers. This type of equipped feedback is also at the heart of instructional coaching, a coaching method that can be used in pre-service and in-service training (Rock et al., 2013). Instructional coaches "(a) partner with teachers to (b) analyze current reality, (c) set goals, (d) identify and explain teaching strategies to hit the goals, and (e) provide support until the goals are met" (Knight, 2019, p. 7). This includes visiting classrooms to observe teachers and give them specific advice on how to improve their practice (Hammond & Moore, 2018). This type of coaching can also be carried out remotely by filming teachers and providing them with advice via videoconferencing. This advice can also be given on-the-spot, unobtrusively, while (pre-service) teachers are teaching, as proposed by Rock and colleagues (2013; 2014). Several research studies have highlighted the positive effect of coaching programs on changing teachers' practices (e.g. Baco, 2022; De Jager et al., 2002; Hammond & Moore, 2018; Knight, 2019; Rock et al., 20092014), student engagement (e.g. Knight, 2019; Rock et al., 2009; 2014) or student outcomes (e.g. Gunn et al., 2021).

1.4 Research Questions

Despite the importance of training pre-service teachers in classroom management, very little is known about the actual classroom management strategies of pre-service teachers and how they evolve over the course of their internships. Previous research (Bocquillon, 2020) has shed light on the learning management strategies of pre-service teachers. However, the results of this research highlight the need for a more precise study of pre-service teachers' classroom management strategies. What's more, very little is known about the feedback actually given to pre-service teachers in internship situations and its effectiveness. The present study, in the field of classroom management, investigates some of the perspectives proposed by Cutrer-Párraga and colleagues (2023), in the Journal of Education and Training Studies, who explain that future research should quantify the influence of feedback on teachers' practices. Considering this lack of research, this article aims to answer the following two research questions:

1. How do pre-service teachers' classroom management strategies evolve on two occasions during their internship (Observation 1 and Observation 2)?

2. During the second observation (O2), do the pre-service teachers implement the feedback given to them by the university supervisor and the cooperating teacher and the intentions to act they expressed during the triad debriefing (D) at the end of the first observation (O1)?

To this end, as part of a training program for pre-service teachers intending to teach in grades 4, 5 and 6 of secondary school in French-speaking Belgium (which corresponds to the "High School" level in the USA), pre-service teachers were observed on two occasions. These observations were carried out using an innovative observation tool consisting of an observation grid developed from the scientific literature on effective classroom management (e.g., Bissonnette et al., 2016; Marzano et al., 2003) inserted into an observation software program (Vosaic). This tool enables each pre-service teacher to receive feedback based on precise observations by the supervisor, synchronized to the video of their performance. It is an adaptation of a tool previously developed by our team (Bocquillon, 2020; Bocquillon et al., 2018). This adaptation enables more precise observation of the classroom management strategies of pre-service teachers. The feedback delivered by the supervisor to the pre-service teachers using this tool was also recorded and analyzed, as was the feedback formulated by the cooperating teacher and the intentions to act formulated by the pre-service teachers (i.e., the avenues of improvement they propose to implement in their next lessons), as presented in the methodology section.

This research will provide scientific knowledge on the actual classroom management practices of pre-service teachers and on the feedback they receive during internships. It will also provide a set of suggestions for improving teacher training, both in French-speaking Belgium and more widely.

2. Methodology

A multi-case study was carried out as this allows us to articulate the understanding of each case with its context, while going beyond the focus on a single case (Maes et al., 2019; Mills & Gay, 2019). This is relevant, as the internship context presents both permanent features (presence of a cooperating teacher, age of pupils, duration of lessons, etc.) and differences (number of pupils, socio-economic level of the school, etc.) and information on several cases is needed to identify possible recurrences between observations.

2.1 Data Collection Methodology

2.1.1 The Participants

As shown in Table 1, this study was carried out with three pre-service teachers (PST) enrolled on a teacher training program for upper-secondary level: two pre-service teachers in economics and management (one male and one female) and one pre-service teacher in psychology and education. These three pre-service teachers were the only ones of the seven pre-service teachers enrolled on this program to meet the inclusion criteria for this research, i.e., the only ones to have participated in the entire practical training program. The training was carried out in two phases. The first phase was from September to December, at the training institution, with activities to prepare for the internship (including a micro-teaching session) and theoretical sessions (including one on classroom management). The second phase ran from January to June, in the field, with internship visits. This article is based on the two internship visits that were filmed and followed up by a triad debriefing.

The pre-service teachers completed two 20-hour internships between January and June 2023. These two internships were organized with different cooperating teachers in different contexts. The supervisor (a teacher at the training institution and supervisor for two years) (SUP) carried out all the observations and took part in all the debriefings. She had also been a teacher in upper secondary education for 8 years. The cooperating teachers (CT) had varied lengths of service as teachers, from 7 years (CT3) to over 30 years (CT2). Two of them had supervised between 1 and 4 pre-service teachers, and one cooperating teacher had supervised between 5 and 10 pre-service teachers (CT1). None of the cooperating teachers had undergone any specific training in supervising internships.

Table 1. Description of sample

Triad	Pre-service teacher		Cooperating teacher		Supervisor	
	Sex	Studies	Length of service as a teacher (in years)	Number of pre-service teachers supervised	Length of service as a supervisor (in years)	Length of service as a teacher in secondary schools (in years)
1	Female	Psychology and education	12	5 to 10	2	8
2	Female	Economics and management	More than 30	1 to 4		
3	Male	Economics and management	7	1 to 4		

2.1.2 The Recordings

As shown in Table 2, the filmed lessons have an average duration of 42 minutes and 17 seconds, for a total of 253 minutes 47 seconds. The shortest observation was 38 minutes and 2 seconds (PST3_O1[1]), and the longest was 45 minutes and 38 seconds (PST1_O2). Post-lesson debriefings were recorded in an ecological context and took place in the classroom, directly after the pre-service teacher's performance. During these exchanges, the supervisor was the only one to use the classroom management observation grid, which is detailed below. The duration of the exchanges varied from 19 minutes 37 seconds to 26 minutes 11 seconds, for a total of 68 minutes and 3 seconds. The difference in the length of post-lesson debriefings can be explained by contextual factors (e.g., length of break, last class of the day, etc.) (Ben-Peretz & Rumney, 1991).

Table 2. Recording duration

Triad	Duration of observation 1	Duration of debriefing	Duration of observation 2
1	44 min 11 s	26 min 11 s	45 min 38 s
2	40 min 45 s	22 min 15 s	39 min 39 s
3	38 min 2 s	19 min 37 s	45 min 32 s
Total	122 min 58 s	68 min 3 s	130 min 49 s

[1] In the following text, the following abbreviations are used: the number after the triad actor refers to the triad number (pre-service teacher (PST), cooperating teacher (CT) and supervisor (SUP)). For example, "PST1" refers to the pre-service teacher of triad 1. "O" refers to the observation. O1 refers to the first observation and O2 to the second.

2.2 Analysis Methodology

2.2.1 Observation Grid for Classroom Management Strategies

When the supervisor comes to observe the pre-service teacher, they code (Struyk & McCoy, 1993) the classroom management strategies implemented by the pre-service teacher on the basis of an observation grid inserted into an observation software program (Vosaic). The term "coding" means that the supervisor identifies all the classroom management strategies and classifies them in one of the categories of the observation grid described below. The Vosaic software was chosen based on the typology of Bocquillon and colleagues (2022), as it enables live video to be coded and recorded simultaneously. In this study, the supervisor used two Apple® tablets (iPad): one to record the video and the second to code simultaneously. All data (video and code) was synchronized on the tablet which filmed the pre-service teacher's performance without an Internet connection (via Bluetooth). The result of the video-synchronized coding was used by the supervisor during the post-lesson debriefings to provide feedback to the pre-service teacher based on their actual performance. Figure 1 shows the device used to record and code the performance of the pre-service teachers live in ecological situations (secondary school classrooms).

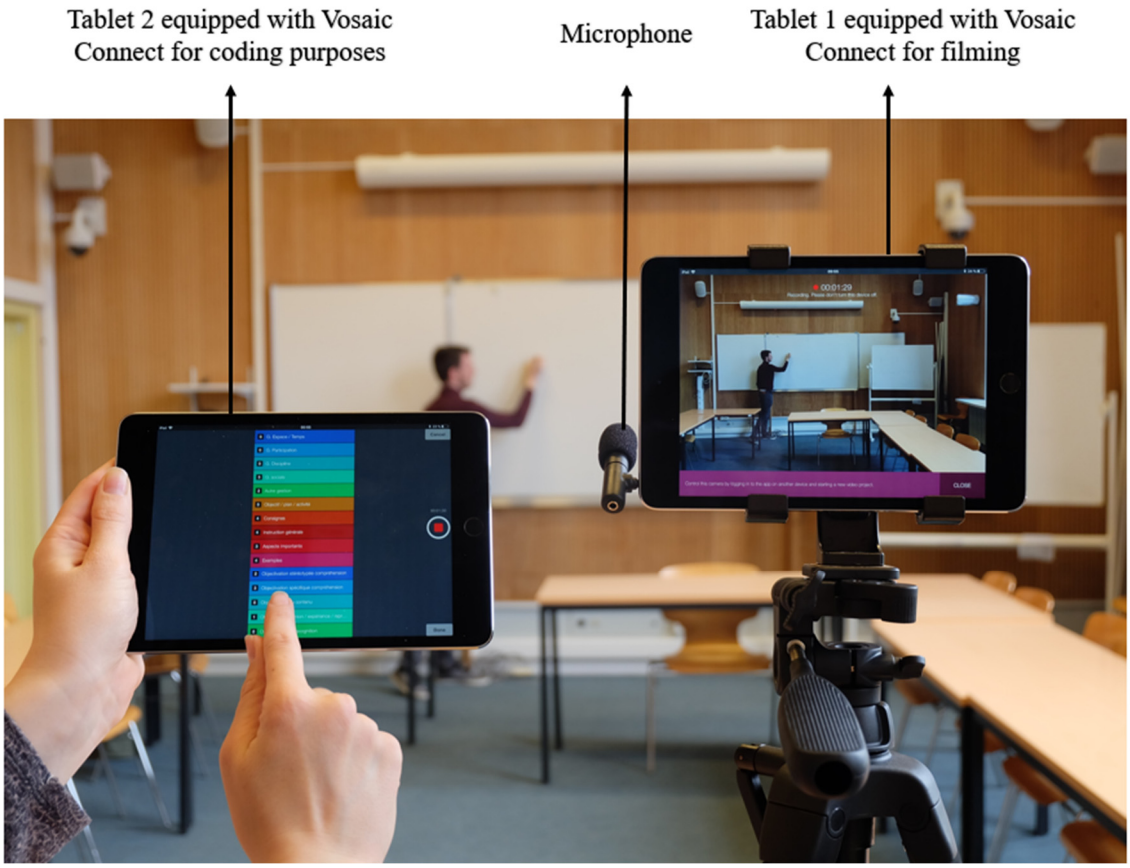

Figure 1. Device presentation (Bocquillon et al., 2022a, p. 514)

The observation grid is an operationalization of the scientific literature on effective classroom management (e.g., Bissonnette et al., 2016; Marzano et al., 2003; Hollingsworth & Ybarra, 2009) carried out to information saturation (Glaser & Strauss, 1967). It follows previous work on observing the pedagogical strategies of pre-service teachers (e.g., Bocquillon, 2020). It includes two sub-groups of categories: preventive strategies and corrective strategies used by teachers. These strategies are broken down into categories, sub-categories and modalities (if necessary) as shown in Figure 2. The numbers in brackets indicate the number of modalities in each sub-category. The grid is also used to record student misbehavior, which provides a better understanding of classroom management strategies implemented by pre-service teachers.

Preventive strategies fall into four categories: managing resources (e.g., the teacher gives clear and precise instructions on the time required to complete an activity), setting clear expectations (e.g., the teacher explicitly teaches a behavior expected in class), developing social relationships with students (e.g., the teacher uses students' first names) and keeping students on-task (e.g., the teacher randomly designates students to respond to their requests, allowing as many as possible to do so). Corrective strategies are classified into three categories: indirect strategies (e.g., the teacher

approaches a disruptive student), direct strategies (e.g., the teacher reminds the student of the expected behavior) and punitive strategies (e.g., the teacher yells at a student) (e.g., Bissonnette et al., 2016; Marzano et al., 2003; Rhode et al., 1993). In order to enable the most accurate and comprehensive coding possible of the pre-service teacher's professional practice, the grid also includes ineffective strategies, such as punitive strategies (e.g., the teacher yells at a student following misbehavior) and negative social strategies (e.g., the teacher humiliates a student). By including these less effective strategies in the observation grid, we are able to provide more comprehensive feedback to the pre-service teacher, and offer them suggestions for improvement in their professional practice. The complete grid (Delbart et al., 2023) is available at the following address: https://web.umons.ac.be/app/uploads/sites/103/2023/10/WP03-2023.pdf

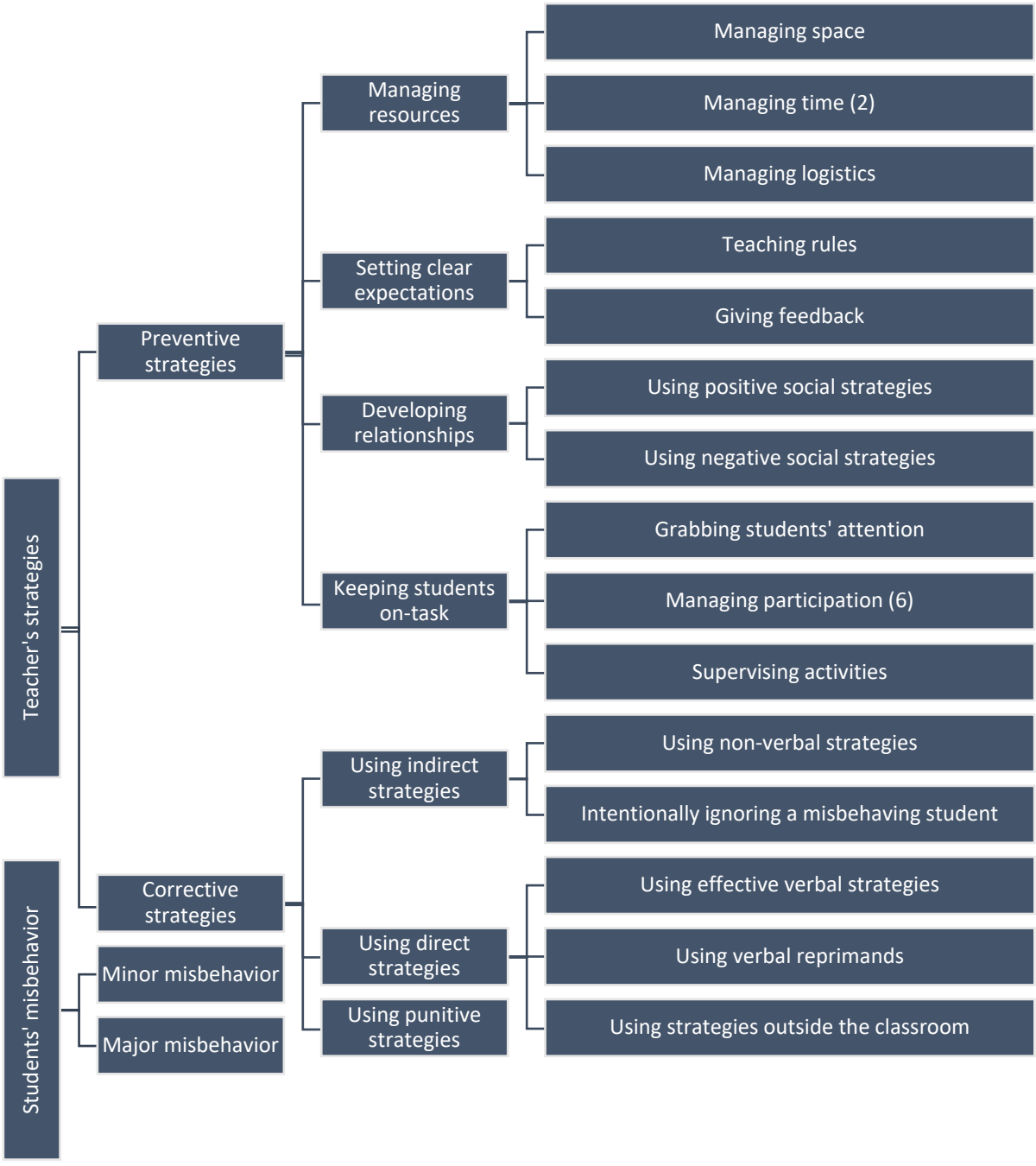

Figure 2. Schematic view of the observation grid

2.2.2 Evaluation of Intentions to Act and Feedback Implementation

Following a previous study (Baco, 2022), in order to assess whether the trainers' feedback and the pre-service teachers' intentions to act were implemented by the pre-service teacher during the second observation, the debriefings conducted at the end of the first observation were recorded. Then, all the feedback given by the trainers and the pre-service

teachers' intentions to act were listed. After that, the feedback and intentions to act were classified into two categories: those concerning observable behavior (e.g., the use of the student's first name when naming) and those concerning non-observable behavior (e.g., "*the lesson went well*" (SUP, D_PST1, 22 min 14) or another aspect of practice other than classroom management (e.g., elements pertaining to learning management, such as the types of strategies implemented to check student understanding). Next, all feedback and intentions to act on observable classroom management behaviors expressed during the debriefing were collected and characterized using the grid presented in the previous section. Finally, in O2, the implementation or lack of implementation of feedback or intentions to act on observable classroom management behavior was identified based on the filmed performances. For example, if during the debriefing, the trainer told the pre-service teacher to designate fewer students among the volunteers, the number of designations among the volunteers was compared from one observation to the next (O1 vs. O2) in order to identify whether or not the feedback was implemented during the second observation.

3. Results

This section presents the results in two stages. First, the evolution of pre-service teachers' classroom management strategies is presented. Secondly, the evaluation of the implementation of trainers' feedback and pre-service teachers' intentions to act is presented.

3.1 The Evolution of Effective Classroom Management Strategies

Since the lessons varied in length (see Table 2), the results presented below were calculated for a standardized 40-minute lesson, so that observations could be compared from one lesson to the next (Bocquillon, 2020). On average, during a lesson of standardized duration of 40 minutes, pre-service teachers implemented between 18 (PST2_O2) and 129 (PST3_O1) classroom management strategies, for an average of 99 classroom management strategies per lesson during O1 and 61 strategies during O2. As the discussion shows, this significant variation between pre-service teachers is due to contextual factors.

3.1.1 General Analysis of Pre-Service Teachers' Classroom Management Strategies

During the two observations, all the pre-service teachers mostly opted for preventive strategies, as these accounted for between 95% (PST3_O2) and 100% (PST2_O1; PST2_O2) of the classroom management strategies implemented. Nevertheless, as shown in Figure 3, differences between the pre-service teachers can be highlighted. Pre-service Teacher 1 used preventive strategies even more than corrective ones during the second observation (94 strategies or 99% of the strategies implemented by PST1) compared to the first observation (104 strategies or 97% of the strategies). Pre-service Teacher 2 used only preventive strategies in both observations. Pre-service Teacher 3 uses fewer preventive strategies in the second observation (O2=67) than in the first (O1=126). However, if we take into account the proportion of preventive classroom management strategies in relation to all classroom management strategies, the difference is less marked, as preventive strategies represent 95% of the strategies mobilized during O2 versus 97% during O1. The following figure shows the distribution of the different types of preventive strategies.

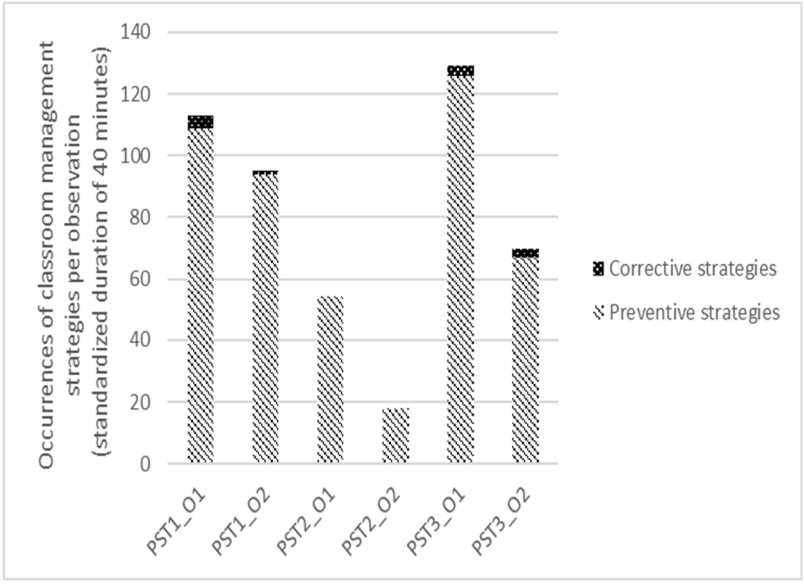

Figure 3. Distribution of classroom management strategies for each pre-service teacher per observation

3.1.2 Focus on the Types of Preventive Strategies

Keeping students on-task is the preventive management category most used by all the pre-service teachers (in both observations), with an average of 72 strategies in O1 and 49 strategies in O2. An analysis of the occurrences shows that all the pre-service teachers use fewer strategies to keep students on-task during the second observation (e.g., 91 occurrences (PST1_O1) and 77 occurrences (PST1_O2)). Nevertheless, if we analyze the proportion of strategies in this category, compared with all the preventive strategies implemented, we see that Pre-service Teachers 1 and 2 used it consistently (84% (PST1_O1) and 82% (PST1_O2)). Only Pre-service Teacher 3 used more strategies to keep students on-task during O2, rising from 73% to 88%.

Developing social relationships with students was the second most used preventive management category, with an average of 20 strategies in O1 and nine in O2. Generally speaking, all the pre-service teachers used fewer strategies aimed at developing social relationships with the students in O2. This was particularly true for Pre-service Teacher 2 (O1=14; O2=2) and Pre-service Teacher 3 (O1=33; O2=6).

Managing resources was a strategy used less frequently by the pre-service teachers than the above-mentioned strategies, with an average of four strategies in O1 and O2. Observations differ for each pre-service teacher: we noted an increase in the use of this strategy for Pre-service Teacher 1 (O1=4; O2=7), a constancy in the use of this strategy for Pre-service Teacher 3 (2 occurrences in each observation) and a slight decrease in this strategy for Pre-service Teacher 2 (O1=5; O2=4). Nevertheless, if we analyze the proportion of this strategy compared with all the preventive strategies implemented, we see an increase in the use of this strategy by all the pre-service teachers (e.g., 8% for PST2_O1 and 22% for PST2_O2).

Finally, the pre-service teachers did not implement any strategies related to setting clear expectations, whether it was teaching rules, procedures, and routines, giving feedback on student behavior or reinforcing appropriate behavior.

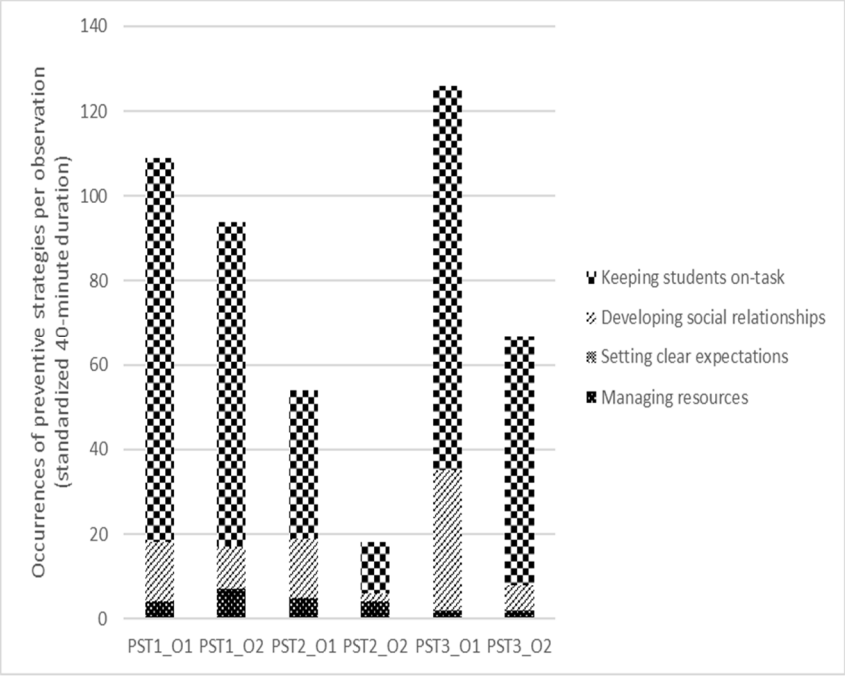

Figure 4. Distribution of types of preventive strategies by pre-service teacher per observation

3.1.3 Focus on Corrective Strategies

As previously indicated, the pre-service teachers used few corrective strategies. Pre-service Teacher 2 used none at all during the two observations. Pre-service Teacher 1 mobilized these strategies less during the second observation (O1=4; O2 =1). Only Pre-service Teacher 3 used this type of strategy consistently, with three occurrences for each observation. The diversity of corrective strategies implemented was greater during the first observation for both Pre-service Teacher 1 and 3. For example, during the first observation, Pre-service Teacher 1 used indirect strategies by making a gesture to restore silence in class during a read-aloud activity (finger over mouth) and by moving around the classroom to get uncooperative students to take note of the subject seen in their class diaries.

During O1, Pre-service Teachers 1 and 3 used an effective verbal strategy: reminding students of the expected behavior.

Pre-service Teacher 1 reminded a student of the expected behavior during the oral summary at the end of the lesson: "*Would you please turn over your file*" (O1, 40 min 39), and Pre-service Teacher 3 also reminded students of the expected behavior when supervising a group exercise.

During both observations, Pre-service Teachers 1 and 3 used verbal reprimands. Pre-service Teacher 1 used this strategy once during each observation, while for Pre-service Teacher 3 there was a slight increase during O2 (O1=2; O2=3). These reprimands took the form of a simple call to order, such as "*Guys, let's calm down, please*" (PST3_O1, 19 min 36), but did not specify the behavior expected of the students (in this case, listening to the teacher's instructions for carrying out an exercise). None of the pre-service teachers intentionally ignored a misbehaving student or used strategies outside the classroom (such as removing the student from the class) or punitive strategies.

3.2 Implementation of Feedback and Intentions to Act

As shown in Figure 5, the supervisor gave more feedback than the cooperating teachers. The pre-service teachers, for their part, formulated very few intentions to act (maximum 3, PST1). Of the intentions to act formulated by the pre-service teachers, two concerned classroom management and were observable. Of the 59 elements of feedback provided by the supervisor (all triads combined), 27 related to classroom management and were observable. As for the cooperating teachers, of the 39 elements of feedback provided (all triads combined), nine concerned classroom management and were observable. The following text presents the aspects of classroom management covered by the 38 observable feedback elements and intentions to act. It also presents the proportion of feedback and intentions to act implemented by the pre-service teachers during the second observation.

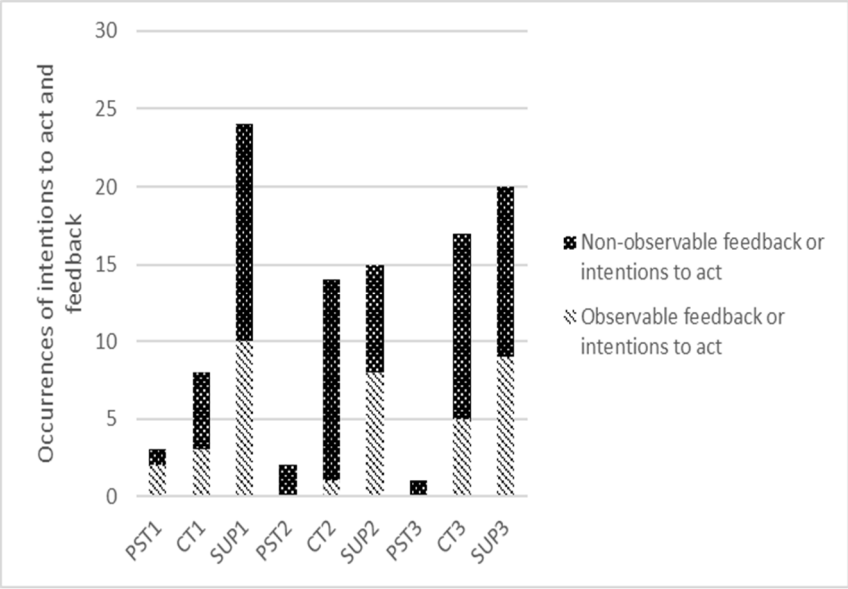

Figure 5. Distribution of observable and non-observable feedback and intentions to act for the three triads

As shown in Figure 6, 85% of observable feedback or intentions to act concerned preventive classroom management (N=32) and 15% concerned corrective classroom management (N=6), all actors combined. Of the 32 elements of feedback or intentions to act relating to preventive classroom management (all observations taken together), 23 concerned keeping students on-task, six concerned the development of social relationships with the students, two concerned managing resources and only one concerned setting clear expectations. As for feedback or intentions to act on corrective classroom management, three concerned direct strategies and three indirect strategies (all observations taken together).

Half of the observable elements of feedback and intentions to act formulated by each of the actors were implemented during the second observation. In fact, one of the two pre-service teachers' intentions to act was implemented, as were five of the nine elements of feedback from the cooperative teachers and 13 of the 27 elements of feedback from the supervisor. The rest of the text shows the distribution of feedback and intentions to act which were followed or not followed by the pre-service teachers, according to the different classroom management strategies.

3.2.1 Focus on the Pre-Service Teachers' Intentions to Act

Of the three pre-service teachers, only Pre-service Teacher 1's intentions to act were observable. They expressed two intentions to act: to interview as many students as possible (PST1_D, 1 min 37) and not to stand with their back to the students in order to better supervise the class (PST1_D, 25 min 20). Of these two intentions, only one was implemented,

as they carried out more supervision of learning activities, through more movement around the classroom during group activities and made more eye contact when explaining subject matter or instructions, going from a single occurrence in O1 to seven occurrences in O2. With regard to the second intention to act, although Pre-service Teacher 1 implemented strategies based on feedback from the supervisor and the cooperating teacher for designating students, notably by diversifying designation techniques, we noted that during O2, they questioned the students less (O1=90; O2=70).

3.2.2 Focus on Feedback

Of the 36 elements of feedback formulated by the supervisor and the cooperating teachers, 21 dealt with keeping students on-task, 10 of which are implemented by the pre-service teachers. The feedback implemented by the pre-service teachers mainly concerned designating students (7 out of the 10 feedback elements). For example, during O2, Pre-service Teacher 1 managed student participation more effectively, in particular by introducing a random designation system (O2=8) as well as reducing spontaneous speaking (O1=59; O2=41;) and designation among volunteer students (O1=14; O2=5). Pre-service Teacher 2 also took into account feedback on participation management. Indeed, they continued to designate students who did not frequently speak to check the progress of each student's work (O2=2). As far as Pre-service Teacher 3 is concerned, they were advised during the debriefing to avoid designating students one after the other, following the layout of the benches in the classroom when correcting individual exercises, and this system of designation was abandoned during O2. However, Pre-service Teacher 3 did not implement all the feedback formulated by the cooperating teacher and the supervisor regarding the designation of students. Indeed, O2 shows that they did not vary the ways in which they designated students, and that they did not involve all the students, given that students spontaneously spoke 34 times during one lesson (i.e., 62% of Pre-service Teacher 3's designations during O2). Of the 21 elements of feedback concerning keeping students on-task, nine concerned supervising activities. Pre-service Teachers 1 and 3 implemented the feedback made by the supervisor and the cooperating teachers (N=3 for both pre-service teachers), unlike Pre-service Teacher 2 who did not implement the six feedback elements given by the supervisor and the cooperating teacher concerning the supervision of activities. Indeed, during O2, this was the only pre-service teacher to mobilize fewer strategies related to class supervision (O1=5; O2=2).

The second most frequent category of feedback concerns the development of positive relationships with the students. Of the six feedback elements given, four were implemented by the pre-service teachers. These elements of feedback mainly concern referring to students by their first names and were followed up by Pre-service Teachers 1 and 2. Only Pre-service Teacher 3 did not continue to use this strategy during the second visit (O1=34; O2=4), contrary to what was requested by the cooperating teacher and supervisor.

Six elements of feedback made by the cooperating teachers and the supervisor concerned corrective strategies. These feedback elements were given to Pre-service Teachers 1 and 3 as minor student misbehavior was observed by the supervisor (PST1_O1=1; PST3_O1=5). The supervisor advised both pre-service teachers to use a graduated behavior management system, with indirect strategies as a first resort to deal with minor misbehavior. They also advised Pre-service Teacher 3 to explain the behaviors expected to the students when managing misbehavior. However, this advice was not followed by the pre-service teachers, who opted for verbal reprimands without reminding students of expected behaviors as the only strategy to manage misbehavior (PST1_O2=1; PST2_O2=3).

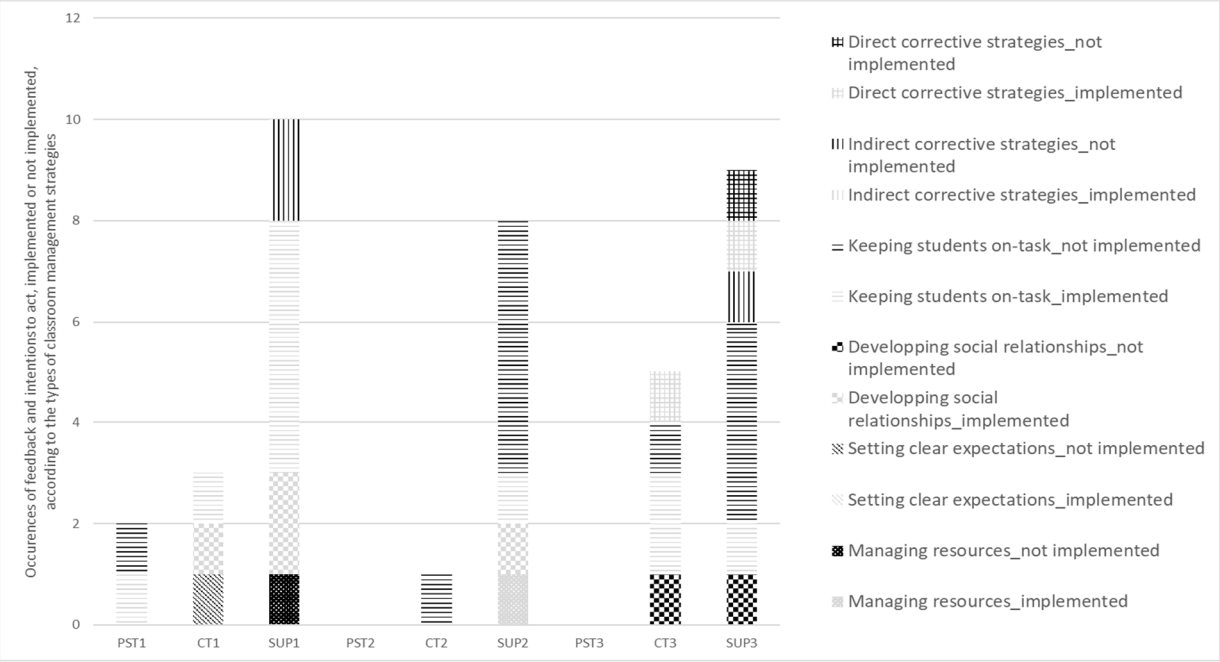

Figure 6. Distribution of elements of feedback and intentions to act, implemented or not implemented, according to the type of classroom management strategies

Note:

The color (black or gray) indicates whether the feedback or intention to act was implemented. Black indicates that the feedback or intention to act was not implemented.

4. Discussion

The first research question of this study deals with the evolution of classroom management strategies implemented by pre-service teachers on two occasions during their training period (O1 and O2). The analysis of the classroom management strategies implemented by the pre-service teachers highlights certain positive developments in their professional practice, as well as avenues for improvement in their practices and the training program.

4.1 Preventive Classroom Management

In both observations, the pre-service teachers implemented preventive strategies to try to avoid misbehavior and foster a positive classroom climate. According to the scientific literature, effective teachers intervene before misbehavior occurs and use strategies that promote good behavior (e.g., Bissonnette et al., 2016; Knoster, 2014; Simonsen et al., 2008). It is therefore positive to see that the pre-service teachers who took part in this research used these strategies on a regular basis. Indeed, these strategies represented between 95% (PST3_O2) and 100% (PST2_O1) of the classroom management strategies they implemented.

What's more, following the debriefings with the supervisor and the cooperating teachers, the pre-service teachers changed the way they designated students in order to implement more effective strategies. For example, Pre-service Teachers 1 and 2 left less room for spontaneous student input (e.g., PST1_O1=59; PST1_O2=41). Similarly, all three pre-service teachers were less likely to designate students as volunteers. The scientific literature shows that designating only volunteers, or allowing students to speak spontaneously at will, does not enable the teacher to obtain active participation from the whole class and to check the understanding of all students. Indeed, volunteer students generally have little difficulty with the question asked by the teacher and know the answer (e.g., Gauthier et al., 2013; Hollingsworth & Ybarra, 2009). Similarly, Pre-service Teacher 3 stopped designating students one after the other, following the layout of the benches in the classroom, as advised by the supervisor, as this designation technique does not retain students' attention or enable the teacher to check their understanding, given that students know when they are going to be questioned (Good & Brophy, 2008). The second observation showed the implementation of effective student designation strategies, such as the use of a random designation system. Indeed, Pre-service Teacher 1 started using this designation system following the first debriefing. According to several authors (e.g., Gauthier et al., 2013; Hollingsworth & Ybarra, 2009), this strategy keeps students engaged during learning activities, as they can be questioned at any time, and it allows the teacher to check the understanding of all students.

Still, as far as keeping students on-task is concerned, developments were noted in student supervision. Pre-service Teachers 1 and 2 used more student supervision strategies during the second observation (e.g., PST1_O1=1; PST1_O2=7), including sweeping the class with their eyes and moving between benches during the individual or group exercises. Constant classroom supervision keeps the students engaged in the task which reduces the likelihood of misbehavior (Simonsen et al., 2008).

Although the pre-service teachers implemented many preventive strategies, they did not implement a preventive strategy considered fundamental in the scientific literature, namely explicit instruction of expected behaviors (e.g., Simonsen et al., 2008).

4.2 Corrective Classroom Management

The scientific literature shows that effective teachers mainly use preventive strategies, but when misbehavior occurs, the teacher must implement corrective strategies so that this misbehavior does not spread to the rest of the class (e.g., Knoster, 2014; Simonsen et al., 2008). Knoster (2014) found that the most effective teachers implement around 80% preventive strategies and 20% corrective strategies. Our observations show that the pre-service teachers were not sufficiently implementing corrective strategies when students misbehaved in their classrooms. This situation could prove problematic, as according to Bissonnette and colleagues. (2016), in order to maintain an orderly environment, the teacher must not remain indifferent to even minor misbehavior and allow a form of complacency to develop in the classroom. Furthermore, the observations showed that Pre-service Teachers 1 and 3 tended to use less effective and less diversified corrective strategies during the second observation. Indeed, whereas during the first observation they used effective direct and indirect corrective strategies, such as proximity control or reminding students of the expected behavior, during the second observation, they resorted mainly to verbal reprimands. However, according to Marzano and colleagues (2003), verbal reprimands are not very effective strategies, because although they may stop undesirable behavior immediately, they do not teach students the expected behavior. We also note that despite the use of verbal reprimands, the number of misbehaviors almost doubled during Pre-service Teacher 3's second observation (O1=5; O2=9). This use of verbal reprimands may be explained by a problem in understanding the feedback given by the cooperating teacher and the supervisor. According to Tochon (1996), trainers and pre-service teachers do not always have the same understanding of certain educational science concepts. In this case, Pre-service Teacher 3 may not have fully understood the feedback given by the supervisor, who emphasized that they could intervene to stop student misbehavior, but that they should also remind the students of the expected behavior.

These observations also highlight the fact that the pre-service teachers did not implement a graduated classroom management system that first favors the use of indirect strategies. Yet it is vital that teachers plan and implement a coherent classroom management system, identifying any misbehavior that may occur and establishing rules and formative consequences for transgressions (Simonsen et al., 2008; Sugai & Horner, 2009). Planning the management of misbehavior enables the teacher to teach the expected behaviors to students at the start of the year, and to inform them of the consequences of breaking the rules. This system enables the teacher to avoid making decisions on the spot and allows them to propose sanctions that are well thought-out and measured in relation to the misbehavior committed (Bissonnette et al., 2016; Rhode et al., 1993).

4.3 Implementation of Feedback and Intentions to Act

The second research question in this study investigates the pre-service teachers' implementation of feedback given by the supervisor and cooperating teachers and their intentions to act during a triad debriefing (D) at the end of the first observation (O1). The results indicate that of the 38 observable elements of feedback and intentions to act formulated, 19 were implemented. This is in line with the results of several studies that have shown positive changes in teachers' practices following debriefings in which the trainer had formulated advice for them to modify their practices (e.g., Baco, 2022; De Jager et al., 2002).

However, some elements of feedback and intentions to act were not implemented. This is in line with the findings of De Jager and colleagues (2002), who showed that the teachers in their study improved some of their strategies but failed to implement all the targeted teaching strategies. These results can be explained by a number of factors. First of all, pre-service teachers have to deal with a lot of different things that happen quickly during their internships (Doyle, 2006). As novices, they cannot manage everything at once, and have to make choices among the events to be dealt with.

This situation can also be explained by contextual reasons. For example, Pre-service Teacher 2 implemented fewer strategies related to developing positive relationships with the students during the second observation (O1=14; O2= 2) because some of the students were absent. Similarly, Pre-service Teacher 3 was the one who most frequently used this strategy, with 33 occurrences during the first observation. However, during the second observation, this strategy was used only six times, which may be explained by the fact that they knew the students in this class less well. This situation may ultimately be explained by a certain resistance to change. Cutrer-Párraga and colleagues (2023) identify two

reasons for this resistance: either some teachers are engaged in the process of adjusting their professional identity and need time to modify their practices, or they prefer to wait and see how this strategy works out with their colleagues.

The analysis of the debriefings also reveals that the triad's different actors did not share speaking time equally. Indeed, the pre-service teachers expressed few intentions to act during the debriefings. There are several possible explanations for this. Firstly, the pre-service teacher is placed in a situation of evaluation. This may mean that they do not speak authentically to ensure certification (Perrault & Levené, 2019). Secondly, pre-service teachers want to receive feedback during the debriefings (Hoffman et al., 2015). On the other hand, several researchers (Baco, 2022; Ben-Peretz & Rumney, 1991; Cutrer Párraga et al., 2023) highlight the fact that during debriefings, (pre-service) teachers receive a great deal of feedback. This abundance of feedback can overwhelm the pre-service teacher, who is unable to implement all the feedback given.

5. Limits and Further Research

While this study has identified, on the basis of observable indicators, a link between the feedback given by the trainers (supervisor and cooperating teacher) and the classroom management strategies implemented by the pre-service teachers during the second observation, we cannot identify a causal link between the trainers' feedback and the implementation of certain classroom management strategies by the pre-service teachers. In fact, pre-service teachers may implement certain classroom management strategies for other reasons (e.g., reading a book, advice from a relative, etc.). In order to determine the causal link between feedback from trainers and the strategies implemented by pre-service teachers, an experimental methodology (with comparison of an experimental group and a control group) should be implemented.

Future research could also explore the use of the observation tool described in this article by the pre-service teachers themselves. Indeed, it would be interesting to suggest that pre-service teachers analyze videos of their practices using a grid inserted into observation software, as proposed by Dye (2007). Such research could investigate whether the use of such a tool enriches the reflexive analysis (Derobertmasure, 2012) of pre-service teachers.

The results obtained enable us to formulate avenues for improving the training system, which could in turn be the subject of research. For example, given the difficulties experienced by pre-service teachers in managing student misbehavior, it would be interesting to enrich the micro-teaching activities with situations in which they would be required to manage student misbehavior.

6. Conclusion

The results of this research have enabled us to gain a better understanding of the evolution of classroom management strategies implemented by pre-service teachers in an internship situation. Half of the feedback formulated by their trainers (supervisor and cooperation teachers) at the end of a first observation was implemented by these pre-service teachers during a second observation. These encouraging results support initiatives to set up effective classroom management training programs based on the observation of pre-service teachers' actual practices and triad debriefings. They also provide a basis for formulating ways of improving this type of training program. Triadic debriefings, based on precise video-synchronized observations of the pre-service teacher's practice, represent a promising avenue for training teachers in classroom management. This is a major societal challenge, both for teacher retention and for the learning of the students entrusted to them.

Acknowledgments

We would also like to thank the pre-service teachers and cooperating teachers who took the time to participate in this study. We greatly appreciate the valuable contributions of our language department for proofreading this manuscript.

Authors contributions

All authors were responsible for study design and revising. Delbart was responsible for data collection. All authors drafted the manuscript and revised it. All authors read and approved the final manuscript.

Funding

This article was written in the context of the first two authors' theses, including Christophe Baco's, which is financed by the F.R.S-FNRS.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Redfame Publishing.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

References

Baco, C. (2022). *Evolution of the implementation of explicit instruction by a primary school teacher supported by a training and coaching program - A case study* [Master thesis]. University of Mons. https://hdl.handle.net/20.500.12907/45268

Baco, C., Derobertmasure, A., Bocquillon, M., & Demeuse, M. (2023). Initial teacher training: Validation of a competence reference framework for the training of mentor teachers / cooperating teachers, *Frontiers in Education, 7,* 1-16. https://doi.org/10.3389/feduc.2022.1010831

Banville, D., & Rikard, L. (2001). Observational Tools for Teacher Reflection. *Journal of Physical Education, Recreation & Dance, 72*(4), 46-49. https://doi.org/10.1080/07303084.2001.10605739

Ben-Peretz, M., & Rumney, S. (1991). Professional thinking in guided practice. *Teaching and Teacher Education, 7*, 517-530. https://doi.org/10.1016/0742-051X(91)90046-R

Bissonnette, S., Gauthier, C., & Castonguay, M. (2016). *Explicit behavior teaching. For effective student management in the classroom and the school.* Chenelière Education.

Bocquillon, M. (2020). *What kind of training program for initial teacher training? For a tool-based observation of professional gestures with reference to the explicit teaching model* [Ph.D. Thesis]. University of Mons. https://tel.archives-ouvertes.fr/tel-02929814v1

Bocquillon, M., Baco, C., Derobertmasure, A., & Demeuse, M. (2022a). Choosing an observation software according to your research objectives. In B. Albero & J. Thievenaz (Eds), *Investigating in the human professions. A treatise on research methodology in Education and Training Sciences* (Tome 1) (pp. 504-519). Raison et Passions. https://doi.org/10.3917/rp.alber.2022.01.0510

Bocquillon, M., Derobertmasure, A., & Demeuse, M. (2018). How to make the most of the dual role of "researcher" and "trainer" in the evolution of a teacher training program? *Phronesis, 7*(1), 8-23. https://doi.org/10.3917/phron.071.0008

Bullough, R., & Draper, R. (2004). Mentoring and the emotions. *Journal of Education for Teaching, 30*(3), 271-288. https://doi.org/10.1080/0260747042000309493

Charlton, C. T., Moulton, S., Sabey, C. V., & West, R. (2021). A Systematic Review of the Effects of Schoolwide Intervention Programs on Student and Teacher Perceptions of School Climate. *Journal of Positive Behavior Interventions*, *23*(3), 185-200. https://doi.org/10.1177/1098300720940168

Crasborn, F., Hennissen, P., Brouwer, N., Korthagen, F., & Bergen, T. (2011). Exploring a two-dimensional model of mentor teacher roles in mentoring dialogues. *Teaching and Teacher Education, 27,* 320-331. https://doi.org/10.1016/j.tate.2010.08.014

Cutrer-Párraga, E. A., Ellsworth Miller, E., Gjini, E., & Fonoimoana Garrett, M. (2023). Coaching Elementary Teachers in Literacy: Does Feedback Type Matter for Low Implementers? *Journal of Education and Training Studies, 11*(3),

57-67. https://doi.org/10.11114/jets.v11i3.5975

Cutrer-Párraga, E. A., Hall-Kenyon, K., Ellsworth Miller, E., Christensen, M., Collins, J., Reed, E., & Beer, T. (2022). Mentor teachers modeling: affordance or constraint for special education pre-service teachers in the practicum setting? *Teacher Development, 26,* 587-605. https://doi.org/10.1080/13664530.2022.2105939

De Jager, B., Reezigt, G. J., & Creemers, B. P. (2002). The effects of teacher training on new instructional behaviour in reading comprehension. *Teaching and Teacher Education, 18*(7), 831-842. https://doi.org/10.1016/S0742-051X(02)00046-X

Delbart, L., Bocquillon, M., & Derobertmasure, A. (2023). A guide to analyze classroom management strategies. *Working Papers de l'INAS, WP03/2023*, 1-32. [Online]. https://web.umons.ac.be/app/uploads/sites/103/2023/10/WP03-2023.pdf

Derobertmasure, A. (2012). *Initial teacher training and the development of reflective practice? Objectivation of the concept and analysis of pre-service teachers' oral and written productions* [Ph.D. Thesis]. University of Mons. [Online]. http://tel.archives-ouvertes.fr/tel-00726944

Derobertmasure, A., Dehon, A., & Bocquillon, M. (2015). Limits to reflective activity: analysis of a pre-service teacher's comments on practice. *Transformation, 13-14,* 1-13. [Online]. https://transformations.univ-lille.fr/index.php/TF/article/view/201

Doyle, W. (2006). Ecological approaches to classroom management. Dans C.M. Evertson & C.S. Weinstein (Eds.), *Handbook of Classroom Management: Research, Practice and Contemporary Issues* (pp. 97-125). New York: Routledge.

Dufour, F. (2010). The impact of a classroom management support system on the disciplinary practices and sense of efficacy of novice teachers [Ph.D. Thesis]. University of Montreal. [Online]. https://papyrus.bib.umontreal.ca/xmlui/handle/1866/3939

Dye, B. R. (2007). *Reliability of Pre-Service Teachers Coding of Teaching Videos Using Video-Annotation Tools* [Ph.D. Thesis, Brigham Young University]. ScholarsArchive. https://scholarsarchive.byu.edu/etd/990/

Egeberg, H. M., McConney, A., & Price, A. (2016). Classroom Management and National Professional Standards for Teachers: A Review of the Literature on Theory and Practice. *Australian Journal of Teacher Education, 41*(7). https://doi.org/10.14221/ajte.2016v41n7.1

Evertson, C. M., & Weinstein, C. S. (Eds.). (2006). *Handbook of Classroom Management: Research, Practice and Contemporary Issues*. Routledge.

Gagné, A., Cody, N., Coulombe, S., Doucet, M., & Nadeau-Tremblay, S. (2021). Promoting links between courses and internships: challenges and knowledge emerging from discussions between interns and school and university staff as part of an intermodular co-training program in teaching. *Revue hybride de l'éducation*, *4*(5), 165-186. https://doi.org/10.1522/rhe.v4i5.857

Gauthier, C., Bissonnette, S., & Richard, M. (2013). *Explicit teaching and student success. Learning management.* De Boeck.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Aldine. https://doi.org/10.1097/00006199-196807000-00014

Good, T.L., & Brophy, J.E. (2008). *Looking in classrooms.* Pearson Education.

Gunn, B., Smolkowski, K., Strycker, L. A., & Dennis, C. (2021). Measuring Explicit Instruction Using Classroom Observations of Student–Teacher Interactions (COSTI). *Perspect Behav Sci., 44,* 267-283. https://doi.org/10.1007/s40614-021-00291-1

Haas, E., Hudson, P., & Hudson, S. (2022). Mentoring for Effective Teaching - An Analysis of Austrian Teachers' School-based Mentoring Practices. *Journal of Education and Training Studies, 10*(4), 130-139. https://doi.org/10.11114/jets.v10i4.5535

Hammond, L., & Moore, W. M. (2018). Teachers Taking up Explicit Instruction: The Impact of a Professional Development and Directive Instructional Coaching Model. *Australian Journal of Teacher Education, 43*(7). https://doi.org/10.14221/ajte.2018v43n7.7

Hattie, J. A. (2009). *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement*. Routledge.

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

Hoffman, J. V., Wetzel, M. M., Maloch, B., Greeter, E., Taylor, L., DeJulio, S., & Vlach, S. K. (2015). What can we learn from studying the coaching interactions between cooperating teachers and preservice teachers? A literature review. *Teaching and Teacher Education, 52*, 99-112. https://doi.org/10.1016/j.tate.2015.09.004

Hollingsworth, J., & Ybarra, S. (2009). *Explicit Direct Instruction. The Power of Well-Crafted, Well-Taught Lesson.* Corwin Press. https://doi.org/10.4135/9781452218977

Horner, R. H., Sugai, G., & Anderson, C. M. (2010). Examining the Evidence Base for School-Wide Positive Behavior Support. *Focus on exceptional children, 42*(8), 1-14. https://doi.org/10.17161/foec.v42i8.6906

Jackson, C., Simoncini, K., & Davidson, M. (2013). Classroom Profiling Training: Increasing Preservice Teachers' Confidence and Knowledge of Classroom Management Skills. *Australian Journal of Teacher Education, 38*(8), 30-46. https://doi.org/10.14221/ajte.2013v38n8.2

Knight, J. (2019). Instructional Coaching for Implementing Visible Learning: A Model for Translating Research into Practice. *Education Sciences*, *9*(2), 101. https://doi.org/10.3390/educsci9020101

Knight, J., Elford, M., Hock, M., Dunekack, D., Bradley, B., Deshler, D., & Knight, D. (2015). 3 steps to great coaching. A simple but powerful instructional coaching cycle nets results. *Journal of Staff Development, 36*(1), 10-18. https://www.instructionalcoaching.com/research/

Knoster, T. (2014). *The Teacher's Pocket Guide for Effective Classroom Management* (2e éd.). Paul H. Brookes Publishing Co.

Korpershoek, H., Harms, T., de Boer, H., van Kuijk, M., & Doolaard, S. (2016). A Meta-Analysis of the Effects of Classroom Management Strategies and Classroom Management Programs on Students' Academic, Behavioral, Emotional, and Motivational Outcomes. *Review of Educational Research, 86*(3), 643-680. Advance online publication. https://doi.org/10.3102/0034654315626799

Maes, O., Colognesi, S., & Van Nieuwenhoven, C. (2019). A multicase study to understand how singularity is taken into account in a co-evaluation of a teaching traineeship situation. *Swiss Journal of Educational Research, 41*(2), 483-500. https://doi.org/10.24452/sjer.41.2.13

Marzano, R. J., Frontier, T., & Livingston, D. (2011). *Effective supervision. Supporting the art and science of teaching.* ASCD.

Marzano, R.J., Marzano, J. S., & Pickering, D. (2003). *Classroom management that works. Research-based strategies for every teacher.* ASCD.

Mills, G. E., & Gay, L. R. (2019). *Educational Research. Competencies for Analysis and Applications* (^{12th} ed.). Pearson Education.

OECD, (2018). Classroom management: How do teachers develop knowledge and confidence? Observations from a pilot study. *L'enseignement à la loupe*, *19.* https://doi.org/10.1787/e85395dd-fr

Perrault, L., & Levène, T. (2019). Accompanied and contractualized self-evaluation: what impact on professional development? What pre-service teachers and adult educators have to say. *Revue internationale de pédagogie de l'enseignement supérieur, 35*(1), 1-16. https://doi.org/10.4000/ripes.1989

Portelance, L., & Caron, J. (2017). The trainee's approach to evaluation. *Phronesis*, *6*(4), 85-98. https://doi.org/10.7202/1043983ar

Rhode, G., Jenson, W. R., & Reavis, H. K. (1993). *The Tough Kid Book: Practical Classroom Management Strategies.* Sopris West.

Rock, M. L., Gregg, M., Thead, B. K., Acker, S. E., Gable, R. A., & Zigmond, N. P. (2009). Can you hear me now? Evaluation of an online wireless technology to provide real-time feedback to special education teachers-in-training. *Teacher Education and Special Education*, *32*(1), 64-82. https://doi.org/10.1177/0888406408330872

Rock, M. L., Schoenfeld, N., Zigmond, N., Gable, R. A., Gregg, M., Ploessl, D. M., & Salter, A. (2013). Can you Skype me Now? Developing Teachers' Classroom Management Practices through Virtual Coaching. *Beyond Behavior*, *22*(3), 15-23. https://doi.org/10.1177/107429561302200303

Rock, M. L., Schumacker, R. E., Gregg, M., Howard, P. W., Gable, R. A., & Zigmond, N. (2014). How Are They Now? Longer Term Effects of eCoaching Through Online Bug-In-Ear Technology. *Teacher Education and Special Education, 37*(2), 161-181. https://doi.org/10.1177/0888406414525048

Simonsen, B., Fairbanks, S., Briesch, A., Myers, D., & Sugai, G. (2008) Evidence-based Practices in Classroom Management: Considerations for Research to Practice. *Education and Treatment of Children, 31*(3), 351-380.

https://doi.org/10.1353/etc.0.0007

Struyk, L. R., & McCoy, L. H. (1993). Pre-Service Teachers' Use of Videotape for Self-Evaluation. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas, 67*(1), 31-34. https://doi.org/10.1080/00098655.1993.9956012

Stuhlman, M. W., Hamre, B. K., Downer, J. T., & Pianta, R. C. (2009). *A Practitioner's Guide to Conducting Classroom Observations: What the Research Tells Us about Choosing and Using Observational Systems.* University of Virginia (Center for advanced study of teaching and learning). https://www.researchgate.net/publication/266463750_A_Practitioner's_Guide_to_Conducting_Classroom_Observations_What_the_Research_Tells_Us_about_Choosing_and_Using_Observational_Systems/citations

Sugai, G., & Horner, R. H. (2009). Defining and Describing Schoolwide: Positive Behavior Support. In W. Sailor, G. Dunlap, G. Sugai & R. Horner (Eds.), *Handbook of Positive Behavior Support. Issues in clinical child psychology.* Springer Nature. https://doi.org/10.1007/978-0-387-09632-2_13

Tochon, F. V. (1996). Stimulated recall, clinical objectification, shared reflection. Methodological foundations and practical applications of video feedback in research and training. *Revue des sciences de l'éducation, 22*(3), 467-502. https://doi.org/10.7202/031889ar

Van De Ridder, J. M. M., Stokking, K. M., Mc Gaghie, W. C., & Ten Cate, O. T. J. (2008). What is feedback in clinical education? *Medical Education, 42*, 189-197. https://doi.org/10.1111/j.1365-2923.2007.02973.x

Wills, H. P., Caldarella, P., Williams, L., Fleming, K., & Chen, P. Y. (2023). Middle school classroom management: A randomized control trial of class-wide function-related intervention teams for middle schools (CW-FIT MS). *Journal of Behavioral Education*, *32*(2), 189-211. https://doi.org/10.1007/s10864-021-09455-0

Zoder-Martell, K. A., Floress, M. T., Skriba, H. A., & Taber, T. A. (2023). Classroom Management Systems to Address Student Disruptive Behavior. *Intervention in School and Clinic*, *58*(5), 361-370. https://doi.org/10.1177/10534512221114397