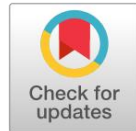


<https://research.adra.ac.id/index.php/ijen/>

P - ISSN: 2988-1579

E - ISSN: 2988-0092



Integration of the Thuma'ninah Concept in the Elementary Education Curriculum in the 21st Century Digital Era as an Antithesis to the Popcorn Brain Phenomenon within Digital Generation Narratives

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ABSTRACT

Background. Rapid technological development has significantly shaped elementary students' learning habits, leading to increased exposure to instant digital stimuli. This condition has raised serious concerns as it contributes to reduced attention span, impulsive thinking, and strong dependence on immediate stimulation.

Purpose. this study aims to analyze the integration of the concept of thuma'ninah as a spiritual value into the basic education curriculum as an alternative response to the identified phenomenon. More specifically, this objective is directed toward addressing the broader educational challenge of declining students' emotional stability, attentiveness, and meaningful engagement in learning processes.

Method. This research uses a qualitative method with a literature study approach through a review of various relevant scientific sources, including studies on Islamic education, educational psychology, and the influence of digital technology on child development.

Results. The study results indicate that the value of thuma'ninah, encompassing inner peace, reflective awareness, and emotional stability, can be effectively cultivated through strengthening worship practices, structured self-reflection activities, and the integration of mindfulness-based learning strategies grounded in Islamic values.

Conclusion. Thus, it can be concluded that the application of the concept of thuma'ninah in the basic education curriculum is a relevant and effective strategy in facing the challenges of popcorn brain, while also supporting the creation of a generation that is calmer, more focused, and has noble morals.

KEYWORDS

Cognitive Distraction, Digital Generation, Elementary Education

Citation: Munisa, Munisa., Maryati, S., Anilon, J, B., Intan, R, R, S., Waroka, A, L. (2026). Integration of the Thuma'ninah Concept in the Elementary Education Curriculum in the 21st Century Digital Era as an Antithesis to the Popcorn Brain Phenomenon within Digital Generation Narratives. *International Journal of Educational Narrative*, 4(3), 783–794.

<https://doi.org/10.70177/ijen.v4i3.3684>

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Received: Januray 10, 2026

Accepted: March 09, 2026

Published: June 25, 2026



INTRODUCTION

The rapid advancement of digital technology has generated profound transformations across multiple dimensions of human life, particularly within the education sector. This development has significantly improved access to information, accelerated communication processes, and fostered more dynamic, flexible, and interactive learning environments, which align with current trends in

digital learning ecosystems and technology-enhanced education. Nevertheless, alongside these benefits, emerging scholarly discussions have increasingly highlighted critical concerns regarding its cognitive and behavioral impacts on the younger generation. Recent studies on digital cognition and media psychology indicate that students in the digital era are becoming increasingly habituated to rapid information consumption and continuous exposure to high-intensity visual stimuli. This condition has been associated with reduced attention span, fragmented thinking patterns, and difficulties in sustaining deep cognitive engagement. Within this context, the present study is positioned to contribute theoretically by integrating the Islamic educational concept of *thuma'ninah* as a potential framework for restoring cognitive balance and attentional stability in learning processes, particularly in response to the contemporary phenomenon often described in recent literature as “digital cognitive overload” or “popcorn brain.” (Simões, 2025).

This situation impacts changes in learning methods, thinking patterns, and responses to their surroundings. Therefore, education, as a character-building institution, is required to be able to respond to these changes adaptively and wisely. An educational approach is needed that is not only aligned with technological developments but also able to anticipate and control their negative impacts. In this context, the integration of spiritual values becomes increasingly important. Education is no longer solely oriented towards academic achievement. A balance between intellectual, emotional, and spiritual aspects is an urgent need. Therefore, the curriculum needs to be designed in a comprehensive, integrated, and relevant manner to the context of current developments (Rong, 2025).

The popcorn brain phenomenon among the digital generation reflects a state in which individuals' attention is easily distracted, their tendency to think spontaneously without deep consideration, and their dependence on rapid stimulation as a consequence of intensive technology use. This condition results in decreased concentration, decreased analytical depth, and emotional instability in elementary school students (Milutinović, 2025). This situation underscores the need for an educational approach that focuses not solely on cognitive mastery but also on fostering inner peace and self-control. If not addressed seriously, this situation has the potential to degrade the quality of the learning process and hinder the development of students' character (Aboud, 2025). Furthermore, the capacity to make logical and rational decisions can also decline. Therefore, comprehensive and sustainable management efforts are needed. In this regard, education plays a strategic role as an effective means of intervention. Through appropriate curriculum design, positive values can be optimally internalized by students. Thus, they can develop in a balanced manner across various aspects. This condition simultaneously presents both a challenge and an opportunity for educational development in the modern era (Amjad, 2025).

Within the framework of Islamic education, the process of character formation cannot be separated from strengthening the spiritual dimension, particularly that related to inner peace. The concept of *thuma'ninah* is a fundamental value that represents a state of inner peace born of closeness to God. This value has strong relevance in responding to the challenges of the popcorn brain phenomenon in the digital generation. *Thuma'ninah* is not solely related to the performance of ritual worship but also encompasses psychological dimensions that influence individual attitudes and behavior (Azaryahu, 2025). When someone has inner peace, they tend to be more able to control themselves, think rationally, and act wisely. In an educational context, this value can serve as the primary foundation for character development in students. Therefore, integrating the concept of *thuma'ninah* into the curriculum is a strategic and relevant step. This approach also aligns with the national education goals, which emphasize not only intellectual aspects but also moral development. Therefore, spiritual values need to be internalized in a planned and systematic manner. This is

crucial for achieving balanced student development between cognitive, emotional, and spiritual aspects (Odebiyi, 2025).

The curriculum at the elementary level plays a strategic role as the primary foundation for shaping students' character and mindset. At this stage, children are at a crucial stage of development, determining the direction of their future personality development. Therefore, the curriculum serves not only as a tool for imparting knowledge but also as a means for instilling life values. The application of the concept of thuma'ninah can be integrated through various learning approaches, such as habituating religious practices, reflective activities, and strengthening moral values throughout the learning process. This approach allows for a deeper and more sustainable internalization of values. Furthermore, the learning environment needs to be designed in such a way as to create a supportive and conducive atmosphere (Yılmaz, 2025). In this regard, the role of teachers is crucial as facilitators and role models for students. Teachers are not only tasked with delivering material but also providing concrete examples of how these values are applied. Therefore, integrating these concepts requires a comprehensive and integrated approach. This includes alignment between the curriculum, learning methods, and the educational environment. In this way, educational goals can be achieved more effectively and optimally (Mekheimer, 2025).

The mindfulness approach is closely related to the concept of thuma'ninah, particularly in terms of inner calm and self-control. In education, this approach can be contextualized with Islamic values, making it more relevant to students. Integrating the two offers a more comprehensive solution to the learning process. Students are not only guided to improve focus but also encouraged to understand the meaning behind each activity. This contributes to better emotional management and increased concentration (Brandow-Faller, 2025). Furthermore, the quality of the learning process also tends to improve. Through the application of mindfulness, students become more active and deeply involved in learning activities. This involvement has a positive impact on learning outcomes. Therefore, integrating this concept is crucial in education. Educational institutions need to be able to combine various approaches effectively. This way, student development can occur in a more optimal and balanced manner (Wang, 2025).

Top of Form Bottom of Form However, the implementation of the integration of the concept of thuma'ninah into the educational curriculum is not without its complex challenges. One of the main obstacles lies in educators' limited understanding of the essence and application of the concept in the learning process. Furthermore, limited educational facilities and infrastructure also hinder the optimal integration of spiritual values. The relatively dense curriculum also poses a challenge, hindering the space for optimal internalization of these values (Siry, 2025). Therefore, planned and systematic strategic efforts are needed to address these various issues. One step that can be taken is to improve teacher competency through ongoing training. Furthermore, the provision and development of relevant teaching materials is also crucial. Support from various parties, including the government and the community, is essential in this process. Synergistic collaboration between stakeholders is a determining factor for successful implementation. Therefore, a comprehensive and integrated approach is crucial to ensure that educational goals are achieved effectively and optimally.

This research is relevant as technology increasingly influences students' lives. It aims to contribute to the design of a curriculum that is more adaptive to current developments. Furthermore, it seeks to offer alternative solutions to the increasingly prominent phenomenon of popcorn brain. The application of the concept of thuma'ninah is expected to strengthen students' inner peace. This is believed to have a positive impact on improving the quality of the learning process. In addition to its theoretical value, this research also offers practical benefits. The findings can be used as a

reference in future curriculum development. Therefore, this research is highly urgent. Approaches that emphasize spiritual values are becoming increasingly significant. Thus, education is expected to provide a more comprehensive contribution (Barron, 2025).

A number of previous studies have addressed issues related to this topic. The study conducted by Chen, (2025) revealed the negative influence of technology use on students' concentration levels. Meanwhile, research Bers, (2025) shows that the application of mindfulness can significantly increase learning focus. On the other hand, Neves, (2025) highlight the urgency of character education based on Islamic values in shaping student behavior. However, these three studies have not specifically examined the integration of the concept of thuma'ninah within the context of the educational curriculum. This study differs primarily in its integrative approach, combining spiritual values with the challenges of digital development. Furthermore, the approach used in this study is more comprehensive and in-depth. This advantage differentiates this research from previous studies. Therefore, this research is expected to make a new contribution to the development of science in the field of education.

RESEARCH METHODOLOGY

This research adopts a qualitative design through a systematic literature review method, emphasizing an intensive analysis of various scholarly sources that are pertinent to the research focus. This methodological choice is grounded in its capacity to facilitate a holistic comprehension of the concept of thuma'ninah and its association with the "popcorn brain" phenomenon among the digital generation. Using this approach, the researcher critically and systematically examines theoretical perspectives, conceptual models, and empirical evidence from prior studies to develop an integrated academic synthesis. Regarding the data collection process, the literature selection was carried out in a well-structured and transparent manner. The sampling procedure was guided by clearly defined inclusion and exclusion criteria to maintain both relevance and academic rigor. The inclusion criteria covered peer-reviewed journal articles, academic books, conference proceedings, and other credible scholarly works related to Islamic education, educational psychology, and digital technology development. In contrast, sources considered outdated, lacking academic credibility, or irrelevant to the study's focus were excluded. This purposive selection technique ensures that the reviewed materials consist of high-quality and contextually appropriate academic contributions (Gao, 2025).

To enhance the credibility and dependability of the findings, this study employs source triangulation by systematically comparing and verifying information across multiple scholarly references. Although literature-based research does not utilize conventional measurement instruments, reliability is ensured through the consistency of interpretative analysis across different academic sources, while validity is strengthened by relying on peer-reviewed and reputable publications. This approach reinforces the rigor of the analysis and reduces the potential for interpretive bias. Moreover, the literature review approach offers analytical flexibility since it is not constrained by time or location. This advantage supports the formulation of a coherent and systematically organized conceptual framework. Consequently, this study extends beyond descriptive analysis by engaging in critical interpretation of the integration between spiritual values and educational practices. The selected methodology is therefore highly appropriate for achieving the research objectives, and the outcomes are expected to contribute a robust academic foundation for understanding the relationship between Islamic educational values and contemporary digital behavioral phenomena (Martadi, 2025).

This research uses a qualitative approach with a literature review that emphasizes an in-depth review of various scientific sources relevant to the research focus. This approach was chosen because it can provide a comprehensive understanding of the concept of thuma'ninah and its relationship to the popcorn brain phenomenon in the digital generation. Research data was obtained from various references, such as books, journal articles, proceedings, and other academic documents related to Islamic education, educational psychology, and the development of digital technology. Through this method, researchers can explore various theories, concepts, and previous research findings that are relevant to the study being conducted (Laksana, 2026). Furthermore, a literature study allows for extensive analysis without being limited by time and space. This process also plays a crucial role in building a structured and systematic conceptual framework. Thus, this research serves not only to describe the phenomenon but also to analyze it in depth. This approach is considered appropriate for examining the integration of spiritual values in an educational context. Therefore, this method is considered relevant to achieving the research objectives. Therefore, the research results are expected to have a strong academic foundation and be accountable (Schaefer, 2025).

In the data processing process, this study applied content analysis techniques by identifying, classifying, and interpreting the substance of the various literature collected. The analysis stages were carried out systematically, starting with data reduction, data presentation, and drawing conclusions. In the initial stage, the researcher selected information that was directly related to the focus of the study (Hanuscin, 2025). Next, the selected data was organized in a structured manner in the form of descriptive analysis. The interpretation process was carried out by linking the research findings to the theoretical framework used. In addition, the researcher also conducted comparisons between sources to identify specific patterns or relationships. This approach allows for a more comprehensive understanding of the research problem. This analysis also plays a role in formulating the concept of thuma'ninah integration more systematically. Thus, the research results have a solid foundation. Therefore, this method is considered effective in answering the research problem formulation (Yáñez-Pérez, 2025).

RESULT AND DISCUSSION

As an introduction, the findings of this study were generated through a comprehensive review of various relevant literature sources regarding the application of the concept of thuma'ninah in the elementary education curriculum as a response to the popcorn brain phenomenon. The analysis results indicate that an approach based on spiritual values plays a crucial role in addressing students' cognitive and emotional challenges in the digital age. This study confirms that thuma'ninah is not merely understood as a theological concept but also contains strong psychological and pedagogical dimensions. Its implementation is carried out through the habituation of worship, self-reflection activities, and the application of Islamic mindfulness-based learning strategies. Through this integration, there is a visible increase in students' learning concentration and emotional stability. Furthermore, this approach also contributes to the formation of better character. The findings of this study provide a comprehensive overview of the importance of spiritual values in the context of modern education. Therefore, this integration can be seen as a relevant and contextual alternative solution. This also emphasizes the urgency of implementing a holistic educational approach. Thus, the results of this study have quite broad implications for educational development.

Based on a review of various literature sources, several forms of application of the concept of thuma'ninah in the learning process have been identified. This implementation includes the habituation of religious practices, self-reflection activities, and the use of mindfulness-based

learning methods. These three components are integrated in building students' inner peace. Habituation of religious practices plays a role in strengthening spiritual connections, while self-reflection helps students understand the learning experience more deeply. Furthermore, the mindfulness approach contributes to increasing full awareness and concentration in learning. These three strategies have proven effective in reducing symptoms of popcorn brain. Furthermore, this integrative application also influences the formation of a more stable character. Thus, this approach produces a comprehensive impact. These findings demonstrate that spiritual values can be implemented practically in learning. Therefore, the integration of this concept is relevant for application in basic education.

Table 1. Implementation of thuma'ninah values in basic education

Aspect of Thuma'ninah	Implementation Strategy	Impact on Students
Spiritual Calmness	Daily prayer habituation	Improved emotional stability
Reflective Awareness	Self-reflection activities	Increased self-awareness
Emotional Balance	Mindfulness-based learning	Better focus and concentration
Self-Control	Character education integration	Reduced impulsive behavior

The table indicates that each dimension of the thuma'ninah concept has a targeted implementation approach and has a significant impact on student development. For example, the aspect of spiritual tranquility is instilled through the habit of routine worship in daily school life. Meanwhile, strengthening reflective awareness is developed through self-reflection activities that encourage students to understand their learning experiences more deeply. Emotional balance, on the other hand, is fostered through the application of mindfulness-based learning strategies that emphasize full awareness in every learning process. Furthermore, self-control is strengthened through the integration of character education values into various learning activities. This approach demonstrates that the implementation of thuma'ninah values is not carried out in a piecemeal manner, but rather through planned steps. Thus, each aspect supports each other in shaping students' personalities.

Furthermore, these findings confirm that the application of thuma'ninah values in education is systematic and well-organized. The resulting impact is not limited to improving cognitive abilities alone, but also encompasses the comprehensive emotional and social development of students. This demonstrates that an effective educational process must be able to integrate various aspects of human development in a balanced manner. A holistic approach is key to developing individuals who are not only intellectually intelligent but also emotionally and spiritually mature. Thus, the integration of thuma'ninah values makes a significant contribution to improving the quality of education. These findings also reinforce the view that spiritual values play a crucial role in character formation. Therefore, this approach deserves continued development and wider implementation. In addition to being relevant to students' needs, this approach also addresses the challenges of education in the digital era.



Figure 1. The thuma'ninah integration model in the curriculum

This illustration demonstrates that the implementation of the concept of thuma'ninah in the curriculum is carried out through structured and continuous stages. Spiritual values serve as the primary foundation for designing relevant learning strategies. These strategies are then implemented concretely in daily classroom learning activities. Through a gradual process of internalization, these values begin to take hold and shape the students' personalities. The resulting impact is seen in increased concentration skills, emotional stability, and the formation of better character. This model demonstrates a clear link between theoretical concepts and practical implementation in the field (Schiller, 2025). Furthermore, this approach emphasizes the importance of continuity in the educational process. This indicates that character formation cannot be achieved instantly. Therefore, consistent and ongoing efforts are required in its implementation. Thus, this model is able to provide a comprehensive picture of the value integration process. It also strengthens the findings of previous research (Mondal, 2025).

Furthermore, the model emphasizes that the success of thuma'ninah integration depends heavily on consistency in its implementation. A values-oriented educational process requires not only careful planning but also continuous implementation. (Windiyan, 2025) Each stage in this model is interrelated and inseparable. The spiritual values instilled must be continuously reinforced through various learning activities. (Maruti, 2025). Thus, students not only understand the concept theoretically but are also able to apply it in their daily lives. This approach also emphasizes that character education requires time and a long process. Therefore, continuity is a key factor in the success of this integration. This model provides a deeper understanding of the importance of the process in education. Furthermore, this model also shows that optimal results can only be achieved through consistent efforts. Thus, this approach further strengthens the validity of the research results. (Yeh, 2025).

Graph 1. The Impact of Thuma'ninah Integration on Students' Abilities

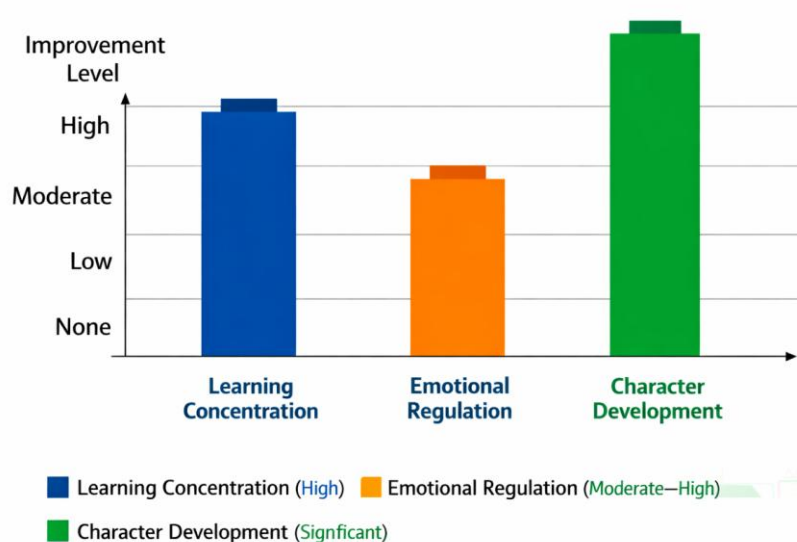


Figure 2. Impact of thuma'ninah integration on student abilities

The graph shows a significant improvement in several key aspects, namely learning concentration, emotional regulation skills, and student character development after implementing the thuma'ninah concept. Of these three aspects, the most prominent improvement was seen in learning concentration skills (Halomoan, 2025). These findings indicate that the thuma'ninah-based

approach is highly effective in responding to and overcoming the popcorn brain phenomenon, characterized by easily distracted attention. Furthermore, students' emotional management skills also showed significant improvement. This indicates that they are becoming better able to control their emotional responses in various learning situations. These changes indicate an improvement in students' psychological stability (Rosmiati, 2025). Thus, this approach impacts not only the cognitive aspect but also the emotional dimension. This condition strengthens the assumption that the integration of spiritual values can make a real contribution to the learning process. Therefore, these results are an important indication of the success of the implemented approach (Jacob, 2025).

On the other hand, positive developments are also evident in the aspect of student character development, which shows continuous improvement. This suggests that the integration of the concept of thuma'ninah not only has short-term impacts but also has the potential to produce long-term effects on personality development (Taylor, 2025). With improvements in these various aspects, the results of this study further strengthen previous findings regarding the importance of a holistic approach in education (Chung, 2025). The effectiveness of the strategies used is increasingly evident through the overall changes occurring in the students. This demonstrates that a spiritual values-based approach can be a relevant solution to address educational challenges in the digital age (Kosaka, 2025). Furthermore, this integration has strategic value in curriculum development that orients toward a balance between intellectual and character aspects. Therefore, the application of this approach is not only conceptually sound but also worthy of broader implementation in educational practice (Milman, 2026).

In general, the findings of this study indicate that the application of the concept of thuma'ninah in the basic education curriculum can function as an effective alternative solution in dealing with the popcorn brain phenomenon (Brown, 2025). This approach not only has a strong theological foundation but also demonstrates tangible impact in learning practices. Students experience significant improvements in concentration, emotional management, and the development of more stable characters (Bay, 2025). This situation confirms that spiritual values play a strategic role in improving the quality of educational processes and outcomes. Furthermore, this approach is also relevant to the characteristics of the digital generation, which faces a rapid and complex flow of information (Pai, 2025). Thus, the integration of the concept of thuma'ninah becomes an approach that is appropriate to the context of current developments. This also reflects the need for education to adapt to modern challenges. Therefore, values-based innovation is crucial for continued development (Haverly, 2026).

Furthermore, the integration of these concepts not only provides short-term benefits but also has long-term implications for the development of students' personalities. The application of the values of thuma'ninah encourages a balance between the intellectual, emotional, and spiritual aspects of students. This is an important indicator in creating a more holistic and sustainable educational process (Freitas, 2025). Furthermore, this approach also strengthens the role of education in shaping individuals who are not only academically intelligent but also possess mental and moral resilience. The relevance of this approach to the needs of the digital era further emphasizes the importance of integrating spiritual values into the curriculum (Lee, 2025). Therefore, further development of this integration model is essential. Thus, the results of this study make a significant contribution to the development of educational science, particularly in facing the challenges of the digital generation (Han, 2025).

CONCLUSION

Based on research findings, it can be emphasized that integrating the concept of thuma'ninah into the basic education curriculum is an appropriate strategy to address the popcorn brain phenomenon in the digital generation. This condition, characterized by easily distracted attention, a tendency to think spontaneously, and a dependence on instant stimuli, can be reduced through an approach based on spiritual values. The application of thuma'ninah through habitual worship, self-reflection activities, and Islamic mindfulness-based learning has been proven to positively contribute to improving learning focus, emotional stability, and character development in students. This shows that the integration of spiritual values in education is not only conceptual but also has a practical impact on the learning process. Furthermore, this approach is able to create a balance between the cognitive, affective, and spiritual dimensions. Thus, education is not solely oriented towards academic achievement, but also focuses on the formation of a holistic personality. Therefore, this integration is highly relevant to the demands of today's education. It also emphasizes the importance of a holistic approach in the education system. Therefore, the concept of thuma'ninah has great potential for continued development in the education curriculum.

Furthermore, the findings of this study indicate that the implementation of the concept of thuma'ninah contributes positively to improving the overall quality of learning. Students involved in learning that integrates these values show improvements in concentration, emotional regulation skills, and optimal character development. This emphasizes that the spiritual dimension plays a crucial role in shaping students' behavior and thinking patterns. Furthermore, this approach aligns with the characteristics of the digital generation, which requires a balance between the use of technology and the instilling of life values. Therefore, this integration is not only conceptually relevant but can also be implemented in practical education. These findings suggest that the education system must be able to adapt to the dynamics of modern development without neglecting fundamental values. Therefore, the application of this approach needs to be expanded across various educational contexts. Therefore, this research makes a significant contribution to the development of basic education curricula.

DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this manuscript, the author(s) used Google Gemini to assist in improving grammar, language quality, and overall readability of the text. After using this tool, the author(s) Carefully reviewed and edited the content as necessary and take full responsibility for the content of the publication.

AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

Author 4: Formal analysis; Methodology; Writing - original draft.

Author 5: Supervision; Validation.

DECLARATION OF COMPETING INTEREST

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

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