

THE EFFECTIVENESS OF TEACHER PROFESSIONAL DEVELOPMENT PROGRAM ON CLASSROOM AND BEHAVIOUR MANAGEMENT: A SYSTEMATIC REVIEW

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ABSTRACT

Aim. This study aims to investigate the effectiveness of teacher professional development programs in enhancing classroom management and student behaviour control.

Methods. Conducted through a systematic review, this research examines empirical studies published between 2016 and 2022. The focus is on evaluating the impact of professional development programs on teachers' abilities in classroom management and behaviour control.

Results. The findings of the study reveal a positive correlation between participation in professional development programs and improvements in classroom management and behaviour control. Specifically, teachers' knowledge and skills in these critical areas are enhanced through such programs. Furthermore, the research demonstrates positive effects on student performance and achievement as a direct result of improved classroom management.

Conclusion. This study contributes to the existing body of knowledge by providing empirical evidence of the effectiveness of teacher professional development programs in enhancing classroom management and student behaviour control. By synthesising findings from multiple studies, the research adds depth to our understanding of the relationship between professional development and teacher performance.

Keywords: professional development, classroom management, behaviour management, instructional strategy, teacher education

INTRODUCTION

Disruptive behaviour issues among children offer serious difficulty for teachers and institutions. According to Australian research, teachers frequently fail to engage students in learning because of disruptive behaviours, including talking inside of the classroom and inattention during instructional delivery (Crawshaw, 2015). Problematic classroom behaviour can interfere with learning and take time away from teaching. Pramesti P. Paramita et al. (2020) stated in their study that according to National Center for Education Statistics United States of America in 2018 reported that 43% of public-school instructors in the United States said that students' disruptive behaviour made it difficult for them to deliver instructional activity during the 2015–2016 academic year.

The low confidence in managing classroom could give stress to teachers. The use of harsher reprimands and less praise has also been observed among teachers who indicate low self-efficacy in classroom management (Reinke et al., 2015). It is unclear whether worry about classroom management causes teachers to employ less effective methods or whether employing ineffective methods results in more instances of disruptive behaviour, which in turn makes teachers feel less confident and more worried (Aloe et al., 2014). Greater student misbehaviour and the employment of less effective strategies lead to increased teacher stress, which in turn worsens their judgments of their own ability to control the classroom (Oberle & Schonert-Reichl, 2016).

This study evaluates the impact of teacher professional development on classroom management and student behaviour control, aiming to bridge the gap between program existence and practical outcomes. Recognising the role of professional development in enhancing classroom management, the research seeks to improve student performance through better instructional delivery. Despite advancements, inefficient classroom control remains a persistent issue. Identifying strengths and areas for improvement is essential for proactive classroom management. The study provides a comprehensive understanding of how secondary teachers address unproductive student behaviour.

The primary aim of this study is to assess the effectiveness of teacher professional development programs in improving classroom management and student behaviour control. The study addresses the following research questions:

- Which interventions have been addressed in the literature regarding classroom and behaviour management?
- Are teacher professional development programs effective in enhancing classroom and behaviour management?
- What impacts do classroom and behaviour management practices have on student performance and achievement?

These research questions guide the study in evaluating the existing interventions, assessing program effectiveness, and understanding the broader implications of classroom and behaviour management on student outcomes

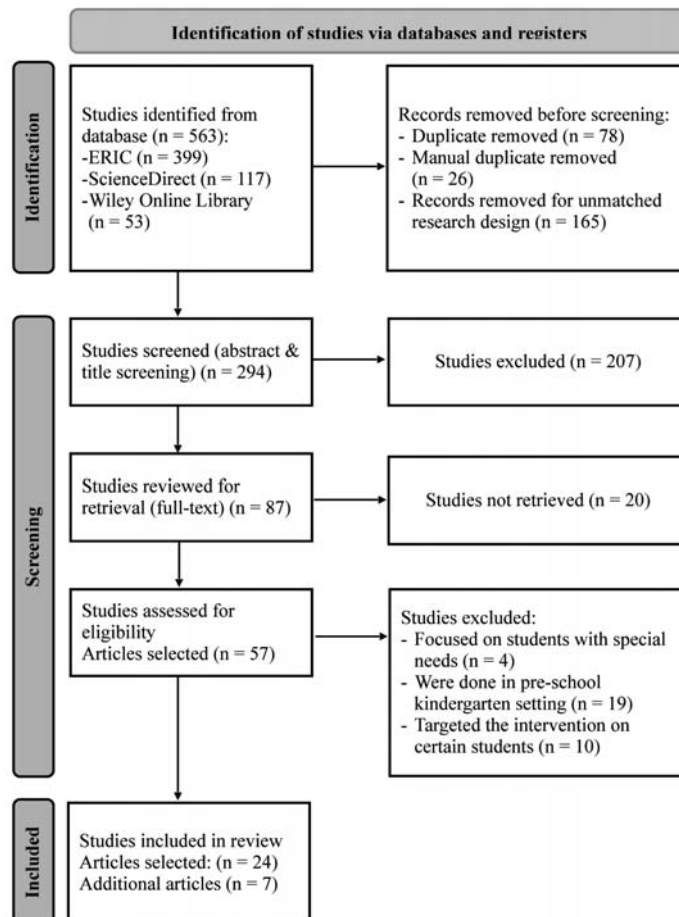
METHODOLOGY

Study Design

This research utilises a systematic review design to investigate the effectiveness of interventions in practice-based teacher education or professional development programs, specifically in managing classroom and student behaviour. The study examines empirical studies from 2016 to 2022 to determine the interventions' impact on classroom and behaviour management. It adheres to established guidelines for impartial and consistent data collection, analysis, and interpretation relevant to the research questions.

Figure 1

The process of the literature's selection.



Source. Adapted from Prisma.

The figure above (modified from The PRISMA 2020 statement: An updated guideline for reporting systematic reviews, by Matthew J. Page et al. (2021) propose the authors steps when conducting literatures selection.

Data Collection

Data collection involves an extensive search of references related to professional development interventions, classroom management, and behaviour management to identify comparable study themes. Article searches were conducted in October 2022 on well-known databases, including the Education Resources Information Center (ERIC), ScienceDirect, and Wiley Online Library, to locate relevant research publications. The search was conducted in English to ensure accessibility. Specific keywords, such as “teacher,” “professional development,” “classroom management,” and “behaviour management,” were employed to refine search results and target relevant articles.

Data Analysis

The initial search yielded 563 items, from which duplicates were removed. Titles and abstracts were screened for relevance, leading to 294 empirical publications. Full-text screening further refined the selection. A total of 31 papers met the inclusion criteria for the study. This process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram, ensuring transparency in the systematic literature review.

Research Validity and Reliability

The research follows a systematic review design, which inherently emphasises rigorous and unbiased data collection and analysis. The use of established databases, specific search keywords, and clear inclusion criteria enhances the validity and reliability of the study by ensuring the selection of relevant and high-quality empirical research. The PRISMA flow diagram is employed to maintain transparency and rigour in the review process, further contributing to research validity.

RESULTS

Characteristics of the Studies

The authors included 31 used published between 2016 to 2022 for the data synthesis. A list of completed used are provided in following table present the amended articles list by title, reference, study design, school setting and country where the study conducted.

Table 1*Feature of reviewed studies*

| No. | Title and Author(s) | Author(s) & Year | Study Design | School Setting | Country |
|------|--|---------------------------|---|----------------|--------------------------|
| (1) | <i>My Eyes Have Been Opened”: Pre-Service Secondary Teachers Exploring Behaviour Management through a Microteaching Project</i> (Mikulec & Hamann, 2020) | (Mikulec & Hamann, 2020) | Experiential learning and using the Gibb’s Reflective Cycle | HS | United States of America |
| (2) | “A High School Replication of Targeted Professional Development for Classroom Management” (Freeman et al., 2018) | (Freeman et al., 2018) | Single-case multiple baseline design | HS | United States of America |
| (3) | “Brief Teacher Training Improves Student behaviour and Student-Teacher Relationship in Middle School” (Duong et al., 2019) | (Duong et al., 2019) | Randomised controlled trial | MS | United States of America |
| (4) | “Classroom videos or transcripts? A quasi-experimental study to assess the effects of media-based learning on pre-service teachers’ situation-specific skills of classroom management “(Kramer et al., 2020) | (Kramer et al., 2020) | Quasi-experimental study | PS, SS, HS, SN | Germany |
| (5) | “Efficacy of video-based teacher professional development for increasing classroom discourse and student learning” (Chen et al., 2020) | (Chen et al., 2020) | Randomised controlled trial with an embedded case study | SS | China |
| (6) | “Examining educators’ views of classroom management and instructional strategies: school-site capacity for supporting students’ behavioural needs”(Oakes et al., 2020) | (Oakes et al., 2020) | Descriptive study | MS | United States of America |
| (7) | “Walking the Talk: Enhancing Future Teachers’ Capacity to Embed Social-Emotional Learning in Middle Years Classrooms” (Main, 2018) | (Main, 2018) | One-shot case study research design | MS | Australia |
| (8) | “Professional development to increase teacher behaviour-specific praise: A single-case design replication” (Gage et al., 2018) | (Gage et al., 2018) | Multiple-base-line across-cases design | ES | United States of America |
| (9) | “Effect of Preservice Classroom Management Training on Attitudes and Skills for Teaching Children With Emotional and behavioural Problems: A Randomised Control Trial” (Klopfer et al., 2019) | (Klopfer et al., 2019) | Randomized control design | PS, MS | Canada |
| (10) | “Effects of CW-FIT on Teachers’ Ratings of Elementary School Students at Risk for Emotional and behavioural Disorders” (Caldarella et al., 2018) | (Caldarella et al., 2018) | Causal randomised controlled trial | GE, SE | United States of America |
| (11) | “Promoting Cultural Responsivity and Student Engagement Through Double Check Coaching of Classroom Teachers: An Efficacy Study” (Bradshaw et al., 2018) | (Bradshaw et al., 2018) | Randomised controlled trial | ES, MS | United States of America |
| (12) | “Randomised trial testing the integration of the Good behaviour Game and MyTeachingPartner™: The moderating role of distress among new teachers on student outcomes” (Tolan et al., 2020) | (Tolan et al., 2020) | Randomised controlled trial | PS | United States of America |

| No. | Title and Author(s) | Author(s) & Year | Study Design | School Setting | Country |
|------|---|--------------------------|---|----------------|--------------------------|
| (13) | “Strengthening Teachers in Disadvantaged Schools: Evidence from an Intervention in Sweden’s Poorest City Districts” (Hall et al., 2020) | (Hall et al., 2020) | Difference-in-differences design | SS | Sweden |
| (14) | “Managing Student behaviour in a Middle School Special Education Classroom Using CW-FIT Tier 1 “(Orr et al., 2020) | (Orr et al., 2020) | ABAC design, case study | MS | United States of America |
| (15) | “Improving Student behaviour in Art Classrooms: An Exploratory Study of” CW-FIT (Nelson et al., 2018) | (Nelson et al., 2018) | A single-subject (AB) design in one classroom and reversal designs (ABAB) in two classrooms | PS, MS | United States of America |
| (16) | “Middle School Teachers’ Perceptions of and Use of Classroom Management Strategies and Associations With Student behaviour (Zoromski et al., 2021) | (Zoromski et al., 2021) | Case-study | MS | United States of America |
| (17) | “Effects of Targeted Professional Development on Teachers’ Specific Praise Rates” (Simonsen et al., 2017) | (Simonsen et al., 2017) | A single-case, multiple baseline design | ES | United States of America |
| (18) | “Improving Universal Classroom Practices Through Teacher Formative Assessment and Coaching” (Dudek et al., 2019) | (Dudek et al., 2019) | Randomised controlled trial | PS, MS | United States of America |
| (19) | “Opportunities and Challenges in Training Elementary School Teachers in Classroom Management: Initial Results from Classroom Management in Action, an Online Professional Development Program” (Marquez et al., 2016) | (Marquez et al., 2016) | A randomised controlled field trial | ES | United States of America |
| (20) | “Exploring the effects of a universal classroom management training programme on teacher and child behaviour: A group randomised controlled trial and cost analysis” (Hickey et al., 2017) | (Hickey et al., 2017) | Randomised controlled trial | PS | Ireland |
| (21) | “Active Supervision, Precorrection, and Explicit Timing: A High School Case Study on Classroom behaviour “(Haydon & Kroeger, 2016) | (Haydon & Kroeger, 2016) | Case study | HS | United States of America |
| (22) | “Supporting the Implementation of Evidence-Based behaviour Management Practices through Simulation: A Mixed Method Study” (Shernoff et al., 2021) | (Shernoff et al., 2021) | An embedded mixed-method design | | United States of America |
| (23) | “Tootling With a Randomised Independent Group Contingency to Improve High School Classwide behaviour” (Lum et al., 2019) | (Lum et al., 2019) | A ABAB withdrawal design, single-case design | HS | United States of America |
| (24) | “Improving Student behaviour in Middle School Art Classrooms: Initial Investigation of CW-FIT Tier 1” (Monson et al., 2020) | (Monson et al., 2020) | A single case reversal design (ABAB) | MS | United States of America |

Note. School setting: ps: primary school; es: elementary school; ss: secondary school; ms: middle school; hs: high school; se: special education; ge: general education; uni pst: university pre-service teacher. The data are from the articles cited in column 2 reviewed in October 2022.

Source. Own research.

All reviewed articles in this study utilised experimental research designs, encompassing various methodologies. These methodologies included randomised controlled trials (RCT) (n = 9), case studies (n = 12), quasi-experimental designs (n = 3), mixed-method studies (n = 3), experiential learning (n = 1), descriptive studies (n = 1), difference-in-differences designs (n = 1), and RCT with embedded case studies (n = 1). The research spanned nine countries: the United States of America (n = 22), Germany (n = 2), Canada (n = 1), Australia (n = 1), Turkey (n = 1), Ireland (n = 1), China (n = 1), Norway (n = 1), and Sweden (n = 1). Categorising the studies based on school levels and types revealed primary or elementary school samples (n = 14) as the predominant category, followed by middle school (n = 12), high school (n = 6), secondary school (n = 3), university pre-service (n = 3), special education (n = 1), and general education (n = 1).

The Intervention Mentioned in the Literature

All of the articles reviewed explicitly mentioned the type of intervention used in the study and the way the interventions were delivered. The 31 articles were further analysed to identify which interventions or programs have been addressed in the literature. The interventions were analysed and organised according to the type. This process enabled us to recognise the intervention type and the strategy used in the literature. This identification process resulted in several programs, as shown in the table below.

Table 2

The interventions in mentioned literatures

| No. | Intervention Content | Learning Strategy |
|-----|--|--|
| (1) | Microteaching | Microteaching project. Roleplaying, teaching lesson to the peers which interrupted by disruptive behaviours. |
| (2) | Targeted professional development and self-management | Training Monitoring to praise student. |
| (3) | Establish-Maintain-Restore (EMR) | Artificial intelligence (AI) and virtual reality (VR) training Consultation Community learning Performance feedback |
| (4) | Seminars | Video-based learning Transcript-based learning Media-combined learning |
| (5) | Classroom Discourse Analyzer (CDA) | Workshop Visualisation supported record classroom videos Self-evaluation |
| (6) | Targeted Professional Development (PD) through self-directed learning (book studies) | Book study Discussion |

| No. | Intervention Content | Learning Strategy |
|------|---|---|
| (7) | Social-Emotional Learning (SEL) experience | Weekly tutorial Lecture Discussion |
| (8) | Visual Performance Feedback (VPF) | Training Observation Feedback |
| (9) | Professional Vision of Classroom Management (PVCM) | Online video analysis Video-based online test Peer-feedback |
| (10) | Errorless Classroom Management (ECM) | Course Role-playing |
| (11) | Conversation, Help, Activity, Movement, Participation, and Success (CHAMPS) | Training and coaching Workshop Observation One-on-one meeting |
| (12) | Micro-Reflective Teaching | Micro-reflective teaching practice Video recording Diary reflection |
| (13) | Class-wide function-related intervention teams (CW-FIT) | Training Script-learning Giving praise to student Teacher-trainer discussion |
| (14) | Double Check Coaching | Training and coaching Observation |
| (15) | The Incredible Years Teacher Classroom Management Program (IY-TCM) | Workshop Training Supervision Consultation (feedback and encouragement) |
| (16) | Good behaviour Game (GBG) and MyTeaching-Partner™ (MTP) | Training and coaching Video recording (videotaped) lesson Playing GBG Conference |
| (17) | Coaching for Teaching (CFT) | Group meeting Courses and coaching Seminars |
| (18) | Mixed-reality teaching | Teaching with mixed-reality simulator Video-taped reflections Specific positive praise statements and constructive criticisms |
| (19) | CW-FIT Tier 1 | Training Student observation Giving praise or reprimands Consultation |
| (20) | Classroom management package | Training Feedback |
| (21) | Mixed-reality teaching | Teaching with mixed-reality simulator Specific positive praise and constructive criticism Reflection on teaching experience |
| (22) | CW-FIT | Training Observation Praise and reprimands |
| (23) | Classroom behaviour Management (CBM) | Training Observation |

| No. | Intervention Content | Learning Strategy |
|------|--|---|
| (24) | Targeted Professional Development on Teachers' Specific Praise Rates | Training Self-management strategy Observation Script learning Email prompts |
| (25) | Classroom Strategies Assessment System (CSAS) | Coaching and training Formative assessment Visual performance feedback Observation |
| (26) | Classroom Management in Action (CMA) | Self-training by modules (interactive online planning tool) Narrative video learning |
| (27) | Universal classroom management | Training and coaching (videotape modelling, role plays, group discussions) Monthly phone calls |
| (28) | Positive behaviour Intervention and Support (PBIS) | Training |
| (29) | Interactive Virtual Training for Teachers (IVT-T) | Virtual teaching Simulation training |
| (30) | Tootling intervention | Brief training Tootling Feedback |
| (31) | CW-FIT Tier 1 | Training Observation Praise and reprimands |

Note. pd: professional development. The data was collected from the articles reviewed and cited in Table 1, column 2.

Source. Own research.

All of the study reviewed (100%) included more than one learning strategy (combination strategy) in implementing the intervention. The intervention mentioned above all conducted in classroom environment (96%), except two studies (article number: [6], [17]). 96% of the interventions were done in combination with other intervention(s).

Training

Of the studies analysed, nearly one in three incorporated training as a teaching strategy, appearing in 22 out of 31 (71%) studies. This term encompasses self-training, brief training, coaching, and teaching activities provided to participants before intervention implementation, related to the procedures they would employ.

Most training interventions were coupled with researcher observation or supervision (articles 8, 11, 14, 15, 19, 22, 23, 24, 25, 31). Other articles combined training with feedback, including feedback, peer-feedback, and performance feedback (articles 3, 8, 9, 15, 20, 25, 31).

Simulation and Virtual Teaching

Two studies conducted by implementing simulation. Simulation means the participants doing intervention virtually. Two studies in the present study using virtual intervention are article number: (3) and (30). Article number (3) combined with feedback. The intervention conducted by teaching artificial intelligence in a virtual reality. The other two studies conducted using mixed-reality simulator i.e., article number: (18) and (21), and combined with reflections for the intervention.

Micro-learning

Micro-learning interventions were employed in two studies, specifically in articles 1 and 12. These interventions involved teaching peers or recording instructional videos in a small group setting. In article 1, peer-teaching was combined with roleplaying, where participants delivered instruction while their peers portrayed disruptive students. Article 12 used self-video recording, coupled with a reflective strategy where participants wrote reflections after videotaping their teaching.

Video-based Learning

Seven studies used video-based learning as their strategy. Video-based learning reviewed in the present study consist of: videotaped learning and lesson (article number: [4], [27]), visualisation supported record classroom (article number: [5]), narrative video learning (article number: [26]), online video analysis and test (article number: [9]), videotaped reflections (article number: [18]), and video recording (article number: [12], [16]).

Roleplay

Three studies used role-play in conducting their interventions, that is article number: (1), (10), and (27). Two of these studies combined with training or coaching, meanwhile one study combined with micro-teaching project.

Other Interventions

Other interventions reviewed in this study included praise and reprimands (articles 2, 13, 19, 21, 22, 31), transcript-based learning (articles 4, 13, 24), workshops (articles 5, 11, 15), book studies (article 6), discussions and meetings (articles 6, 7, 11, 13,

17, 27), consultation (articles 3, 15, 19), playing games (article 16), conferences and seminars (articles 4, 16, 17), self-management (article 2), email prompts (article 24), and tootling (article 30).

The Effectiveness of Professional Development Program

The 31 articles were further analysed to identify the findings of each article. The following table presents the effectiveness of the intervention given to the teachers in classroom and behaviour management. Based on the questions that served as the study's guiding principles, the review's findings are given as follows.

Table 3

The findings of the literatures

| No. | Author(s) | Outcome | Data Collection Technique | Findings |
|-----|--------------------------|---|---|--|
| (1) | (Mikulec & Hamann, 2020) | Classroom and behaviour management | Reflection and observation | The intricacy of instruction and student behaviour was better understood by the participants. |
| (2) | (Freeman et al., 2018) | Teachers' use of specific praise statements in classroom | Observation | The use of explicit praise by teachers and targeted professional development and self-management in high school settings were not shown to be functionally related, according to the data. |
| (3) | (Duong et al., 2019) | Classroom management instruction | Survey questionnaires and observation | EMR had a considerable positive impact on disruptive behaviour, academically engaged time, and student-teacher interactions. |
| (4) | (Kramer et al., 2020) | Teachers' situation-specific skills of classroom management | Questionnaire and video-based measurement | The most successful method for promoting classroom management skills was the combination of videos and transcripts. |
| (5) | (Chen et al., 2020) | Productive talk in the classroom | Pre-intervention and post-intervention classroom videos | Compared to the 22 comparison teachers, the 24 intervention teachers significantly boosted the use of productive conversation strategies in their math classes. |
| (6) | (Oakes et al., 2020) | Teacher's classroom management practice | Survey and self-assessment | Teachers were more aware and confident about teaching methodologies, low-intensity strategies, and classroom management techniques. |
| (7) | (Main, 2018) | The awareness of SES and SEL in teacher-student | Rationale and focus question, research assignment | Pre-service teachers had become more aware of SECs. |

| No. | Author(s) | Outcome | Data Collection Technique | Findings |
|------|---------------------------|--|---------------------------------------|--|
| (8) | (Gage et al., 2018) | Teachers' behaviour-specific praise | Observation | All four teachers increased their use of BSP, immediately. |
| (10) | (Klopfer et al., 2019) | Attitudes of teachers toward children with emotional and behavioural | Questionnaires and observation | The positive influence of targeted preservice instruction. |
| (13) | (Caldarella et al., 2018) | Teacher ratings of social skills and academic competence | Questionnaires and direct observation | Implementing CW-FIT was linked to considerably higher teacher evaluations of students at risk for EBD's social and academic skills. |
| (14) | (Bradshaw et al., 2018) | Culturally responsive behaviour management and self-efficacy for teachers | Questionnaires and direct observation | Self-reported improvements in self-efficacy and culturally appropriate behaviour management. |
| (16) | (Tolan et al., 2020) | Student achievement, interactions of students and teachers, teacher distress | Questionnaires and observation | By the spring of the training year, those classrooms assigned to the intervention demonstrated improved conduct and student success in comparison to their control counterparts. |
| (17) | (Hall et al., 2020) | Teacher's strength in professional skills and confidence | Direct observation | A favorable and statistically significant effect on students' performance on English language proficiency examinations. |
| (19) | (Orr et al., 2020) | Improvements in student on-task behaviour and teacher praise rates | Questionnaires and observation | Improvements in student on-task conduct and instructor appreciation rates are linked to CW-FIT Tier 1. |
| (21) | (Nelson et al., 2018) | Student on-task behaviour | Questionnaires and observation | The teacher was able to boost her praise-to-reprimand ratios as the students' on-task behaviour considerably improved. |
| (22) | (Zoromski et al., 2021) | Student behaviour teacher response, classroom management techniques | Questionnaires and observation | Low rates of effective reactions from teachers to disruptive behaviour were seen. The highest correlation between total rates of disruptive and on-task behaviours was seen when appropriate answers were given to disruptive conduct. |
| (23) | (Simonsen et al., 2017) | Teachers' use of specific praise | Questionnaires and observation | The evidence is in favour of a causal link between targeted professional development (TPD) and an increase in teachers' use of targeted praise. |
| (24) | (Dudek et al., 2019) | Teacher competency with classroom strategy | Questionnaires and observation | the advantages of including teacher formative evaluation in coaching to enhance teaching techniques. |
| (25) | (Marquez et al., 2016) | Student behaviour | Questionnaires | The use of CMA enhanced teachers' self-efficacy and knowledge of research-based classroom management strategies, and those gains persisted during follow-up. |

| No. | Author(s) | Outcome | Data Collection Technique | Findings |
|------|--------------------------|---|--------------------------------|--|
| (26) | (Hickey et al., 2017) | Teacher self-report, child behaviour | Questionnaires | Results revealed improvements in both the high-risk group of children's classrooms conduct and teachers' self-reported use of both positive and negative classroom management tactics, while the anticipated delivery cost was relatively low. |
| (27) | (Haydon & Kroeger, 2016) | Active supervision, precorrection, and explicit timing | Questionnaires | Two educational periods' worth of transition time were shortened thanks to active supervision, precorrection, and clear scheduling, and the intervention was kept up in the classroom. |
| (28) | (Shernoff et al., 2021) | Teacher transfer of the evidence-based behaviour management practices | Questionnaires and observation | The implementation of techniques in the classroom may have been impacted by training. |
| (29) | (Lum et al., 2019) | Classwide DB (disruptive behaviour), academically engaged behaviour (AEB), passive off-task (POT) | Questionnaires and observation | Calculations of the effect sizes for disruptive and academically motivated conduct revealed relatively large overall effects. |
| (30) | (Monson et al., 2020) | Class on-task behaviour | Questionnaires and observation | Compared to baseline levels, during the introduction of CW-FIT, class on-task behaviour increased by more than 25%, and instructor praise-to-reprimand ratios more than doubled. As a result of the intervention, pupils who had been identified as being at risk for behavioural disorders displayed an increase in on-task behaviour of more than 18%. |

Note. The finding was collected from the articles reviewed and cited in Table 3, column 2.

Source. Own research.

Among the 31 reviewed articles in Table 3, 29 articles (1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, and 31) demonstrated that teacher professional development enhances classroom and student behaviour management skills. In contrast, two articles (2 and 15) indicated no significant changes following the intervention. These articles not only emphasise teacher improvement but also student benefits. The interventions implemented in teacher professional development programs yielded several positive outcomes, including improved teacher social skills, self-efficacy, teaching proficiency, and classroom and student behaviour management (articles 1, 5, 6, 9, 10, 12, 13, 14, 18, 25, 26, 27, 28, 29). They also improved student-teacher relationships (article 3), academic-related matters (article 3), reduced disruptive behaviours (articles 3, 16, 20, 23, 30, 31), boosted teacher confidence (articles 6, 21), enhanced teacher awareness of social and emotional aspects (article 7), improved praise-behaviour from teachers (articles 8, 19, 24), increased student communication and concentration (article 11), reduced teacher distress (article 16), improved student performance and achievement (articles 16, 17), and increased student on-task behaviour (articles 19, 22, 23, 31). Regarding intervention

effectiveness, findings suggest that the combination of video and transcript strategies was the most effective (article 4).

The Effect of the Intervention on Student Performance and Achievement

All those studies in which the findings were mentioned were reviewed. Of the 31 articles, 29 articles showed the positive effect of the intervention on classroom and behaviour management. There are two particular studies that explicitly stated regarding student performance and achievement (article number: (16) and (17)). The in-depth searching finds other implicit effect of the intervention on student performance and achievement, as follow:

Table 4

The findings regarding student performance and achievement

| Findings/Effects | Article Number |
|--|------------------------|
| Improved student performance as a result of improved instructional skill and classroom climate | (3), (17) |
| Improved academically engaged time | (3) |
| Improved student achievement | (16) |
| Improved communication and concentration in classroom | (11) |
| Improved on-task behaviour | (19), (22), (23), (31) |

Note. The finding was collected from the articles reviewed and cited in Table 3.

Source. Own research.

From the table above, we can conclude that among the 29 articles indicated the positive effects of professional development on classroom and behaviour management, 9 of them indicates the positive effects on student, particularly in student performance and achievement.

DISCUSSION

This section addresses the research questions and incorporates the study's findings. The study reveals that professional development positively impacts classroom and behaviour management, enhancing teachers' skills and knowledge. It also correlates with improved student performance and achievement. Furthermore, effective PD programs boost teachers' confidence in applying classroom and behaviour management, resulting in increased student success, engagement, and teacher well-being (Hepburn et al., 2020). More than five interventions and strategies were reviewed in the articles. These interventions, as evident in Table 2, cover a wide range of strategies. High-lever-

age practices/strategies, especially frequently cited ones, were identified among these interventions. This comprehensive approach allows academics to build on prior work and effectively communicate findings to practitioners and researchers, enhancing the integration of these findings into teacher professional development programs.

Training is a common strategy for skill and knowledge improvement, enhancing individual capacity and productivity. It's vital for participants to understand interventions and maintain a balanced perspective. The choice of intervention significantly impacts outcomes, often combined with observation and supervision. Effective professional learning programs incorporate classroom behaviour management techniques, aligned with the behavioural approach (Paramita *et al.*, 2020). Researchers play a key role in promoting student engagement and guiding teachers, fostering collaborations that enhance classroom management and the learning experience for future educators.

According to the results of the methodical examination of the publications used, 93.5% of the articles claim that teacher professional development affects classroom and behaviour management. The result of this study consistent with most of the former studies, such as Nancy Gaudreau *et al.* (2013) and Luci M. Motoca *et al.* (2014). Gaudreau *et al.* (2013) stated in their study that participating instructors felt more capable of winning the support of their principals, and this was evident in their follow-up contacts with them. Meanwhile, Motoca *et al.* (2014) stated that after taking part in a professional development program, teachers utilised more constructive criticism and less redirection. Additionally, teachers who participate in professional development programs employ classroom organisation, student feedback, behaviour management, communication with students, group and social dynamics, and motivational tactics more effectively.

The most mentioned research results relate to improving teachers' skills and competencies. Interventions effective in improving teachers' skill, competency, self-efficacy, etc. (Caldarella *et al.*, 2018; Chen *et al.*, 2020; Dudek *et al.*, 2019; Mikulec & Hamann, 2020). One way for teachers or student-teachers to expand their knowledge is through professional development, such as the program used in this study. Teachers use procedures and behaviours in their classroom management strategies to encourage students' engagement in a positive learning environment (Inbar-Furst *et al.*, 2021). Teacher professional development enhances student involvement while improving classroom management techniques. As a prior stated, effective classroom management entails the development of healthy teacher-student relationships as well as an awareness of instructional strategies and environmental adjustments (Hepburn *et al.*, 2020).

Result stated that professional development can improve and boost teacher confidence in delivering instructional activity or managing classroom. This finding support by previous study stated the way the lesson was run had a significant impact on how students felt about their level of confidence and tension (Akman, 2020). Teacher self-assurance is crucial for engagement, innovation, and overcoming challenges. Efficacy supports retention and motivation. Teacher motivation and rewards significantly impact

teaching and learning success. Both teachers and students are lifelong learners. Professional development helps educators adapt to evolving needs and enhance instructional skills. In this study, 29% of articles highlighted the positive impact of professional development on student performance and achievement, emphasising the potential for improved classroom climate and instruction to enhance learning and performance (Hall et al., 2020). By fostering a disciplined learning environment that improves students' academic skills and competences as well as their social and emotional development, classroom management systems maximise student success.

Effective classroom management minimises the need for harsh discipline, reduces teacher stress, and fosters a conducive learning environment. It promotes uninterrupted study, minimises disruptions, and nurtures students' social and emotional growth. Professional development programs boost student engagement, increasing active learning time, a key indicator of academic progress. Engaged time, which includes both active responses and passive attendance, significantly influences student success (Gettinger & Walter, 2012). It will be simpler for a student to absorb the teachings taught by the teacher the more engaged and focused the student is throughout class. In classroom learning, time is a crucial thing. Students learn best when they are actively involved in their learning.

This study shows an improvement in student on-task behaviour. Staying on task is essential for focused learning, allowing teachers to concentrate on instruction. The duration of class impacts the quality of the teaching-learning process, emphasising the importance of accurate time management (Beserra et al., 2019). Staying on target entails maintaining your attention on the topic at hand and preventing interruptions. Your students must maintain attention on the current task if they are to utilise their time wisely. Concentration in classroom enhancing the understanding of the instructional delivery, thus improving student performance and achievement.

CONCLUSIONS

This study concludes that effective teacher professional development programs positively impact classroom and behaviour management, enhancing student performance and achievement. It emphasises the need for updated content and virtual training for comprehensive management. The maintenance of existing programs and additional research and support strategies are essential to prevent ineffective classroom management. Teacher professional development programs are a vital and evolving research area, as revealed in this systematic evaluation. Replicating this study with additional variables and inclusion criteria, considering factors like school settings and student developmental levels, can provide a deeper understanding of classroom and student behaviour management, ultimately benefiting participant performance following interventions.

RECOMMENDATIONS

This study offers valuable recommendations for enhancing teacher professional development programs in classroom and behaviour management. Firstly, there's a compelling need to embrace technology as an integral part of these programs, providing virtual training and intervention platforms that comprehensively address the challenges of modern classrooms. Additionally, it's crucial to continuously update and enhance the program content to stay in sync with the evolving needs of teachers and student-teachers, ensuring the strategies taught remain relevant and effective. Sustainability is also paramount, emphasising the importance of ongoing support and research efforts to prevent the adoption of ineffective classroom management approaches. Lastly, encouraging broader research endeavours in this field, considering diverse variables and inclusion criteria, can provide a more comprehensive understanding of the impact of these programs across various educational settings and student developmental stages, ultimately contributing to improved classroom management and student behaviour. These recommendations collectively promote effective teacher professional development programs that empower educators to navigate the complex landscape of modern classrooms while enhancing student learning and behaviour.

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