

Constructing an Andragogy Based Emotion Regulation Training Model to Develop the Self Efficacy of Nonformal Education Participants

Asep Saepudin¹, Ani Rindiani², Ade Romi Rosmia³, Gumpanat Boriboon⁴

^{1,3} Universitas Pendidikan Indonesia, Indonesia

² Sekolah Tinggi Agama Islam Al Falah, Indonesia

⁴ Srinakharinwirot University, Thailand

*Correspondence author: aspudin@upi.edu

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Abstrak

Background – Low self-efficacy among learners acts as a barrier to completing their studies in non-formal education programs, where the participants are typically adults. Survey data indicate that 56.3% of learners possess low self-efficacy. This low self-efficacy is partly attributed to issues with emotional regulation. Therefore, interventions focused on emotional regulation grounded in andragogy are needed to enhance the self-efficacy of non-formal education learners.

Research Urgency – This article identifies self-efficacy issues among learners in non-formal education programs in Bandung City resulting from unstable emotional regulation; therefore, research is needed to yield findings that offer solutions to the challenges faced by these learners.

Research Objective – This study aims to explore the self-efficacy and emotional regulation of non-formal education learners and subsequently develop a training model design capable of enhancing the self-efficacy of learners in non-formal education programs in the Bandung City area.

Research Methods – This study employs a mixed-methods approach to obtain in-depth and comprehensive information regarding the issues faced by learners in non-formal education programs. The chosen research method is Research and Development (R&D) utilizing the 4D model (Define, Design, Development, and Disseminate). However, the scope of this study is limited to the "Define" and "Design" stages; the "Development" and "Dissemination" stages have not yet been conducted. Data collection techniques include observation, document analysis, and interviews, utilizing instruments such as observation sheets and interview guides. Data analysis involves both qualitative and quantitative methods. The model concept underwent a validation process involving experts, practitioners, and bureaucratic officials.

Research Findings – Empirical findings indicate that learners experience low self-efficacy, a condition attributed to unstable emotional regulation. Consequently, there is a need to develop an andragogy-based emotional regulation training model designed to enhance self-efficacy. The model developed comprises input, process, and output components.

Research Conclusion and Novelty – This study empirically identified an issue regarding low learner self-efficacy that requires the strengthening of emotional regulation; consequently, an andragogy-based emotional regulation training model was developed to enhance learners' self-efficacy. The novelty of the research lies in the design or construction of this andragogy-based emotional regulation training model, which had not previously been designed or implemented by other researchers.

Keywords: *Emotion Regulation, Self-Efficacy, Non-formal Education, Model Construction*

How to Cite:

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INTRODUCTION

Recent educational research conceptualizes self-efficacy as an individual's belief in the capacity to organize and execute actions needed to achieve desired learning or performance outcomes. In educational settings, stronger self-efficacy is associated with greater persistence, self-regulation, motivation, and academic engagement, while lower self-efficacy may restrict learners' willingness to confront difficult tasks and recover from setbacks (Usán Supervía & Quílez Robres, 2021; Huang, 2022; Yu et al., 2022; Lande et al., 2023).

Based on a survey of learners in non-formal education programs in Bandung City, 45 individuals or 56.3% of the participants demonstrated low self-efficacy scores. This empirical condition is important because recent studies show that self-efficacy is closely related to learners' regulation of effort, engagement, and academic functioning, including in online and higher-education contexts (Zheng et al., 2022; Yu et al., 2022; Zheng et al., 2024). Therefore, low self-efficacy among the participants may hinder confidence in completing tasks, decision-making, and persistence when encountering academic difficulties.

Based on the reasons above, self-efficacy plays a crucial role in learning activities. Belief in one's own abilities supports goal setting, persistence, adaptive coping, and the willingness to use available learning resources. Conversely, low self-efficacy may limit learners' exploration of their potential and their capacity to deal productively with demanding situations. Recent evidence also indicates that self-efficacy is meaningfully connected with emotion regulation and self-regulatory processes, suggesting that interventions designed to strengthen emotional management can contribute to stronger efficacy beliefs (Zyberaj, 2022; Bing et al., 2022; Doménech et al., 2024).

One factor closely related to self-efficacy is emotion regulation. Emotion regulation refers to processes through which individuals recognize, monitor, modify, and express emotional responses in ways that support adaptation to situational demands. Contemporary studies consistently show that adaptive emotion regulation is associated with stronger self-efficacy, engagement, psychological well-being, and academic functioning (Usán Supervía & Quílez Robres, 2021; Zheng et al., 2022; Deng et al., 2022; Xiyun et al., 2022; Li et al., 2022; Lande et al., 2023; Doménech et al., 2024; Zheng et al., 2024). Training based on cognitive emotion-regulation strategies has also been shown to improve self-efficacy-related outcomes, reinforcing the relevance of structured emotional interventions (Gazo & Mahasneh, 2024).

Strengthening adult learners' emotional regulation can be positioned within adult and non-formal education through structured learning and training activities. Non-formal education provides flexible learning opportunities for individuals whose educational needs, life circumstances, or access conditions are not fully accommodated by formal education. In Indonesia, the quality of non-formal and equivalency education is closely linked with human resources, responsive program management, and learning opportunities that address community needs (Saepudin et al., 2022; Melania et al., 2024; Hayat et al., 2024). Internationally, participation in non-formal adult education is also recognized as an important dimension of lifelong learning and individual development (Vaculíková et al., 2024), while community-based lifelong learning can strengthen social and human capacity (Prasetyo & Kusumawardani, 2025).

Because learners in non-formal education programs are generally adults, the learning process should reflect andragogical principles, including relevance to real-life needs, active participation, use of prior experience, autonomy, and problem-oriented learning. Recent studies of adult and community education emphasize interactive and learner-centered approaches for adult participants (Darmawan et al., 2023; Ida & Ridwan, 2023). Contemporary applications of andragogy likewise show the value of flexible, intensive, blended, and practice-oriented learning designs for adult learners (Coe et al., 2025; Carvalho Castanha et al., 2025). In non-formal education, participatory learning, systematic training management, and appropriate institutional support further strengthen the learning process (Hamzah et al., 2024; Djibu et al., 2024; Indarthy et al., 2025).

Based on the aforementioned line of reasoning, research is needed on an andragogy based emotion regulation training model designed to enhance the self-efficacy of learners in nonformal education programs. This research aims to develop a training model that offers an optimal solution for boosting the self-efficacy of non-formal education program participants.

METHOD

This study employs a mixed-methods approach within a Research and Development (R&D) framework. Mixed-methods research integrates quantitative and qualitative evidence in a single study so that numerical patterns can be interpreted together with contextual and experiential information. Recent methodological literature emphasizes that the quality of mixed-methods research depends on clear design logic, purposeful integration, appropriate sampling, and explicit interpretation of the relationship between qualitative and quantitative components (Soicher et al., 2024; Poth et al., 2024; Zhou et al., 2024; Costa, 2024). In this study, quantitative data were used to describe the empirical conditions of self-efficacy and emotion-regulation problems, while qualitative data from observation, interviews, and document analysis were used to understand learner needs and inform the training-model design.

The R&D procedure applies the 4D development model, which consists of Define, Design, Develop, and Disseminate. The 4D framework has continued to be used in contemporary educational development research as a systematic sequence for identifying needs, designing a product or model, validating and developing it, and preparing for dissemination (Usman & Ibrahim, 2023). Because the present study focuses on constructing and validating the initial training-model design, the procedure is limited to the Define and Design stages, as illustrated in the following figure:

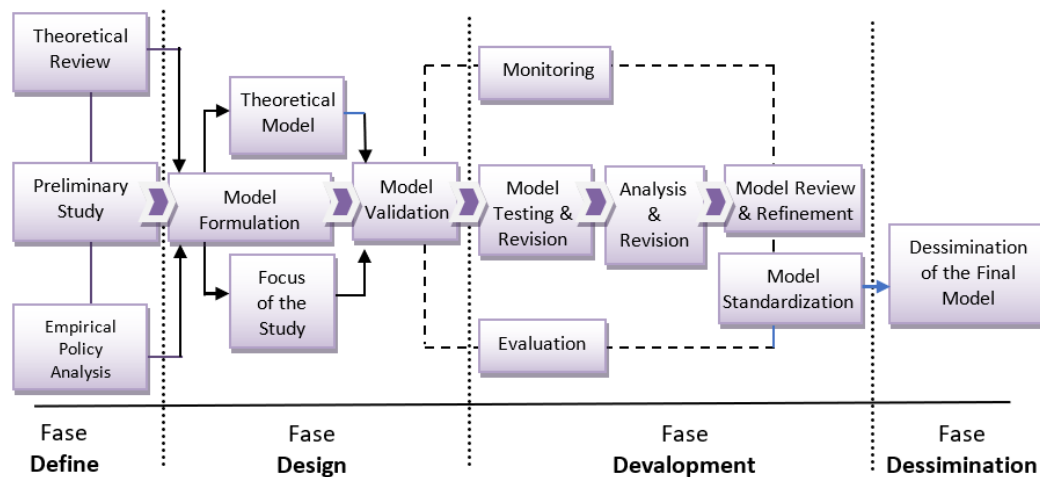


Figure 1. Research and Development Flow
Source: Researcher's analysis (2026)

Given that the objective of this study was to develop a model design or structure, the research procedure was limited to the first two stages. The first was the "define" stage, aimed at identifying: (1) the problems encountered, (2) the requirements for the training model, and (3) the desired expectations for the model. The second was the model design stage, involving: (1) designing the training model; (2) validating the model through experts comprising academics from the Community Education Study Program at the Universitas Pendidikan Indonesia, practitioners from the Ministry of Religious Affairs' Training Center, and a government official (Head of the Education Division) from the Bandung City Education Office; and (3) revising the model based on expert feedback, such as adjustments to time allocation and the depth of training material to align with participants' available time. The developed model did not proceed to the "development" stage (implementation of the training model) or the "dissemination" stage (distribution of the final model). Consequently, a limitation of this study is the absence of model implementation and the measurement of its effectiveness.

The informants in this study were training participants comprising supervisors, heads and deputy heads of Madrasah (Islamic schools), and teachers totaling 80 respondents. Data collection techniques included observation, interviews, and document analysis. The data analysis employed both qualitative and quantitative methods. The study's findings and its contribution to novelty consist of a design or construction of a training model.

RESULTS AND DISCUSSION

This study was conducted at educational institutions providing non-formal education in the city of Bandung. The research participants consisted of 80 individuals enrolled in non-formal education programs across four regions: East Bandung, West Bandung, North Bandung, and South Bandung. Participants from each cohort were selected using random sampling, given that the characteristics of the non-formal education program participants in each cohort were relatively uniform (homogeneous). The participant data is presented in the following table:

Table 1. Frequency Distribution of Respondents

No	Respondents	Population	Sample Size (25%)
1	Western Region	76	19
2	Northern Territory	76	19
3	Eastern Region	80	20
4	Southern Region	90	22
Quantity		323	80

Source: Primary Data 2026

Based on Table 1, the number of participants in the non-formal education program representing the four regions of Bandung City is relatively balanced. The average is close to 25% per region, suggesting that the selected sample is likely representative. The regional distribution also provides a contextual basis for interpreting participation patterns, as participation in non-formal adult education is shaped by contextual and community-level conditions (Vaculíková et al., 2024; Hayat et al., 2024). Furthermore, the general characteristics of the non-formal education participants—categorized by gender, religion, and place of residence—are as follows:

Table 2. Frequency Distribution by Gender, Religion, and Place of Residence

Respondent Characteristics	Frequency (F)	Percentage %
A. Gender		
Women	61	76,3
Men	19	23,7
Total	80	100
B. Religion		
Islam	75	93,8
Catholic	4	5
Protestant	1	1,2
Total	80	100
C. Living Together		
Family	40	50,0
Grandparents	8	10,0
Uncles and Aunts	2	2,5
Renting/ Boarding Houses	30	37,5
Total	80	100

Source: Primary Data 2026

As shown in Table 2, the majority of participants in the non-formal education program are

female (approximately 76.3%). This indicates a strong interest among women in pursuing learning through non-formal education institutions. Furthermore, the vast majority of participants (approximately 93.8%) are Muslim; this is readily understandable given that the majority of the population in Bandung City is Muslim. Regarding residence, about 50% of the participants still live with their families, suggesting that the non-formal education participants in Bandung City are generally unmarried or have not yet moved out of their parents' homes. These demographic findings also indicate that non-formal education services need to be responsive to learners' social and community contexts, a principle emphasized in recent community-based non-formal education research (Hayat et al., 2024; Melania et al., 2024).

The empirical state of the respondents' self-efficacy within the educational setting was analyzed based on self-efficacy indicators. The survey of non-formal education participants in Bandung City yielded the following results:

Table 3. Empirical Conditions of Self-Efficacy Participants in Nonformal Education Programs

Self-Efficacy Indicator	Frequency (F)	Percentage (%)
High	21	26,2
Medium	14	17,5
Low	45	56,3
Total	80	100

Source: Primary Data 2026

Based on Table 3, it is evident that the self-efficacy of the non-formal education participants serving as research respondents in Bandung City remains low; specifically, 45 individuals (56.3%) reported having low self-efficacy. This means that more than half of the training participants possess a low level of self-efficacy. The data in Table 3 reinforces the importance of developing andragogy-based emotion regulation training to enhance the self-efficacy of non-formal education program participants. Recent evidence likewise shows that adaptive emotion regulation and self-regulatory capacities are positively associated with self-efficacy, engagement, and academic functioning (Usán Supervía & Quílez Robres, 2021; Lande et al., 2023; Doménech et al., 2024). The data regarding the distribution of emotion regulation is visualized as follows:

Table 4. Frequency Distribution of Emotional Regulation Problems Participants in Non-Formal Education Programs

Tutor Emotion Regulation Issues	Frequency (F)	Percentage (%)
Acceptance of Emotional Response	11	13,9
Engaging in Goal Directed Behavior	18	22,2
Control Emotional Responses	25	30,9
Strategies to Emotional Regulation	26	32,0
Total	80	100

Source: Primary Data 2026

Based on Table 4, data indicates that respondents within non-formal education settings in Bandung City face challenges across every aspect of emotional regulation. The highest score was observed in the "strategies for emotional regulation" aspect (26 individuals or 32.0%), while the lowest score was found in the "acceptance of emotional responses" aspect (11 individuals or 13.9%). These findings are consistent with studies showing that emotion regulation is closely related to self-efficacy and academic engagement in educational contexts (Zheng et al., 2022; Doménech et al., 2024; Zheng et al., 2024). The expectations regarding the development of an andragogy-based emotional regulation training model designed to enhance the self-efficacy of individuals in nonformal education programs are visualized as follows:

Table 5. Individual Expectations Regarding the Training Model Design

Expectations for the Training Design	Amount (F)	Percentage %
Availability of a comfortable place in the training process	80	100
Ease of administrative services in the training process	80	100
Administrative staff who can help ensure the smooth running of the training Process	78	97,5
Clear training service standards that can assist in the training process	79	98,7
The Training Manager's quick and appropriate response in assisting Training Participants	80	100
There is a training schedule that suits the training participants' time. There is a training schedule that suits the training participants' time.	80	100
Friendly attitude from the Training Organizer	80	100
Fast information service from the Organizing Committee	80	100
Average amount	79,6	99,5

Source: Primary Data 2026

Based on Table 5, it is evident that all participants (99.5%) in non-formal education programs in Bandung City desire the development of a training model that is implemented in accordance with ideal service standards and ensures participant comfort. Therefore, service quality and training design should respond to participant needs through systematic program management and evaluation, as emphasized in recent non-formal training studies (Akhadi & Shofwan, 2024; Dumasari et al., 2024; Indartha et al., 2025).

The construction of an andragogy-based emotion regulation training model designed to enhance the self-efficacy of non-formal education program participants is outlined in an academic document. The structure of this training model comprises the following elements, arranged sequentially: rationale, objectives, assumptions, target audience, principles, components, success indicators, and model procedures. The systematic arrangement of these elements is consistent with

contemporary non-formal training approaches that emphasize alignment between program objectives, learning processes, participant needs, and evaluation components (Suminar et al., 2024; Ridwan et al., 2024).

The rationale for the model's construction outlines the background regarding the importance of creating an andragogy-based emotion regulation model; it also presents respondent expectations concerning the model's urgency and the key elements to be included in its development. The objectives for developing the emotion regulation training model comprise both general and specific goals: the general objective outlines the expected outcome of the model's development, while the specific objectives detail target outputs namely, the achievement of enhanced self-efficacy. The model's assumptions represent the fundamental premises underpinning the model, derived from the philosophical and theoretical frameworks adopted during its construction. The target of the model's construction is the intended outcome specifically, the development of self-efficacy. Finally, the development principles serve as the frame of reference and directional guide for the model's application, acting as a standard for all parties involved in its implementation. Such learner-centered assumptions align with andragogical and participatory learning approaches that position adult experience, active involvement, and contextual relevance as central to the learning process (Darmawan et al., 2023; Hamzah et al., 2024).

The components of the model constitute an integrated, systemic whole comprising input, process, and output aspects, as well as other inputs. Model inputs encompass personal, instrumental, and environmental inputs. The component process involves stages of emotion regulation: situation selection, situation modification, attentional deployment, cognitive change, and response modulation. The output represents the achievement of self-efficacy, comprising confidence in completing tasks, motivating oneself, successfully completing tasks, and persisting and recovering from adversity. "Other inputs" consist of facilities and infrastructure, as well as policies and regulations. The integration of emotion-regulation processes with self-efficacy outcomes is supported by empirical studies demonstrating significant associations between these constructs (Zheng et al., 2022; Lande et al., 2023; Doménech et al., 2024).

Model success indicators define the ultimate targets to be achieved through the model's implementation, serving as a measure of its success. Accordingly, these indicators relate to the level of participant self-efficacy attained after engaging deeply with the model's implementation. Finally, they pertain to the model's procedures, specifically, the sequence of stages that must be followed during the implementation process. Using clear success indicators and staged evaluation is consistent with recent non-formal training evaluation studies that emphasize context, input, process, product, and outcome assessment (Akhadi & Shofwan, 2024; Indartha et al., 2025).

The clarity of the rationale, objectives, assumptions, targets, principles, components, success indicators, and procedural steps determines the quality of the model being developed. Naturally, the completeness of components and the systematic nature of the implementation process are essential for a training model that integrates the organizers, participants, and the implementation team. This systemic orientation is also consistent with recent work showing that effective non-formal programs depend on coherent management, implementation procedures, and competence-oriented program design (Djibu et al., 2024; Suminar et al., 2024; Ridwan et al., 2024). Furthermore, the model structure described above can be visualized in the following diagram:

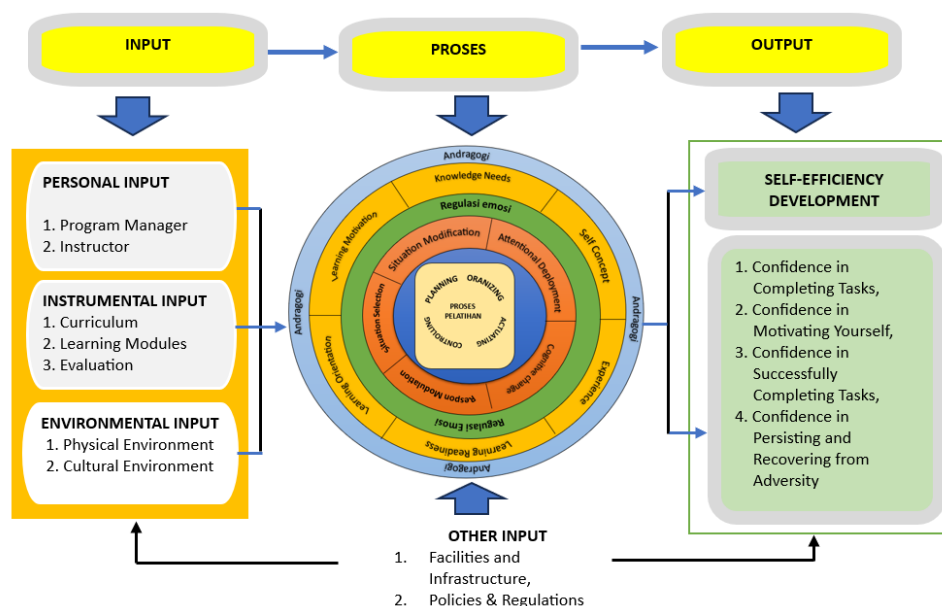


Figure 1. Construction of an Andragogy-Based Emotion Regulation Training Model.

Pursuing non-formal education programs is not always a smooth process; learners may encounter academic, social, and personal obstacles that require sustained confidence and adaptive coping. Self-efficacy develops through the interaction of personal regulation, prior learning experiences, motivation, social support, and the learning environment. Contemporary evidence shows that emotion regulation and self-regulatory capacities are closely associated with self-efficacy and engagement (Huang, 2022; Zyberaj, 2022; Deng et al., 2022; Lande et al., 2023). Interviews with learners in Bandung City also indicated limited prior learning experiences in formal or other non-formal institutions, which strengthens the need for a supportive training environment that provides meaningful mastery experiences.

Participants in Bandung City reported both academic and non-academic challenges. The field data show that 56.3% or approximately 45 individuals in the sample experience low self-efficacy and express a need for andragogy-based emotion-regulation training. In non-formal education, the quality of learner services depends not only on instructional content but also on leadership, facilitation, responsiveness, and systematic program management (Rahmat et al., 2023; Akhadi & Shofwan, 2024; Dumasari et al., 2024). These findings support the need to design training that simultaneously addresses personal efficacy and the quality of the learning-service environment.

Data regarding individual expectations for the delivery of emotion-regulation training indicate that 99.5% of respondents desire an andragogy-based training service. Their expectations emphasize comfort, administrative support, responsive organizers, clear service standards, and schedules that fit participants' availability. Recent non-formal education studies similarly highlight the importance of systematic program evaluation, competence-oriented training, and institutional responsiveness in producing meaningful training outcomes (Rahmadania et al., 2024; Suminar et al., 2024; Indarthy et al., 2025).

Addressing the challenges and aspirations of non-formal education learners requires an intervention that is relevant to adult needs and capable of strengthening knowledge, attitudes, skills, and emotional self-management. An andragogy-based emotion-regulation training model is therefore proposed as a structured intervention to support learners in managing emotional demands and strengthening confidence in completing their studies. Evidence from non-formal education shows that participatory learning, entrepreneurship-oriented program development, and youth empowerment can strengthen engagement, independence, and adaptive capacity when programs are linked to learners'

real contexts (Hamzah et al., 2024; Widodo et al., 2024; Gumelar et al., 2024).

Within community education, emotion-regulation training can be understood as part of lifelong learning because it develops socio-emotional capacities that adults can use across educational, occupational, family, and community contexts. Participation in non-formal adult education contributes to lifelong learning opportunities (Vaculíková et al., 2024), while rural and community-based non-formal education can strengthen human resources and community capacity (Hayat et al., 2024; Prasetyo & Kusumawardani, 2025). Program implementation also requires effective management and appropriate methods so that learning activities remain responsive to participants' needs (Ridwan et al., 2024; Djibu et al., 2024). Emotional-regulation training in this study therefore gives attention to learning motivation, partnership, and the andragogical approach.

Motivation is essential for sustaining adult participation in learning and for helping learners persist when they encounter demanding tasks. In contemporary learning environments, motivation and self-regulation are closely related to emotional self-efficacy and academic performance (Yu et al., 2022), while self-assessment and self-regulation can strengthen efficacy beliefs (Huang, 2022). Adult-learning research also emphasizes that interest increases when learning is innovative, relevant, and designed around the characteristics of adult participants (Ida & Ridwan, 2023).

Partnerships in emotion-regulation training prioritize collegiality, cooperation, and shared responsibility between organizers, instructors, and participants. Participatory approaches in non-formal education show that collaboration can increase independence and strengthen the practical relevance of learning (Hamzah et al., 2024), while systematic program management supports consistent implementation (Djibu et al., 2024). The andragogical approach complements this partnership orientation by positioning adult learners as active participants whose experience, autonomy, and practical needs should shape the learning process (Darmawan et al., 2023; Coe et al., 2025; Carvalho Castanha et al., 2025).

Another implication of andragogy is that adults learn more effectively when instruction is relevant, flexible, problem-oriented, and connected with their prior experience. Contemporary studies demonstrate the usefulness of interactive multimedia for community-education tutors and digitally supported models for increasing adults' learning interest (Darmawan et al., 2023; Ida & Ridwan, 2023). Flexible and practice-oriented andragogical designs can also improve focus and provide actionable feedback, although accessibility, workload, and learner diversity must be considered (Coe et al., 2025). Institutional conditions remain important; job satisfaction, professional commitment, leadership, and program support can influence the quality of non-formal education services (Izzati et al., 2024; Erlangga et al., 2024).

The ultimate goal of emotion-regulation training for learners in non-formal education programs is to enhance self-efficacy. Recent research demonstrates consistent links between adaptive emotion regulation and efficacy beliefs across educational contexts (Usán Supervía & Quílez Robres, 2021; Zyberaj, 2022; Zheng et al., 2022; Bing et al., 2022; Xiyun et al., 2022; Lande et al., 2023; Doménech et al., 2024; Zheng et al., 2024). Experimental evidence further indicates that structured cognitive emotion-regulation training can improve self-efficacy-related outcomes (Gazo & Mahasneh, 2024). Accordingly, the proposed model integrates emotional regulation processes with adult-learning principles so that participants can develop greater confidence in completing tasks, motivating themselves, persisting through difficulties, and recovering from adversity.

CONCLUSION

Based on the results of the preliminary study, it was found that learners in non-formal education programs across four regions empirically exhibited low self-efficacy, a condition stemming from significant emotional regulation difficulties encountered during their studies. Consequently, there is a

need to construct an andragogy-based emotional regulation training model to enhance the self-efficacy of these learners. This proposed model serves as a solution to assist in developing learners' self-efficacy as they complete their studies. The construction of the emotional regulation training model follows this sequence: rationale, objectives, assumptions, target audience, principles, components, success indicators, and system procedures. Furthermore, the model is structured around input, process, output, and other input aspects. A limitation of this study is that the constructed model has not yet undergone implementation or dissemination. Therefore, it is recommended that future researchers proceed with the implementation and dissemination of the final model as a continuation of this study.

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