

## Designing an Optimal Model of Non-Interventionist Classroom Management Based on Self-Regulation Using a Fuzzy Approach

Javad Keyhan<sup>1</sup>

*Received Date:* 25/09/2025

*Accepted Date:* 27/11/2025

**Pp: 58-74**

### **Abstract**

Given the increasing importance of classroom management and its influence on learning quality, this study aimed to propose an optimal model of non-interventionist classroom management based on self-regulation using a fuzzy approach. A mixed-method design (qualitative–quantitative) was adopted. In the first phase, the qualitative meta-synthesis method of Sandelowski and Barroso was applied to develop a comprehensive model. In the second phase, a survey was conducted, where expert opinions and content validity indices (CVR-CVI) were used to validate the model. Data were collected through 371 questionnaires distributed among teachers in Urmia, selected via cluster sampling, and analyzed using confirmatory factor analysis. In the third phase, a fuzzy expert system was employed to determine the optimal combination of model dimensions. Findings showed that emphasizing supportive environments, positive interactions, self-regulated learning, metacognitive skills, goal orientation, and responsibility enhances sustainable learning environments. These results provide practical guidance for educational policymaking and classroom management improvement programs.

**Key Words:** Classroom Management, Non-Interventionist Approach, Self-Regulation, Optimal Model, Fuzzy Approach.

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<sup>1</sup> Associate Professor, Department of Educational Sciences, Ur. C, Islamic Azad University, Urmia, Iran.

### *Introduction*

Classroom management is considered a vital strategy in the cycle of contemporary educational transformations. It involves a set of actions aimed at creating a positive learning environment, with the ultimate goal of empowering students and optimizing the learning process (Kumari et al., 2024). Comparative studies indicate that the quality of classroom management contributes up to 67 percent to students' academic achievement (Mirajkar et al., 2024). Achieving this requires a deep understanding of the psychological and social complexities of the learning environment (Patrick, 2022). Within the context of the globalization of education, classroom management has evolved into a concept that goes beyond traditional control. Educational researchers emphasize that teachers must possess flexibility, multicultural awareness, and the ability to integrate modern educational technologies in order to prepare students for the complex challenges of the future (Kish, 2022). Furthermore, the emergence of new learning paradigms, generational gaps, rapid technological advancements, and other factors have introduced new challenges to classroom management (Wilson et al., 2022). Therefore, classroom management in contemporary educational developments has a multidimensional nature, which necessitates the use of appropriate approaches by teachers.

Modern paradigms of classroom management, adopting systemic and ecological perspectives, focus on the dynamic interaction of human and physical factors (Nourbakhsh et al, 2023). Their main objective is to foster metacognitive skills, self-regulation, and emotional management that equip students to deal with the complexities of the modern world (Haydon et al, 2023). Mohammadi et al. (2022) stress that contemporary students, who have broad access to information resources and digital tools, require a more adaptive and self-directed learning environment. Innovative classroom management strategies focus on constructive interaction and the creation of a collaborative atmosphere. In this regard, empirical studies demonstrate that interactive and dialogue-based approaches can enhance students' active learning by up to 52 percent (Hyasinth et al., 2024). Teachers and educators constantly strive to provide an optimal learning environment; however, traditional classroom management strategies—based on teacher control and direct intervention—often result in decreased motivation, creativity, and student independence (Jones & Watson, 2021). This situation necessitates a reconceptualization of classroom management strategies, shifting from interventionist to non-interventionist approaches.

Non-interventionist paradigms in classroom management offer a compelling strategy for enhancing self-regulation among students (Anderson & Miller, 2022). The ideal model of non-interventionist classroom management based on self-regulation encompasses various frameworks and strategies designed to promote self-regulated learning (SRL) and cognitive engagement. The Framework for Self-Regulated Cognitive Engagement (FSRCE) outlines a dynamic SRL cycle that includes the phases of forethought, performance, self-monitoring, and reflection, while highlighting the importance of cognitive and behavioral engagement in improving educational outcomes (Amiri et al., 2020).

Non-interventionist classroom management strategies emphasizing self-regulation have shown significant promise in improving student behavior and academic performance. Research indicates that self-management interventions can effectively reduce challenging behaviors (Smith et al., 2024; Kish, 2022). Additionally, self-regulatory techniques, often aligned with addressing students' psychological needs for autonomy, competence, and relatedness, foster an inclusive environment that contributes to effective classroom management (Vakili & Falahati Aboukheli, 2019; Ramsey, 2024). In fact, a self-regulatory approach to classroom management not only maintains order but also nurtures motivation and the essential skills for lifelong learning among students (Salehi et al., 2015). At the same time, self-management interventions in schools can play a vital role in helping students develop the social, emotional, and behavioral skills necessary to meet classroom management challenges (Kish, 2022).

A substantial body of research in educational psychology demonstrates that learners' capacity for self-regulation serves as an important predictor of self-control and, consequently, academic achievement (Zimmerman, 2020). Karimi and Rezaei (2021) found that the prevailing educational framework provides limited opportunities for cultivating this essential skill, and many classroom management paradigms unintentionally perpetuate students' dependency on teachers. This discrepancy between the importance of self-regulation and the common practices of classroom management underscores the necessity of developing a new and effective model. In this regard, experts argue that it is crucial to design a model that, while maintaining non-interventionist principles and reinforcing self-regulation, also aligns with the requirements and characteristics of the digital generation (Uddin et al., 2023).

Designing an optimal non-interventionist classroom management model based on self-regulation is of great importance in enhancing the quality of students' learning. This approach helps students develop self-regulatory skills and take responsibility for their own learning, leading to increased intrinsic motivation, creativity, and academic independence (Shibanian et al., 2023). In such a model, the teacher assumes the role of facilitator, organizing the learning environment in a way that enables students to manage their own learning strategies. This approach fosters cognitive, metacognitive, and emotional skills, preparing students to confront future challenges. Successful implementation of this model can have a profound impact on students' personal development and academic progress. By focusing on self-regulation, students learn how to set goals, evaluate and adjust their learning strategies, and take responsibility for their progress—ensuring both their academic and personal success. Based on the above, this study aims to design an optimal non-interventionist classroom management model grounded in self-regulation, using the fuzzy approach.

### *Research question*

What are the challenges and opportunities of decentralization of high school curriculum with an emphasis on multiculturalism and cultural heritage?

### *Methodology*

The purpose of this study is to design and present a non-interventionist classroom management model. The present research was conducted using a mixed-method (qualitative–quantitative) approach. In the first part of the study, in order to present a comprehensive model for non-interventionist classroom management, the qualitative research method of meta-synthesis by Sandelowski and Barroso was applied. At this stage, the statistical population consisted of articles and books published in reputable domestic journals in the field of education (from 1994 to 2024) and international sources (Scopus, Springer, ScienceDirect, SIAM Digital Library, IEEE, Emerald, and Web of Science) from 1994 to 2024. In this method, relevant articles were first retrieved through search engines and categorized, resulting in 71 articles at this stage. Then, from among them, only the articles meeting the acceptance criteria were selected as samples. These criteria included five conditions:

1. The article must have been published in the last 30 years and be related to non-interventionist classroom management.
2. The article must have been published only in Persian or English.
3. The article must have a complete structure.
4. The article must have been published in scientific-research journals or reputable conferences/symposia.
5. The article must have a full and downloadable text. Articles available only in abstract form were excluded, as well as those lacking author information or article details.

After applying these criteria, 36 articles were selected as the final research sample. All selected articles, extracted from the mentioned databases using relevant keywords, were evaluated by two academic experts in the fields of educational management and curriculum studies through available checklists. To assess the reliability of the qualitative analysis, the Glynn (2006) standard tool was employed. This tool is one of the most recognized approaches for evaluating the quality and stability of meta-synthesis studies and is particularly useful for assessing conceptual consistency, content comprehensiveness, and internal validity of the extracted data from scientific sources. The Glynn tool includes indicators such as accuracy of data extraction, transparency in the coding process, conceptual overlap among categories, stability of classification, and interpretive coherence among researchers.

In this study, to ensure the stability of the qualitative findings, two independent coders carried out the coding and categorization processes separately. The level of agreement between them was then calculated using the Inter-Rater Agreement coefficient. The obtained coefficient value was 0.85, which (according to Glynn's criteria) indicates a high level of reliability and stability in the qualitative analysis. In other words, this value demonstrates a substantial consistency between the evaluators in identifying themes, categorizing data, and interpreting concepts, thereby confirming the coherence and credibility of the qualitative results.

In the second phase of the study (quantitative–survey part), the non-interventionist classroom management model based on self-regulation was

designed and validated through the opinions and evaluations of experts. In this stage, experts were selected according to defined academic and professional criteria to ensure the content validity of the proposed model.

The criteria for selecting experts were as follows:

1. Holding a Ph.D. degree in one of the relevant fields, including Educational Management, Curriculum Studies, Educational Psychology, or Philosophy of Education.
2. Having at least five years of teaching or research experience in higher education or professional experience related to classroom management, instruction, or teacher education.
3. Publication of at least two scientific–research papers or books related to education, classroom management, self-regulation, or learning psychology.
4. Demonstrating willingness, accessibility, and readiness to actively participate in the evaluation and validation process of the proposed model.

A purposeful sampling method was applied to ensure the inclusion of individuals with the highest level of expertise and relevance to the research topic. Ultimately, 15 qualified experts were selected as the final panel members.

Their opinions were collected through a structured questionnaire designed to evaluate the content validity of the model. The Content Validity Ratio (CVR) and Content Validity Index (CVI) were then calculated to determine the degree of alignment between the model components and the research objectives. The results revealed that all components of the proposed model demonstrated satisfactory content validity, confirming sufficient conceptual coherence for inclusion in the final modeling stage.

Finally, in the third part of the research, in order to determine the optimal combination of the model dimensions to improve non-interventionist classroom management based on self-regulation, a mathematical modeling approach (fuzzy expert system) was applied.

*Research Findings*

*Qualitative Section: Meta-Synthesis*

For selecting appropriate articles, various parameters such as title, abstract, content, accessibility, and quality of research methodology were used. Ultimately, after screening approximately 71 cases, 36 were selected as the research sample, which are presented in Table 1.

**Table 1. Selected studies in the field of non-interventionist classroom management**

No.	Researcher(s)	Year	Non-interventionist classroom management strategies based on self-regulation
1	Khamzina et al.	2024	Predicting behavioral issues, enhancing student participation, promoting self-regulation among students

2	Ebili et al.	2024	Promoting self-regulation, encouraging positive interactions, facilitating communication
3	Kumari & Biswas	2024	Positive interactions, clear expectations, emotional strategies
4	Elhassan et al.	2024	Self-control and student knowledge, creating a supportive learning environment, deliberate ignoring
5	Yousef	2023	Setting clear expectations, fostering positive relationships, using positive reinforcement, ensuring clear communication, classroom seating arrangement
6	Smith & Brown	2022	Optimizing classroom space, establishing clear classroom expectations, implementing mind–body wellness strategies
7	Jafari	2024	Teacher–student communication, managing pace and time, effective communication for nurturing a constructive classroom environment
8	Surya et al.	2022	Facilitation and support, creating intrinsic motivation, enhancing student participation in learning
9	Noor	2020	Spatial planning, scheduling learning time, emphasizing educational resources, student interaction, promoting independence and self-regulation
10	Fatt	2020	Positive behavior with students, effective communication skills, emphasis on self-exploration
11	Yudin	2018	Creating a supportive physical environment, establishing clear behavioral expectations, culturally responsive communication with students, fostering a caring and inclusive classroom, managing problem behaviors to enhance inclusiveness
12	Hamilton	2017	Unconditional attention to students, awareness of students’ moods, encouraging self-assessment
13	Zackman	2017	Non-verbal strategies, subtle gestures, compassionate gaze
14	Torres	2017	Student self-monitoring, positive teacher feedback, creating a self-regulated environment
15	Seppdat & Lin	2014	Establishing clear rules and routines, fostering a positive learning environment, using non-verbal cues, promoting student self-management, encouraging peer collaboration
16	Young	2013	Establishing clear expectations, teaching routines, monitoring student behavior, providing feedback
17	Suval	2013	Active environmental planning, strengthening student independence, promoting collaborative learning, setting clear expectations, using logical consequences, creating a supportive environment, encouraging student participation and responsibility



18	Hilliard	2011	Strengthening relationships, understanding student behavior, promoting cooperation and participation, creating a supportive environment
19	Yadav	2014	Importance of classroom rules, teachers' attitudes, student participation, peer collaboration
20	Stone	2013	Enhancing student participation, optimizing time management, classroom facilitation
21	Hardin	2011	Creating a supportive classroom community, enhancing internal discipline, using conflict resolution techniques
22	Hart	2010	Psychological strategies, intrinsic motivation
23	Marzano	2008	Importance of rules and procedures, teacher–student relationships, strengthening student responsibility, active participation, and self-management
24	Pedota	2007	Planning, student participation, positive classroom climate
25	Hickey & Skafer	2006	Participation, curriculum, relationships, emphasis on active participation and interaction
26	McFarland	2000	Generating motivation in class, emotional interactions, active disciplinary planning
27	Jafari Sanokash	2024	Setting clear behavioral guidelines, gaining student respect through preparation and fairness, student participation in behavior programs, strengthening communication through one-on-one interaction
28	Nourbakhsh & Khajelou	2023	Using techniques for creating and maintaining a healthy environment, degree of participation in learning, level of learning motivation
29	Mortezaei & Rezaei	2020	Managing behavioral problems, supporting strategies such as positive reinforcement, structured routines, and collaborative problem solving
30	Vakili & Abou-Khalili	2019	Setting clear expectations, promoting positive behavior through reinforcement programs, using cognitive-behavioral modification techniques to encourage self-regulation among students, fostering a suitable environment for learning without direct intervention
31	Kazemi & Hosseini	2018	Clear rules and expectations, organized classroom arrangement, visible daily schedules, asking and answering questions
32	Jafarpour & Barahouei	2020	Setting clear expectations, using positive reinforcement, guiding students to use class time effectively
33	Langroudi & Soleimani	2013	Classroom management considering learner characteristics, personalized learning, involving learners in participation
34	Salehiniya et al.	2023	Creating an ideal classroom environment, effective student management, strategic seating arrangement

35	Sheibanian et al.	2023	Non-verbal cues (e.g., proximity, “teacher’s gaze”), encouraging critical thinking and problem-solving instead of providing direct answers
36	Soleimani	2020	Teaching emotion and behavior management strategies to students, reinforcing desirable behaviors, removing distractions, adjusting activity pace, applying logical consequences

As soon as the articles were reviewed for their compatibility with the study parameters, the next step was to evaluate the methodological quality of the studies. In the second stage, the preliminary research model, considering the conditions of non-interventionist classroom management, was subjected to a Delphi survey involving 10 experts and was subsequently revised and refined (model adaptation). Finally, in order to operationalize the model, the expert-approved framework from the Delphi survey was tested within the target population.

In the third stage, to provide an optimal combination of the dimensions of non-interventionist classroom management, the fuzzy expert system method was employed (mathematical modeling). The acceptance criteria for participants included: having full familiarity with the content of non-interventionist classroom management, management style, prior managerial experience, scientific mastery of the subject, and informed consent to participate in the research.

For applying the Delphi method, the expert group was composed of faculty members from Urmia Islamic Azad University and specialists from the General Directorate of Education. In the model exploration phase, which utilized the Delphi technique, the dimensions of non-interventionist classroom management were extracted and ranked.

**Table 2. Content Validity Ratio (CVR) Values for Each Concept**

Concept	CVR	Minimum validity	Result
Reducing students’ dependence on continuous teacher guidance	0.2	0.62	Not approved
Encouraging critical thinking and problem-solving instead of giving direct answers	0.8	0.62	Approved
Teaching strategies for managing students’ emotions and behavior	0.8	0.62	Approved
Designing learning activities requiring students to manage their own time	0.4	0.62	Not approved
Providing flexible time frames for completing assignments	1	0.62	Approved
Guiding students to use class time effectively	0.2	0.62	Not approved
Reducing wasted time by setting clear goals for each session	1	0.62	Approved
Encouraging students to plan individually for studying and completing tasks	0.8	0.62	Approved



Creating an open space for students to express ideas and opinions	1	0.62	Approved
Teaching principles of effective communication and respect for others' perspectives	0.2	0.62	Not approved
Guiding students to resolve conflicts without direct intervention	1	0.62	Approved
Strengthening teamwork skills and student interactions	1	0.62	Approved
Modeling healthy and respectful classroom communication	0.8	0.62	Approved
Encouraging students to regularly review their own performance	0.8	0.62	Approved
Providing self-assessment tools, such as individual progress checklists	0.8	0.62	Approved
Teaching methods for performance analysis and improving learning processes	0.8	0.62	Approved
Creating opportunities for students to correct their mistakes	1	0.62	Approved
Guiding students in setting realistic academic goals	0.8	0.62	Approved
Providing strategies for achieving educational goals	0.8	0.62	Approved
Encouraging students to set personal learning goals	0.8	0.62	Approved
Periodic review of students' progress without direct intervention	0.8	0.62	Approved
Supporting students' flexibility in adjusting goals to new needs	0.2	0.62	Not approved

During the first Delphi round, a questionnaire was distributed to the expert panel to identify the dimensions of non-interventionist classroom management. In this stage, experts identified 17 out of 22 concepts as the most important and suggested two additional concepts, which are presented in Table 3. Based on the results of the first round, the questionnaire was revised into a closed format covering 19 concepts and sent back to the experts to collect their feedback.

**Table 3. CVR Values for Each Concept – Second Delphi Round**

Concept	CVR	Minimum validity	Result
Providing an environment to enhance students' self-control	0.8	0.62	Approved
Providing opportunities for independent decision-making	0.8	0.62	Approved
Encouraging critical thinking and problem-solving instead of giving direct answers	0.8	0.62	Approved
Teaching strategies for managing students' emotions and behavior	0.8	0.62	Approved

Providing flexible time frames for completing assignments	1	0.62	Approved
Reducing wasted time by setting clear goals for each session	1	0.62	Approved
Encouraging students to plan individually for studying and completing tasks	1	0.62	Approved
Creating an open space for students to express ideas and opinions	0.8	0.62	Approved
Guiding students to resolve conflicts without direct intervention	1	0.62	Approved
Strengthening teamwork skills and student interactions	1	0.62	Approved
Modeling healthy and respectful classroom communication	1	0.62	Approved
Encouraging students to regularly review their own performance	0.8	0.62	Approved
Providing self-assessment tools, such as individual progress checklists	0.8	0.62	Approved
Teaching methods for performance analysis and improving learning processes	0.8	0.62	Approved
Creating opportunities for students to correct their mistakes	0.8	0.62	Approved
Guiding students in setting realistic academic goals	1	0.62	Approved
Providing strategies for achieving educational goals	0.8	0.62	Approved
Encouraging students to set personal learning goals	0.8	0.62	Approved
Periodic review of students' progress without direct intervention	0.8	0.62	Approved

In the second Delphi round, all 19 concepts were approved, and no additional concepts were suggested. In the third round, to gather experts' opinions based on the analysis of the second-round questionnaire, 10 questionnaires were distributed and collected. Since no new indicators were proposed by the experts, they were asked only to indicate their level of agreement with each concept and the codes of non-interventionist classroom management presented by the panel members.

**Table 4. Content Validity Index (CVI) for Each Concept**

Concept	CVI	Minimum validity	Result
Providing an environment to enhance students' self-control	0.9	0.79	Approved
Providing opportunities for independent decision-making	1	0.79	Approved
Encouraging critical thinking and problem-solving instead of giving direct answers	1	0.79	Approved
Teaching strategies for managing students' emotions and behavior	1	0.79	Approved

Providing flexible time frames for completing assignments	0.9	0.79	Approved
Reducing wasted time by setting clear goals for each session	1	0.79	Approved
Encouraging students to plan individually for studying and completing tasks	1	0.79	Approved
Creating an open space for students to express ideas and opinions	1	0.79	Approved
Guiding students to resolve conflicts without direct intervention	1	0.79	Approved
Strengthening teamwork skills and student interactions	1	0.79	Approved
Modeling healthy and respectful classroom communication	1	0.79	Approved
Encouraging students to regularly review their own performance	1	0.79	Approved
Providing self-assessment tools, such as individual progress checklists	1	0.79	Approved
Teaching methods for performance analysis and improving learning processes	1	0.79	Approved
Creating opportunities for students to correct their mistakes	0.9	0.79	Approved
Guiding students in setting realistic academic goals	1	0.79	Approved
Providing strategies for achieving educational goals	1	0.79	Approved
Encouraging students to set personal learning goals	1	0.79	Approved
Periodic review of students' progress without direct intervention	1	0.79	Approved

Most studies consider a percentage frequency as indicating consensus when a certain proportion of responses falls within a specified range. Based on Table 4, the results of the experts' responses in the Delphi round show that all respondents (100%) rated all 19 concepts as highly essential. In this study, Kendall's coefficient of concordance was used to measure the level of agreement among the experts, and its value is presented in Table 5.

**Table 5. Kendall's Coefficient Results for Assessing Experts' Consensus**

Number of items	19
Kendall's W	0.847
Chi-square	295.521
Confidence interval	0.000

Since the Delphi process was repeated twice, in the second round, an agreement among the expert panel was achieved with  $W=0.847$ , indicating a high level of consensus in the experts' opinions.

### ***Mathematical Modeling***

To achieve the optimal combination, the fuzzy expert system method was used in the mathematical modeling section. For determining the inputs, outputs, and inference rules, the research literature and expert opinions were utilized. Triangular membership functions were applied for fuzzification, the max–min method was used for fuzzy averaging, and Mamdani’s method was employed for fuzzy inference in MATLAB software. Based on the designed model in this study, the simulation dimensions were determined according to six key aspects: creating a self-regulatory environment, positive interaction, supportive learning environment, encouragement of self-assessment and goal orientation, responsibility, and development of metacognitive skills.

For fuzzification of the inputs, each input variable was converted into a fuzzy set using triangular fuzzy numbers and classified into three linguistic variables, as shown in Table 6.

**Table 6. Fuzzification of Input Variables for Testing the Mathematical Model**

Creating a Self-Regulatory Environment		Encouragement of Self-Assessment	
Fuzzy number	Linguistic variable	Fuzzy number	Linguistic variable
-40, 0, 40	Low	-40, 0, 40	Low
10, 50, 90	Medium	10, 50, 90	Medium
60, 100, 140	High	60, 100, 140	High
Positive Interaction		Supportive Learning Environment	
Fuzzy number	Linguistic variable	Fuzzy number	Linguistic variable
-40, 0, 40	Low	-40, 0, 40	Low
10, 50, 90	Medium	10, 50, 90	Medium
60, 100, 140	High	60, 100, 140	High
Goal Orientation and Responsibility		Development of Metacognitive Skills	
Fuzzy number	Linguistic variable	Fuzzy number	Linguistic variable
-40, 0, 40	Low	-40, 0, 40	Low
10, 50, 90	Medium	10, 50, 90	Medium
60, 100, 140	High	60, 100, 140	High

For fuzzification of the outputs, the output variable in each dimension was divided into six linguistic variables, converted to fuzzy numbers as shown in Table 7, and the inference rules were then defined.

**Table 7. Fuzzification of Output Variables for Testing the Mathematical Model**

Non-Interventionist Classroom Management	
Fuzzy number	Linguistic variable
0.17, 0, 0.17	Very Low
0.42, 25, 0.27	Low
0.67, 50, 0.32	Medium
0.92, 75, 0.57	High
1.17, 100, 0.82	Very High

Since the designed fuzzy system has six input variables creating a self-regulatory environment, positive interaction, supportive learning environment, encouragement of self-assessment, goal orientation and responsibility, and

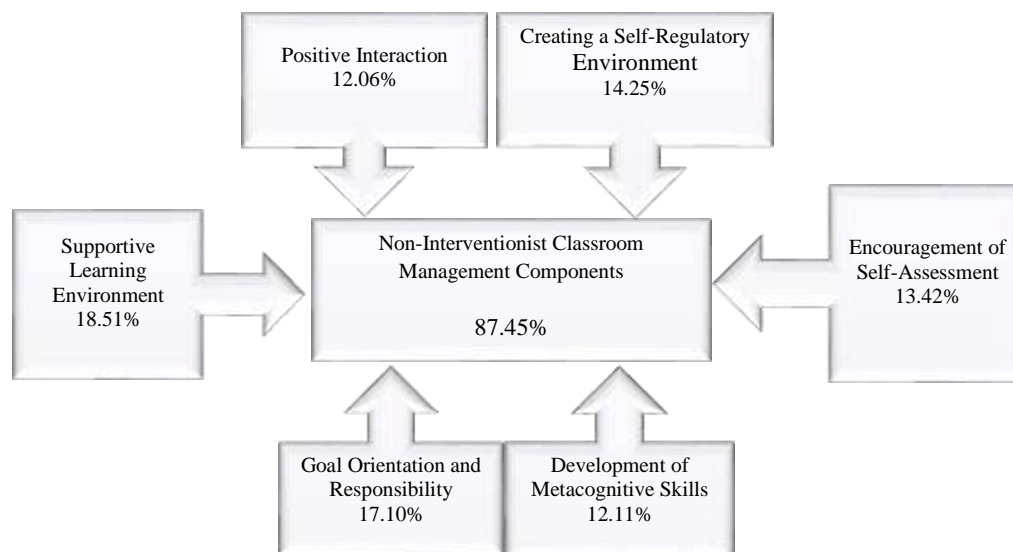
development of metacognitive skills—ideally, each output dimension requires  $3 \times 3 \times 3 \times 3 \times 3 = 729$  rules. Therefore, 729 rules were defined for optimization.

Finally, by analyzing the data obtained from the fuzzy inference system and comparing it with the fuzzy average for each item, the optimal combination of the six input dimensions of the non-interventionist classroom management model was determined. The results are presented in Table 7.

**Table 7. Optimal Combination of Non-Interventionist Classroom Management Components**

Model Dimensions	Percentage	Optimal Model Combination
Creating a Self-Regulatory Environment	14.25%	87.45%
Positive Interaction	12.06%	
Supportive Learning Environment	18.51%	
Encouragement of Self-Assessment	13.42%	
Goal Orientation and Responsibility	17.10%	
Development of Metacognitive Skills	12.11%	

Based on the data in Table 7, if the supportive learning environment accounts for 18.51%, goal orientation and responsibility 17.10%, creating a self-regulatory environment 14.25%, encouragement of self-assessment 13.42%, and development of metacognitive skills 12.11%, then the non-interventionist classroom management model achieves an optimal combination of 87.45%.



**Figure 1. Optimized Level of the Non-Interventionist Classroom Management Model**

### *Discussion and conclusion*

The present study aimed to design an optimized model of non-interventionist classroom management based on self-regulation using a fuzzy approach. The results indicated that the optimal model of non-interventionist classroom management is structured around six core factors, ranked according to their optimized levels: creating a self-regulatory environment, establishing positive and constructive interactions, a supportive learning environment, development of metacognitive skills, promoting self-assessment, and goal orientation and responsibility. In other words, if teachers aim to implement non-interventionist classroom management strategies and emphasize creating a conducive learning environment through preventive measures rather than reactive interventions, they can employ these six strategies to manage the classroom effectively.

To elucidate these key and interrelated strategies, well-established learning and instructional theories can be applied. The first strategy, creating a self-regulatory environment, is grounded in Pintrich's theory of self-regulated learning and Bandura's social learning theory. Pintrich asserts that learners must be able to regulate their cognition, motivation, and behavior to achieve learning goals. In a self-regulatory environment, learners have the opportunity to select their learning strategies and take responsibility for their outcomes (Burden, 2020).

The second strategy, establishing positive and constructive interactions, aligns with Gordon's theory of effective communication and Rogers' humanistic approach. Rogers emphasizes the importance of fostering a positive emotional climate and unconditional acceptance. In this approach, the teacher facilitates learners' self-initiated growth through empathy and mutual understanding rather than control or coercion (Yousef, 2023).

The third strategy, creating a supportive learning environment, corresponds with Vygotsky's social constructivist theory. Vygotsky highlights the role of social interactions and environmental supports in learning. In a supportive environment, the teacher provides scaffolding and gradually reduces support as learners gain competence (Padmaja, 2012).

The development of metacognitive skills can be explained based on Flavell's metacognition theory. Flavell emphasizes that awareness of cognitive processes and the ability to monitor and regulate them are key to effective learning. In a non-interventionist approach, the teacher assists learners in reflecting on their learning processes rather than directly delivering content (Goodman et al., 2023).

Encouraging self-assessment aligns with Deci and Ryan's self-determination theory. According to this theory, individuals' intrinsic motivation increases when they experience autonomy. Self-assessment enables learners to evaluate their progress independently, without relying on external judgments (Mathieu, 2022).

Finally, goal orientation and responsibility correspond with Locke's goal-setting theory and Eccles and Wigfield's expectancy-value theory. These theories posit that when learners set their own goals and understand the value



of learning activities, they are more likely to take responsibility for their learning (Ibli et al., 2024).

The findings indicate that non-interventionist classroom management strategies operate within a complex, interconnected network, where each strategy reinforces the others to form an integrated and dynamic system. A self-regulatory environment provides the necessary space for autonomy, facilitating the development of metacognitive skills and self-assessment, which in turn strengthens a sense of responsibility. Positive and constructive interactions form the foundation for a supportive environment, where learners engage in self-assessment with greater confidence and share metacognitive experiences. This supportive environment, in turn, enhances confidence in goal-setting and responsibility, fostering the growth of self-regulatory skills. Developed metacognitive skills lead to more accurate and deeper self-assessment, realistic goal-setting, and a better understanding of learning responsibilities. These strategies function in a positive, reinforcing cycle, where success in self-regulation enhances confidence and promotes more ambitious goal-setting, accurate self-assessment improves metacognitive and self-regulatory skills, and positive interactions reinforce a supportive environment and increase responsibility.

Based on the study's conclusions, this integration and interconnection among strategies create a synergistic effect that exceeds the sum of individual strategy effects, resulting in a self-directed learning culture, the development of a professional learning community, and the formation of an independent professional identity in learners. These findings emphasize that successful non-interventionist classroom management requires a systemic perspective, simultaneous attention to all strategies, and a deep understanding of their interrelations; focusing on one or a few strategies in isolation is unlikely to achieve optimal outcomes.

## References

- Amiri, M., Rezaei, A., & Karimi, H. (2020). Investigating classroom management challenges in Iranian schools. *Quarterly Journal of Educational Studies*, 15(2), 45–62. (in Persian)
- Anderson, K., & Miller, S. (2022). Non-interventionist classroom management models: A comprehensive review. *Educational Management Review*, 45(3), 234-251.
- Brown, R., Thompson, J., & Davis, M. (2023). Integrating self-regulation in modern classroom management. *Journal of Educational Psychology*, 58(2), 167-184.
- Burden, P. R. (2020). *Classroom Management: Creating a Successful K-12 Learning Community*, 7th Edition. Jossey-Bass, An Imprint of Wiley. <https://eric.ed.gov/?id=ED605702>.
- Elhassan, I. A. M. I., Hamid, A., Yousif, Y. E. A., & Fadlalla, A. A. (2024). Techniques of Classroom Management. *International Journal of Trends in English Language and Literature*, 05(03), 29–44.
- Goodman, A. M., McBain, R., Ye, Y., Sun, W., & Maitreesophon, B. (2023). Classroom Management Document Research: What are Effective: Proactive and Workable Techniques for Maximizing Learning and Minimizing Disruption in the

Classroom? *International Journal of Sociologies and Anthropologies Science Reviews (IJSASR)*, 3(4), 13–20.

Haydon.,T. F., Alana, M., Kennedy., Meagan, N., Scott. (2021). 5. Classroom Management. doi: 10.1093/med-psych/9780190068714.003.0019.

Hyasinth., A., Albina, P. (2024). 4. Self-Regulation Practices As a Key Determinant of Success in Mathematics Learning. doi: 10.70333/ijeks-03-08-003.

Jafari Senokesh, Kh. (2024). Classroom management and its styles. In *19th National Conference on Management and Humanities Research in Iran*, Tehran. (in Persian)

Jones, M., & Watson, R. (2021). Traditional vs. modern approaches to classroom management. *Teaching and Teacher Education*, 87, 102-115.

Karimi, A., & Rezaei, M. (2021). Analyzing the role of self-regulation in students' academic success. *Journal of Educational Psychology*, 12(3), 78–95. (in Persian)

Khamzina, S., Syrymbetova, L. S., & Shakenova, T. (2024). Classroom management strategies in a modern school. *3i: Intellekt, Ideâ, Innovaciâ*, 2, 230–238.

Kish, L. (2022). 15. Self-management interventions for reducing challenging behaviors among school-age students: A systematic review. *Campbell Systematic Reviews*, doi: 10.1002/cl2.1223.

Kumari, M., & Biswas, S. N. (2024). Classroom Management Strategies and Their Influence on Student Social Behavior. *International Journal of Humanities, Engineering, Science and Management*, 5(1). 41 – 52.

Mirajkar., M., Ms., S., U., Patil., Ms., I., P., Jadhav., Ms., S., N., Sawant., Ms., S., D., Dange., Ms., S., S., Dange. (2024). 1. Classroom Management. *International Journal of Advanced Research in Science, Communication and Technology*, doi: 10.48175/ijarsct-17423.

Nourbakhsh, R., & Pourpashahaji Khajelou, S. (2023). Examining the effectiveness of classroom management methods in improving students' self-directed learning. *2nd National Conference on Family and School Studies*, Bandar Abbas. Retrieved from <https://civilica.com/doc/1874471>(in Persian)

Padmaja, C. V. (2012). Classroom Management: An Approach. *IUP Journal of English Studies*, 7(2), 39.

Patrick, M. (2022). Classroom Management. doi: 10.4324/9781003140849-2.

Ramsey, M. (2024). 2. Fostering an inclusive and socially responsive classroom environment using 5-minute self-regulation strategies. doi: 10.18260/1-2—46043.

Salehi Nia, M., et al. (2023). Examining characteristics of different classroom management styles and their impact on students' learning and academic performance. *National Conference on Educational Innovations and School Management*, Farhangian University, Tehran. (in Persian)

Shepherd, T. L., & Linn, D. (2014). *Behavior and Classroom Management in the Multicultural Classroom: Proactive, Active, and Reactive Strategies*. <https://www.amazon.com/Behavior-Classroom-Management-Multicultural-Strategies/dp/1452226261>.

Shibanian, A., Masoumi Nejad, T., & Salehi, A. (2023). Examining the effect of laissez-faire and non-interventionist classroom management styles on students' academic motivation. *International Conference on Psychology and Educational Sciences*, Shahid Beheshti University, Tehran. (in Persian)

Taylor, P., & Roberts, L. (2023). Designing educational models for digital natives. *Educational Technology Research*, 42(1), 15-32.

Tyler, E., Smith., Aaron, M., Thompson., Brandy, R., Maynard., Anna, M., Kim. (2024). 1. Effects of Self-Management Interventions on Challenging Behavior: *Biannual Journal of Education Experiences*, Vol 8, No 2, Summer and Autumn, 2025

A Systematic Review and Meta-Analysis. Research on Social Work Practice, doi: 10.1177/10497315231200351.

Uddin, M. M., & Johnson, K. V. (2018). *Identifying Classroom Management Strategies by Focusing on Diversity and Inclusion*. <https://peer.asee.org/identifying-classroom-management-strategies-by-focusing-on-diversity-and-inclusion>

Vakili, Kh., & Falahati Aboukheli, M. R. (2019). Investigating the impact of classroom management styles on academic competence of first-grade secondary students in Sari, Iran, 2018–2019 academic year. In *3rd National Conference on Psychology, Education, and Lifestyle*, Qazvin. (in Persian)

Wilson, R., Johnson, K., & Smith, M. (2022). Technology integration and classroom management challenges. *Digital Education Review*, 41(4), 78-93.

Yousuf, M. M. (2023). Exploring Effective Classroom Management Techniques in English Teaching. *International Journal on Recent and Innovation Trends in Computing and Communication*, 11(11), 382–393. <https://doi.org/10.17762/ijritcc.v11i11.9772>.

Zimmerman, B. J. (2020). Self-regulated learning: Theories, measures, and outcomes. *Contemporary Educational Psychology*, 55, 89-107.