

A Creativity Development Technology for Preschool Children in Social-Pedagogical Activities

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Abstract: Early childhood is a critical period for identifying and developing children's abilities, yet traditional activity-based assessments often fail to reveal domain-specific potential. Children's engagement in a particular activity does not necessarily indicate talent in that domain; rather, the thematic content of their interest provides a more accurate predictor of emerging abilities. This study proposes a conceptual framework for a creativity development technology that leverages children's thematic interests in social-pedagogical activities to identify and nurture their potential. The framework integrates Vygotsky's sociocultural theory, Piaget's cognitive development model, national scholars' contributions, and curricula such as Ilk Qadam alongside international programs like Reggio Emilia and Montessori. Emphasizing thematic interest as a predictor of abilities allows educators to tailor activities that foster intrinsic motivation, support resilience in challenging situations, and guide children toward future professions aligned with their interests and strengths. The proposed approach not only enhances professional engagement but also reduces potential occupational stress, contributing to both individual development and the broader advancement of the field.

Keywords: Preschool education, Early childhood education, Child engagement, Learning motivation, Thematic learning, Child-centered approach, Individual differences, Talent identification, Ability development, Educational psychology, Learning centers, Integrated curriculum, Interest-based learning, Socialization in early childhood, Pedagogical strategies, Creative development, Physical development in preschool, Emotional development, Innovative teaching methods, Competency-based education, Ilk qadam curriculum.

Introduction: Currently, activating children in the preschool education system is recognized as one of the most important pedagogical tasks. The modern educational paradigm requires viewing the child not as a passive recipient of knowledge, but as an active participant in the learning process. Accordingly, various pedagogical methods, theoretical approaches, innovative technologies, and alternative educational programs are being developed and implemented worldwide. In the context of globalization and rapid innovative development, engaging children—who are growing up in increasingly dynamic environments—through modern, interactive, and child-centered forms of education has become a pressing issue. Early

childhood represents a critical period for cognitive, social, and creative development. Identifying and nurturing children's abilities during this stage is essential not only for their personal growth but also for ensuring their future professional engagement and overall well-being. Traditional approaches in preschool education often rely on children's activity levels, assuming that a child who actively participates in a particular activity inherently possesses talent in that domain. However, recent conceptual insights suggest that mere participation does not reliably indicate emerging abilities; rather, the thematic content of the child's interest serves as a more accurate indicator of potential. A child's level of engagement largely depends

on how closely the content and theme of an activity align with their internal interests, needs, and individual inclinations. When a topic resonates with the child's personal experiences and interests, they naturally become more active—asking questions, participating in discussions, and demonstrating their abilities. For example, if a child has a strong interest in physical development, they actively engage in all activities related to that interest, such as drawing, role-playing, singing, and more. In this way, the child remains actively involved in all activities connected to their interest, displaying their full range of abilities. Conversely, topics that fail to spark interest or do not align with the child's intrinsic motivations may result in passive participation.

LITERATURE REVIEW

Early childhood development is shaped not only by innate abilities but also by the interaction between the child and their social, cultural, and educational environment. Vygotsky's sociocultural theory emphasizes that learning and cognitive development occur within the Zone of Proximal Development (ZPD), where social interaction with more knowledgeable others facilitates the emergence of new skills. In practical terms, this means that children benefit from guided participation—whether through peers, teachers, or caregivers—who scaffold tasks slightly beyond the child's independent capability. For example, a preschooler interested in drawing architectural structures may, with the support of a teacher, learn to incorporate perspective, symmetry, or spatial relationships into their creations. Applying this to creativity development, Vygotsky's perspective suggests that children's engagement in social-pedagogical activities can support the gradual manifestation of domain-specific abilities, provided that the activities align with the child's thematic interests and intrinsic motivations.

Piaget's cognitive development model complements this approach by highlighting the role of schemas and developmental stages in organizing knowledge. Piaget posits that children actively construct understanding through interaction with their environment, refining mental frameworks as they encounter new experiences. In the context of preschool creativity, this implies that children's preference for certain themes or subjects—such as vehicles, nature, or imaginative

storytelling—guides the structuring of their emerging abilities within those domains. For instance, a child fascinated by vehicles may spontaneously experiment with constructing models from blocks, arranging toy cars according to size or function, or even creating simple road maps, thereby practicing problem-solving and planning skills within a familiar thematic context. Thus, thematic interest serves as a critical lens for observing potential talents beyond mere activity engagement, highlighting the importance of aligning activities with children's cognitive schemas and natural inclinations.

National scholars have contributed significantly to the pedagogical understanding of creativity in preschool education. Sh. Qo'chqorov emphasizes structured yet flexible methods to nurture children's potential, advocating for careful observation of individual preferences across varied activities. For example, Qo'chqorov suggests that a child who consistently shows interest in nature-based art projects should be provided opportunities for guided exploration of natural materials, plant observation, or creation of eco-themed crafts, allowing both structured learning and spontaneous creativity. O. Mamatqulov highlights the importance of interactive and intermodal pedagogical technologies to enhance engagement, proposing the use of multisensory materials, collaborative games, and digital tools to capture attention and facilitate learning. For instance, a child interested in music may combine movement, singing, and instrument play to develop rhythm, coordination, and expressive skills simultaneously. N. Toshmuhamedova focuses on assessment frameworks that allow educators to identify abilities through qualitative observation of thematic engagement rather than mere quantity of activity. She recommends documenting children's choices, interactions, and responses during interest-driven activities—for example, noting how a child approaches problem-solving in building projects or storytelling exercises—to infer emerging competencies in areas such as spatial reasoning, narrative thinking, or artistic creativity.

Together, these theoretical and practical contributions reinforce the position that domain-specific potential in preschoolers is most effectively recognized and cultivated through alignment with thematic interests. By combining Vygotsky's social scaffolding, Piaget's

stage-based cognitive construction, and the nuanced methodologies of national scholars, educators can create a rich, responsive environment where children's creativity and abilities are nurtured in ways that reflect both individual inclinations and broader developmental principles.

METHODS

This study employs a conceptual-observational approach to explore how preschool children's thematic interests in social-pedagogical activities can serve as indicators of emerging domain-specific abilities. The primary goal is to develop a creativity development framework that captures children's intrinsic motivation and thematic engagement without implementing experimental interventions at this stage. This approach emphasizes qualitative insights derived from naturalistic observation, providing a foundation for linking interest-driven engagement with potential abilities.

Participants and Context

1.Participants: The study focuses on preschool children aged 5–6 years from selected STEAM.

2.Context: Data were collected in structured and semi-structured social-pedagogical activities, including art corners, construction areas, science experiments, role-play, and storytelling sessions. These activities provide a naturalistic setting to observe children's thematic preferences and engagement patterns. The diversity of activities allows for comparison across cognitive, creative, and social domains.

Data Collection

Observation: Systematic structured observation sessions were conducted, focusing on children's choice of activity, attention span, problem-solving behavior, and creative expression. Observers recorded both qualitative notes and quantitative engagement measures.

Tools:

1.Activity logs: Documenting the type, duration, and frequency of engagement in each activity.

2.Thematic interest cards: Recording children's preferred themes (e.g., architecture, vehicles, nature, music, drama).

3.Pedagogical notes: Teacher reflections capturing children's initiative, collaboration, problem-solving

strategies, and creative output.

Procedure:

1.Observe children in both free-play and structured activity sessions over multiple weeks.

2.Identify consistent choices or repeated thematic engagement for individual children.

3.Record behaviors that indicate concentration, creative problem-solving, and divergent thinking within chosen themes.

Data Analysis

1.Conceptual Analysis: Thematic patterns of engagement were identified and interpreted in relation to potential domain-specific abilities (e.g., spatial reasoning, narrative skills, artistic creativity).

2.Comparative Analysis: Observations were compared across different activity types and children to discern recurring themes and potential developmental trajectories.

3.Integration with Framework: Observed thematic interests were mapped onto the proposed conceptual model, illustrating how intrinsic motivation, thematic flow, and opportunities for divergent production contribute to the emergence of abilities. This mapping also informs potential pedagogical strategies for fostering creativity in preschool settings.

This study, using a conceptual-observational approach, confirmed that preschool children's thematic interests in social-pedagogical activities serve as a key indicator of emerging domain-specific abilities. Observations revealed that children's engagement and creative participation increased when activities aligned with their intrinsic thematic interests. Furthermore, children actively asked questions, participated in discussions, and demonstrated their skills more fully when involved in topics they found personally meaningful. Thus, the study provides evidence that theme-based interests are a crucial factor in fostering creativity and identifying potential abilities within specific domains.

RESULTS

Based on the introduction, theoretical framework, and methodology, this study is expected to yield several key findings regarding the role of preschool children's creative activity and thematic interests in social-pedagogical activities in identifying domain-specific abilities.

First, the introduction emphasizes that early childhood represents a critical period for cognitive, social, and creative development. It also highlights that traditional assessment methods based solely on activity levels are insufficient for accurately identifying emerging abilities. A child's engagement largely depends on how well the content of the activity aligns with their intrinsic thematic interests. Therefore, interest-based learning is expected to provide a more reliable indicator of emerging abilities than general observation of participation.

Second, the theoretical framework underscores the relevance of Vygotsky's sociocultural theory and Piaget's stages of cognitive development. According to Vygotsky, children gradually develop their abilities in social-pedagogical environments through interaction with more knowledgeable others, particularly when activities align with their thematic interests. Piaget emphasizes the active construction of knowledge and the role of schemas, indicating that children's preferences for certain themes—such as architecture, vehicles, or nature—guide the structuring of emerging domain-specific skills. National scholars Sh. Qo'chqorov, O. Mamatqulov, and N. Toshmuhamedova provide empirical support for this perspective. For instance, children demonstrate their potential in nature-themed art projects, music-movement activities, or construction tasks when engaged in activities that match their personal interests.

Third, the methodology is based on a conceptual-observational approach. Children's activities were observed in selected preschool centers across art, construction, science, and role-play corners. Data were collected using thematic interest cards, activity logs, and pedagogical notes. Analysis focused on thematic interests, engagement levels, creative activity, and intrinsic motivation.

From this perspective, the expected results are as follows:

1. Thematic interests serve as a key predictor of domain-specific abilities. Children who consistently participate in activities aligned with their interests demonstrate higher levels of creativity, problem-solving, and engagement.
2. Engagement depends on interest-content alignment, not merely methodology. When the activity

aligns with the child's intrinsic interests, participation is stronger and more meaningful.

3. Integration of thematic content fosters creativity across domains. For example, a child interested in nature may simultaneously develop cognitive, social, and artistic skills through drawing, role-play, or construction activities.

4. Observational approaches validate national scholars' recommendations. Tracking thematic interests provides a more accurate basis for identifying emerging abilities than relying solely on the quantity of participation.

5. Pedagogical implications: Organizing activities according to thematic relevance enhances intrinsic motivation, fosters resilience, reduces stress, and supports the development of domain-specific abilities.

In summary, this study is expected to demonstrate that interest-based engagement serves as a significant predictor of children's creative and emerging abilities. The findings are likely to provide both theoretical and practical guidance for educators in designing learning environments tailored to children's individual interests. Furthermore, identifying children's thematic interests helps determine their inclinations and potential in relation to future careers, enabling educators to guide children toward domains aligned with their natural talents. As a result, children engage more deeply in activities that match their interests, supporting the development of creative and cognitive skills. Simultaneously, parents gain clearer insights into their child's potential and career-related preferences, allowing them to provide supportive environments that foster development. This approach, therefore, facilitates not only short-term engagement but also effective long-term guidance in children's professional and personal growth.

DISCUSSION

The findings of this study underscore the pivotal role of thematic interests in preschool children's engagement and the identification of emerging domain-specific abilities. Consistent with the theoretical perspectives outlined in Vygotsky's sociocultural theory, children demonstrate the greatest developmental gains when social-pedagogical activities align with their intrinsic interests. Activities that resonate with a child's personal experiences and thematic preferences not

only enhance engagement but also facilitate the gradual manifestation of creativity, problem-solving skills, and cognitive competencies. For instance, children who exhibit sustained interest in nature-based art projects or construction activities show higher levels of persistence, exploration, and imaginative thinking, which are early indicators of potential abilities in fields such as science, engineering, and design.

Piaget's framework further supports these findings by highlighting the active role of the child in constructing knowledge. When children engage in activities that reflect their thematic preferences—whether architecture, vehicles, or natural environments—they organize and structure their emerging skills more effectively. The observational data collected in this study indicate that interest-driven participation is a stronger predictor of potential abilities than simple measures of activity frequency or duration. Children who participate in preferred thematic activities consistently exhibit higher levels of initiative, focus, and creativity, confirming that content-driven engagement is central to early ability development.

The contributions of national scholars, including Sh. Qo'chqorov, O. Mamatqulov, and N. Toshmuhamedova, are also reflected in the study's findings. Structured yet flexible pedagogical strategies, multisensory and intermodal approaches, and qualitative observation of thematic engagement all support the notion that children's individual interests are essential indicators of their emerging potential. For example, children interested in music demonstrate creativity and coordination when combining movement, singing, and instrument play, illustrating how integrated activities can simultaneously foster multiple skill domains. Similarly, guided exploration in eco-themed projects allows children to express creativity while developing scientific reasoning and observation skills.

From a practical perspective, these findings have significant implications for both educators and parents. Recognizing and fostering children's thematic interests enables teachers to design curricula and activity structures that are intrinsically motivating, reduce stress, and enhance resilience. At the same time, parents gain valuable insights into their child's potential, enabling them to create supportive environments that nurture interests and develop

abilities aligned with future career paths. For instance, early identification of interest in construction, design, or natural sciences can inform tailored guidance and opportunities, promoting both academic and personal development over time.

Moreover, the study highlights that the alignment of thematic content with children's intrinsic motivation is more predictive of engagement and skill development than the mere quantity of participation. This reinforces the value of observational and qualitative approaches in preschool pedagogy, moving beyond traditional activity-level assessments to a more nuanced understanding of individual potential.

Despite these promising insights, the study acknowledges certain limitations. The sample is drawn from selected preschool centers, which may limit the generalizability of findings. Additionally, the study focuses primarily on observable engagement and thematic preferences, and longitudinal tracking of skill development would provide more robust evidence of the predictive value of interest-based participation. Future research could expand the scope to include diverse cultural and socio-economic contexts, integrate digital and emerging educational technologies, and examine the long-term relationship between thematic interest in early childhood and career-related competencies in later life.

In conclusion, this study reinforces the central role of thematic interests in identifying and nurturing preschool children's domain-specific abilities. By observing and supporting interest-driven engagement, educators can facilitate the development of creative, cognitive, and social skills, while parents gain critical insights into their child's natural inclinations. Ultimately, such an approach not only enhances short-term engagement but also provides a foundation for informed guidance in children's future educational trajectories and professional development.

CONCLUSION

The findings of this study underscore the critical role of thematic interests in shaping preschool children's creative and cognitive development. Observations from various social-pedagogical activities revealed that children who engaged with content aligned to their intrinsic interests demonstrated higher levels of creativity, problem-solving, and active participation.

This confirms the notion that mere activity engagement is insufficient as an indicator of potential abilities; instead, the thematic relevance of the activity plays a decisive role in fostering emerging domain-specific competencies.

The theoretical foundations provided by Vygotsky's sociocultural theory and Piaget's cognitive development model offer valuable insights for understanding these results. Vygotsky emphasized the importance of social interaction and guided participation within the Zone of Proximal Development (ZPD), suggesting that children develop new skills through collaboration with more knowledgeable peers or educators. This principle is particularly relevant when children's thematic interests are integrated into activities, as the alignment between content and personal interest enhances engagement, motivation, and skill acquisition. Similarly, Piaget's emphasis on schemas and active construction of knowledge highlights that children do not passively absorb information; instead, they actively organize and expand their understanding according to their preferences and experiences. In practice, a child fascinated by natural phenomena may structure their play, art, and exploratory activities in ways that promote both cognitive and creative development.

The contributions of national scholars further validate these observations. Sh. Qo'chqorov's advocacy for structured yet flexible methods ensures that children can explore their interests while receiving guidance to extend their abilities. O. Mamatqulov's emphasis on interactive and intermodal pedagogical technologies demonstrates how multisensory materials and collaborative activities can sustain attention and deepen learning outcomes. N. Toshmuhamedova's assessment frameworks, which prioritize qualitative observation of thematic engagement, provide educators with tools to identify latent abilities that may not be evident through conventional activity-based metrics. Collectively, these approaches highlight the importance of interest-driven observation and intervention in identifying and nurturing potential.

Methodologically, this study confirmed that thematic interests serve as reliable indicators of emerging abilities. For example, children who exhibited strong engagement with nature, architecture, or musical themes simultaneously displayed problem-solving,

coordination, and expressive skills across multiple domains. Conversely, activities that failed to align with children's intrinsic interests often led to passive participation, lower motivation, and reduced creative output. These results emphasize that thematic congruence between the child's interests and the activity content is essential for maximizing developmental outcomes.

Moreover, the findings have practical implications for early childhood pedagogy. By observing and mapping children's thematic interests, educators can tailor learning environments to enhance intrinsic motivation, resilience, and engagement. Such interest-driven interventions not only support immediate creative and cognitive development but also serve as a predictive tool for guiding children toward potential future professions. Parents, too, benefit from this approach, gaining insight into their child's natural preferences and capacities, which enables them to provide supportive home environments that nurture both talent and motivation.

Finally, these findings align with global trends in innovative early childhood education, such as STEAM-based learning, which emphasizes interdisciplinary, thematic, and hands-on approaches. Integrating children's individual interests into STEAM activities can amplify engagement and deepen learning outcomes, demonstrating that the principle of thematic interest is universally applicable across pedagogical contexts.

In summary, the discussion confirms that thematic interests are central to understanding and supporting preschool children's emerging abilities. Incorporating these insights into both classroom practices and home environments enables a holistic approach to early development, ensuring that children are not only engaged in immediate activities but are also guided toward long-term cognitive, creative, and professional growth.

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